

Distribution environmental screening document (DESD) **Reticulation Powerlines and Ancillary Services**

Ratified and accepted by
Environmental Practitioner
Environmental Specialist
Head of Engineering Survey
(one signature please)

Accepted by Land Owner/s/Users
I have seen the completed document and accept the recommendations made.

Assessor/s

Form completed by: **Winnie Sebogodi** Signature:

in consultation with: **Johan Griesel (STO) (0824438426)** Signature:

CAPACITY (e.g. land owner, specialist): **Technical Official at Bothaville CNC**

Instructions

1. Fill the report in as neatly and completely as possible.
2. Where the question / statement is not applicable mark N/A.
3. The form must be completed in consultation with someone who knows the area well and who can also predict if any future development is envisaged (e.g. a land owner, land user, specialist, etc.).
4. Indicate sensitive areas on a map and/or spanning plans.
5. When in doubt, consult the Environmental Practitioner in your region.

The purpose of this *DESD* is to:

1. Determine whether or not the project should be subject to R544, R545, R546 published in terms of the National Environmental Management Act No. 107 of 1998: EIA Regulations of June 2010
2. Identify and firstly avoid or secondly mitigate the negative impact of Eskom's activities to a minimum in line with both Legislation and Eskom's Environmental Policies.
3. Guide Route Selection, Construction and maintenance of this power line.

NOTE Complete the report before the survey!!!

This is not an office exercise.

Extra sheets of paper may be added and referenced if insufficient space has been provided.

Methodology

- ❖ ***A GIS Desktop study and research on environmental elements in the Bothaville area was done.***
- ❖ ***A site visit to the area under study has been conducted in which the proposed route of the line was followed in the veld.***
- ❖ ***The portions of the proposed route where access was possible were screened physically during the site visit.***
- ❖ ***Consultation with landowners regarding environmental elements on their property was made.***

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1. Project description

Project name/SurveyBW408 Refurbishment.....
Area BOTHAVILLE
Project number BW408-Refurbishment..... File number
Rural scheme/
Feeder Balkfontein Pumps - Winkelpost Voltage: 11Kv.....
Supply from BW408 + BW510 T- Off.....
(Scheme name, pole numbers for tee-off)
Supply to BW544
(Farm name, etc.)

2. Scope of Works

❖ Rebuild 19.5km gopher line from BW408 to BW544 with Hare line + BW510T-off

3. Brief description of the surrounding area

Cultivated land with maize, sunflower crops, and Bailing hay farming were observed during the site visit. Grazing cattle and other livestock were seen on site. Birds associated with open grassland and agricultural areas were observed. There are also a number of trees and dwarf shrubs present in the area.

4. Physical environments

4.1 Water: streams rivers dams wetlands springs floodplains OTHER
Pans

Present condition:

There are non-perennial stream and dams present which was dry at the time of the site visit on farm Uitkyk 147, Eureka 761, Weestevreden 269, Lyden 264, Doornheuvel 242, Beestkraal – Noord 186, Tarentaaldraai 156 and Rustrand 426.

Potential impact (e.g. threat of pollution):

- ✓ Driving through streams or water bodies during construction and maintenance of powerline
- ✓ Discarding litter into streams
- ✓ Washing of construction vehicles near water bodies

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-
- ✓ Oil and grease leaking from vehicles or construction equipment can contaminate the water
 - ✓ Depositing of soil into the stream or dam

Mitigation measures:

- ❖ In order to avoid the possible need for a Basic assessment or Water use licence. **Poles should ideally be planted at least 100m away from the edge of a watercourse or out of the 100 year flood line.**
- ❖ No vehicles or construction trucks should drive within a water body or stream.
- ❖ Long powerline spans with higher poles pole structures must be used to cross rivers/streams or vleis.
- ❖ The natural flow of water should not be interrupted without a water use license.
- ❖ Vehicles and oil containing equipment should be serviced to avoid oil contamination of water during construction and maintenance of the powerline.
- ❖ Site cleanliness and immediate cleanup
- ❖ Cleaning of construction vehicles should be done offsite



