

	(For official use only)
File Reference Number:	
Application Number:	
Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

## Kindly note that:

- This basic assessment report is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for
- This report format is current as of