Image 1: Stream on farm Beestkraal-Noord 186

4.2 Soil: sandy rocky clayey OTHER Loam soil.....

Present condition:

The soil is red, yellow and greyish. The clay content is less than 15 percent. The strong structure of the soil support electrical pole structures to stand for long periods and the non-acidic state of the soil will prevent corrosive impacts on the pole structures. **A rocky area on farm Lyden 264 was observed at the time of visit**

Potential impact (e.g. of erosion):

There is a potential loss of highly organic top soil due to vegetation clearance for the planting of poles. Erosion might increase as more human activity occurs on the top soil. The loss of fertile top soil may occur due to construction processes and vehicles. The pollution of land and soil contamination may occur out of oil leaks from construction vehicles and oil filled equipment. Littering and waste disposal during construction might take place.

Comments/ Mitigating measures:

- ❖ Vegetation clearance should be kept to a minimum.

-
- ❖ The movement of vehicles should be kept to a minimum in and around wet areas, cultivated land and on slopes. .
 - ❖ Soil should be re-deposited in the same order as it is excavated in order to retain the fertile top soil.
 - ❖ Vehicles and equipment to be used on site should be serviced regularly to avoid oil leaks.
 - ❖ No littering should take place and all waste should be cleaned up and removed from site during site rehabilitation.

4.3.Topography mountains ridges hills valleys ravines dongas **OTHER**

Present condition:

An erosion gully was observed on the farm Beestkraal-Noor 186 (**See image 2**). On farm Mealie-built 20 the plain is sloping down area along the proposed route of the line. A rocky area was observed between the farm Lyden 264 and Weestevreden 269.

Potential impact (e.g. of erosion):

There is a potential of soil erosion in the area. The loss of top soil due to excavations for pole holes on slopes where the vegetation cover is little is a real possibility. Construction vehicles and activities may also compact the soil and increase run off water to other parts of the area.

Comments/mitigating measures:

- ❖ The current vegetation should be left as far as possible in its original state.
- ❖ Vehicle driving should be done on existing roads and tracks.
- ❖ Vehicles must drive at a moderate speed and avoid driving on steep slopes.
- ❖ H Poles with 11metres height and a longer span should be implemented to cover the area where there is an erosion gully, so that the poles should not be unstable or eroded away.



Image 2: Erosion Gully on Farm Beeste-Kraal 186

5. Natural environment

5.1 Flora: **indigenous** protected **exotic** OTHER.....

Brief description and conservation status (e.g. rare, etc., mention trees/bush/grass) ...

The vegetation cover is mainly moist cold Highveld grassland with spikelets (grass flowers) (See image 3). **Bluegum, Sweet thorn trees, China berry trees, Karee trees, Pepper trees and poplar trees** were also observed on farms (See image 4). There are **cultivated lands** with maize crop and sunflower and Bailing Hay farming on some of the farms along the proposed route of the line.

Potential impact (e.g. permit applications):

Construction vehicle movement and other construction activities might lead to habitat destruction for small animals and birds, Vegetation clearance and disturbances might lead to soil erosion. Starting open fires on construction site, littering on construction site, loss of actual and potential nests sites for birds and mammals,

Comments/ mitigating measure:

- ❖ Ensure minimal removal of vegetation.
- ❖ No fires should be started in the veld or on cultivated lands.
- ❖ Use existing roads and tracks and drive with the speed limit of 60km/h on gravel roads according to Eskom rules.
- ❖ Vehicles and equipment must be regularly serviced to avoid chemical fluid leaks in the veld.
- ❖ Refrain from littering at all times.
- ❖ The movement of vehicles and frequent use of construction machinery should be minimal.



Image 3: Grassland with spikelets

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Image 4: Karee tree

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5.2 Fauna: **mammals** **birds** **OTHER**
...Cattle.....

Brief description and conservation status:

(E.g. rare, protected, etc., mention giraffe, elephants, eagles, vultures, etc., mention migratory paths)

Cattle, Sheep, Cattle egrets and Lanner Falcons were observed along the route of the line, a Springbok was observed on the farm **Kromvlei 221**, Anthills and horses were observed on **the Rustrand 426** and a Ground squirrel was observed on the farm **Damplaats 220**, Ostrich was observed on the farm **Brak-spruit 222**

Potential impact (e.g. threat of electrocution, collision, etc)

Poaching of animals. Loss of food for birds as termites and anthills get impacted on during construction. Collision and electrocution of birds might occur when birds come into contact with power lines. Loss of livestock due to collision with construction vehicles. The loss of livestock due to farm gates being left open. Dust emission from construction vehicles, noise and vibration from construction machinery, loss of actual and potential nests sites for birds and mammals. Littering on site encourages animal to frequent construction site. Animals falling into open trenches,

Comments/mitigating measures:

- ❖ Minimal vegetation clearance in this area should take place.
- ❖ No poaching of animals should take place.
- ❖ Bird flappers should be installed on the powerline where it crosses wet areas and/or where collision/electrocution prone birds were observed.
- ❖ The bird friendly structures must be used on farms.
- ❖ Landowners must be informed of when construction is going to commence in order for them to relocate their livestock to another camp.
- ❖ Property gates should be opened and closed according to the landowner's request.
- ❖ No animal on the property should be disturbed.
- ❖ Vehicles should be driven at a speed limit of 60km/h on a gravel road according to Eskom rules.
- ❖ Refrain from littering on site
- ❖ The movement of vehicles and frequent use of construction machinery should be minimal
- ❖ Barricade and check trenches to prevent entrapment of animals

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Image 5: Grazing cattle

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Image 6: Anthills

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Image 5: Horses



Image 8 Ostrich on the farm Brakspruit 222

6. Social environments

| | | | | | |
|------------------------------|----------------------|---------------------|---|-------|--------------------|
| 6.1 Restricted areas: | nature/game reserves | hiking trails | tourism routes | parks | recreational areas |
| residential-areas | green belts | sacred/holy grounds | OTHER ... Farm houses, Farm worker houses, School | | |

Brief description

The proposed line passes in close proximity of the farm houses and farm worker houses on the farms Rustrand 426, Krom-Vley 221, Damplaats 220, Rooderand 35, Mealie – Bult 20, Beestkraal-noord 186, Lyden 264, Tarentaaldraai 156 and Uitkyk 147(See image 9). The proposed line is also in the vicinity of a functioning school in farm Damplaats 220 and Beestekraal – Noord 186 (See image 11).

Potential impact e.g. threat of encroachment, etc.:

There is a risk of noise and air pollution caused by vehicles and other construction activities that can cause a disturbance to the landowners. Safety risk is posed to landowners and school pupils, as construction and vehicle movement is going to occur in close vicinity to the households. There is a possibility of farm buildings and equipment being tempered with by contractor workers. Increase risk of game poaching

Comments/ Mitigating measures:

- ❖ Barricade the area to prevent accidental fall of people.
- ❖ Vehicles must drive at a moderate speed.
- ❖ Construction must take place during the day to avoid disturbance of residents at night.
- ❖ The landowner should be informed of when construction is going to start.
- ❖ Gates should be opened and closed according to the landowner's request.
- ❖ Do not touch or move any farm equipment or buildings without consultation with the landowner.
- ❖ Keep the correct safety clearances from buildings
- ❖ Refrain from game poaching



Image 9: farm houses on farm Rustrand



Image 10: Farm houses on farm Weestevreden 269

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Image 11: School on Farm Beestkraal-Noord 186

6.2 Visual aesthetics: easily seen hidden **partially**.....

Brief description:

There is an existing powerlines along most parts of the proposed powerline route. The line is mostly kept along the roads next to the fences of farms.

Potential impact:

Cumulative impact will occur along the route where there is other infrastructure.

Comments/ Mitigating measures:

- ❖ The line must run along existing infrastructure
- ❖ Make use of wooden poles on the project.
- ❖ Line should be kept close to the fences.

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| | | | | |
|-----------------------------|------------------|----------------|-----------|------------------------|
| 6.3 Sensitive areas: | historical sites | archaeological | monuments | natural heritage sites |
| | graves | landmarks | ruins | OTHER..... |

Present condition:

There are two graves on farm Lyden 264 both have tombstones. The graves are situated next to the fence where the proposed line is going to stand

Potential impact:

Damaging, altering or exhuming of graves is a Legal contravention of the following acts:

- ❖ National Heritage Resources Act 25 of 1999 section 36 (3)(a-b) clearly stipulates No person may, without a permit issued by SAHRA or a provincial heritage resources authority -
 - (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such grave.
 - (b) destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by local authority.
 - (c) Bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals

❖ **National Health Act 61 2003 Regulation and Notices – GNR180**

Section 19 clearly stipulates Measures regarding the disinterment of Bodies

No person may disinter a body or remove body from any grave unless the following measures are taken

- (1) the disinterment or removal of a body shall be carried out under the supervision of an environmental health practitioner of the local authority in whose area of jurisdiction the body is buried provided that if the local authority concerned does not have the services of an environmental health practitioner;
- (2) the local authority may use the services of an environmental health practitioner of another local authority or an environmental health practitioner in private practice to perform the duties as referred to in this regulation;
- (3) only persons with direct involvement may be present at the disinterment or removal of a body and no dogs or other animals may be allowed at the grave;
- (4) persons handling a body shall be supplied with and wear protective overwear, gloves and face masks which cover at least the nose and mouth;
- (5) if demanded by an environmental health practitioner, the grave and the body shall be treated with a disinfectant or other protective measures demanded by an environmental health practitioner;
- (6) washing facilities shall be available at the grave for the cleansing of persons handling the body;

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- (8) a body shall be placed in a non-transparent and closely sealed airtight container immediately after it has been disinterred and be handled in such a way that no nuisance or health hazard is caused; and
 - (9) during the disinterment or removal of a body the grave shall not be left unguarded and immediately after the remains have been removed such grave shall be covered or sealed.

Comments/mitigating a measure:

The graves should be fenced off with danger tape with a buffer of at least 10 – 20 meters for the duration of the construction of the powerline



Image 11: Graves on farm Lyden 264

7. Economic environments

| | | | | |
|---------------|--------------|----------------|---------|---------------------------|
| 7.1 Land use: | crops | orchards | grazing | crop spraying |
| | game farming | forestry areas | mining | OTHER Bailing Hay farming |

Brief description:

Cultivated lands with maize, sunflowers crops were observed along the route of the line on farm. Grazing land was observed on farm Loskuil 85, Vrugbaar 748 and Filipina 747. A game farm was observed on the farm Kromvlei 221. Bailing Hay farming was observed on the farms Rustrand 426 and Doornhevel 242 (See Image 13)

Potential impact:

The potential destruction of grazing land and crops can occur during construction. There is a high possibility that disturbances of livestock and game can occur during construction. The construction activities may interrupt with the daily operation of the Bailing Hay farming on Rustrand 426, and Doornhevel 242. Poaching of game and livestock can also occur during construction

Comments/ Mitigating measures:

- ❖ No poaching of game or livestock should take place
- ❖ Before commencement of construction on a farm, the owner should be contacted and requested to relocate the livestock or game
- ❖ Minimal removal of grassland should take place.
- ❖ Livestock and game should not be disturbed
- ❖ Construction vehicles must drive at a moderate speed which is 60 on a gravel road according to Eskom rules.

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Image 12: Baling Hay on farm Rustrand

7.1.1 Commercial: factories shops OTHER

Brief description: NONE

Potential impact: NONE

7.1.2 Infrastructure: roads railways communications power lines air fields
 pipelines sewage OTHER

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Brief description:

The proposed line is routed along existing **gravel roads**. A portion of the proposed line is going to cross over **R727** road, On farm Rooderand 35, Damplaats 220 the line will run underneath a 132Kv line (See image 15), Telkom communication line was observed along the route of the proposed line.

Potential impact:

Permission from the Department of Public works, roads and transport should be obtained to cross over their existing infrastructure. Loose or Unstable structure of powerlines and telecommunication lines

Comments/mitigating measures:

- ❖ Be alert for loose structures, hanging conductors and conductors lying in the veld because it might be live.
- ❖ Keep to safety clearances of roads, telecommunication lines and other electrical infrastructure.



Image 13: The portion of R727 where proposed is going to cross over

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Image 14: Portion of BW 429 to connect with BW 582

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Image 15: Existing 132Kv line

8.1 Impact criteria

The criterion below was used to assess the significance of the impacts. The significance ratings in relation to characteristics of powerline rebuilding activities are determined. These ratings are defined in terms of the magnitude, Likelihood, Business risks, Regulatory scrutiny and Stakeholder interest.

LIKELIHOOD

High (3):

Routine or ongoing activity or impact. Is known to have occurred on routine basis in the past. Impacts associated with the aspects are likely to emerge soon. Impacts are known.

Medium (2):

Periodically occurs once or twice a year. Impacts that are likely to occur within one year.

Low (1):

Very infrequent, every several years. Impacts associated with the aspects are several years away

MAGNITUDE

High (3):

Aspect has a recognized global environmental impact. Widespread or permanent ecological damage locally. Remediation would take longer than one year. Could result in a major public health hazard.

Medium (2):

Aspect could result in a major uncontained or sustained environmental release impacting on a regional or local environment only. Ecological damage can be remedied within one year. Health hazard to humans in the immediate vicinity, but not resulting in .critical or fatal.

Low (1):

Little or no ecological effect and no measurable impact on human health.

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| BUSINESS RISK/ BENEFITS | REGULATORY SCRUTINY | STAKEHOLDER INTEREST |
|--|--|--|
| <p>High (3):</p> <p>Aspect poses significant risk. Early response necessary. Industrial initiatives underway/developed. May have major impact on competitive position. May have a significant impact on value of Eskom's assets.</p> <p>Medium (2):</p> <p>Aspect is likely to pose risk.</p> <p>Low (1):</p> <p>Aspect does not pose significant risk. No need for early response. No industry initiative associated with aspect. Does not threaten competitive position. Does not affect values of Eskom assets</p> | <p>High (3):</p> <p>Regulated by Legislation. High potential for regulatory action or limitations to operate (subject to regulatory inspections & historical compliance problems)</p> <p>Medium (2):</p> <p>Regulated & Legislated, however not a priority in terms of enforcement</p> <p>Low (1):</p> <p>Relatively unimportant, Little or no potential for regulatory action (e.g. not regulated; not a target of enforcement).</p> | <p>High (3):</p> <p>Very important to public and customers. Aspect has the potential to cause damage to corporate reputation. Ongoing dialogue has begun; negative perception, possibility for third party lawsuits. Customers expect superior performance by Eskom in managing this aspect.</p> <p>Medium (2):</p> <p>Important to the public and customers. The aspect is likely to cause damage to corporate reputation.</p> <p>Low (1):</p> <p>Relatively unimportant; the public is unaware or is aware but it is not an issue. No threat to corporate image. It is not an issue with customers.</p> |

SIGNIFICANCE OF THE IMPACTS:

The significance of the unmanaged and managed impacts has been assessed through consideration of the likelihood of the impact occurring, the magnitude over which the impact will be experienced, and the level of business risk, regulatory scrutiny and stakeholders interest the impact will have on the environment.

The formula for calculating the significant environmental impacts score is:

(Likelihood X Magnitude)

+ Regulatory scrutiny

+ Stakeholder interest

+ Business risk/benefit

The significant rating, as determined by the Operating unit, is as follows:

- 0 – 5: Low
- 6 -10: Medium
- 11 – 18: High

Impacts with a value greater than or equal to 11 will be considered as significant.

8.2 Impact before mitigation

What impact will this project have on elements 4 to 7?

1. Physical

Low impact (0-5)

Medium impact (6-8)

High impact (11-18)

2. Natural

Low impact (0-5)

Medium impact (6-8)

High impact (11-18)

3. Social

Low impact (0-5)

Medium impact (6-8)

High impact (11-18)

4. Economic

Low impact (0-5)

Medium impact (6-8)

High Impact (11-18)

Overall impact before mitigation:

This section addresses the overall environmental impact before mitigation is applied. The impacts as assessed in the above three spheres (physical, natural and social) need to be considered to determine the overall impact

| | | |
|-----------|---------------|-------------|
| 0-5 | 6-8 | 11-18 |
| No impact | Medium impact | High impact |

If the overall impact is between 11 and 18, contact the Environmental Practitioner or specialist.

8.2 Impact after mitigation

What impact will this project have on elements 4 to 7?

5. Physical

Low impact (0-5)

Medium impact (6-8)

High impact (11-18)

6. Natural

Low impact (0-5)

Medium impact (6-8)

High impact (11-18)

7. Social

Low impact (0-5)

Medium impact (6-8)

High impact (11-18)

8. Economic

Low impact (0-5)

Medium impact (6-8)

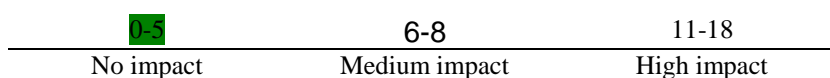
High Impact (11-18)

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Overall impact after mitigation:

If the overall impact is between 11 and 18, contact the Environmental Practitioner or Specialist.



Alternatives

Have alternative routes been discussed with the relevant land owner/s or users?

Yes X (as part of survey)
No

Detailed study

Is an environmental scoping required in terms of regulation 544?

Yes
No X

SAHRA

Should SAHRA be notified according the proposed construction?

Yes X
No

Annex A

Environmental Management Plan

1 General conditions

- 1.1 The Eskom project manager or co-ordinator 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 land owners have been informed before moving onto site.
- 1.2 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.
- 1.3 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 land owner. This shall be the responsibility of the project manager or co-ordinator.

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- 1.4 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 unauthorized persons and vehicles entering into adjacent camps or properties.
 - 1.5 Permission shall be obtained from land owners before any water is used.
 - 1.6 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 fire wood shall be collected in the veld.
 - 1.7 If activities that can cause a fire are carried out, fire extinguishers shall be available on site and in the construction camp.
 - 1.8 No property may be accessed after normal working hours except with the permission of the land owner. Privacy shall be respected at all times.
 - 1.9 Eskom, Eskom's contractors and their employees shall at all times be courteous towards land owners, tenants and the local community.
 - 1.10 Eskom, Eskom's contractors and their employees shall not cause damage to property, crops or animals. Activities that may cause conflict with land owners, 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.
 - 1.11 Vehicles shall be driven at a moderate speed on private roads and stay within the statutory speed limit on public roads.
 - 1.12 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. Special care shall be taken to prevent excess damage during wet weather.
 - 1.13 If any vehicle should get stuck, the damage shall be repaired immediately so that no deep ruts remain.
 - 1.14 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. A record of damages and rectifying action shall be kept. The land owner's satisfaction with the outcome of rectifying action shall be obtained in writing.
 - 1.15 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 land owner. No waste shall be left in the veld or on the line route.
 - 1.16 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 land owner.
 - 1.17 No human excrement shall be left in the veld. If no toilet facilities are available such waste shall be buried immediately.
 - 1.18 Herbicides shall only be applied with Eskom's permission and in accordance with the Eskom Policy on Herbicides ESKPBAAD4.

**PROCEDURE FOR
ENVIRONMENTAL
ASSESSMENT OF RETICULATION AND SUB-
TRANSMISSION PROJECTS:
ANNEX Q OF CAPITAL INVESTMENT IN THE
DISTRIBUTION BUSINESS**

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- 1.19 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 land owner which shall be in writing.
- 1.20 All excavations shall be enclosed to prevent animals or people from accidentally falling into excavations.
- 1.21 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).

2 Special recommendations

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

- ❖ **THE GRAVES ON FARM LYDEN 264 SHOULD NOT BE DISTURBED BY THE REBUILDING OF THE LINE.**
- ❖ **BIRDFLAPPERS SHOULD BE INSTALLED ON THE POWER LINES WHICH IS IN THE VICINITY OF WATER BODIES.**
- ❖ **THE DESTRUCTION OF HABITAT OF WATER ANIMALS AND MAMMALS LIVING CLOSE TO WATER OR WET AREAS SHOULD BE AVOIDED**
- ❖ **THE KEYS FOR THE FARM DAMPLAATS 220 (GAME FARM) MUST BE COLLECTED FROM THE OWNER MR MARIUS CORNELIUS CLAASSENS 0829462141**

TYPICAL MITIGATION MEASURES

| ENVIRONMENTAL CONCERNS | MITIGATION MEASURES |
|---|---|
| AGRICULTURE | |
| Loss of standing crop due to access road and tower work site. | <ul style="list-style-type: none"> - limit width of access and size of tower site. - avoidance of crop areas. - monetary compensation for crop loss. - time construction to avoid growing season. |
| Soil Compaction | <ul style="list-style-type: none"> - scheduling activities to times of the year when soils are least susceptible to compaction. - stop activities when ground conditions are poor. - use of equipment with low bearing capacity. - chisel ploughing. |
| Construction of new lines | <ul style="list-style-type: none"> - locate access roads along existing traffic routs. |
| Topsoil – subsoil mixing/soil rutting | <ul style="list-style-type: none"> - scheduling activities. - stop activity when ground conditions are poor. - use of equipment with low bearing capacity. - use of gravel roads. - addition of manures to offset fertility loss. - compensation for reduced soil productivity. - removal of spoil and/or bentonite from foundation operations. - Segregation of topsoil and subsoil. |
| Disturbance to farm operations | <ul style="list-style-type: none"> - maintain contact with landowner/tenant regarding preferences. |
| Loss of livestock | <ul style="list-style-type: none"> - employ noise control measures near sensitive livestock. - Construction of farm gates. - Securing farm gates. - Clean-up construction materials which could be ingested. - Compensation for lost, injured livestock. |
| SOCIAL IMPACTS | |
| Noise and Vibration | <ul style="list-style-type: none"> - limit this type of work to daylight hours. - observe protocol or applicable municipal by-laws. - use of appropriate methods where available. |
| Mud and Dust | <ul style="list-style-type: none"> - wetting down dry soils. - chemical control of dust. - cleaning roads to remove mud. - temporary planting of grasses. |
| Aesthetics | <ul style="list-style-type: none"> - screen with natural or planted vegetation restoration. - avoid linear access down the right-of-way. - addition of topsoil to gravel access roads. - hoarding construction sites. - installation of landscaping in advance of site completion. |
| Inconvenience | <ul style="list-style-type: none"> - select route and method of installation to suit landowners' conditions. - select timing of activity. |
| Heritage resources | <ul style="list-style-type: none"> - avoidance/isolation. - design measures to make facility less obtrusive. - screening. |

PROCEDURE FOR ENVIRONMENTAL ASSESSMENT OF RETICULATION AND SUB-TRANSMISSION PROJECTS: ANNEX Q OF CAPITAL INVESTMENT IN THE DISTRIBUTION BUSINESS

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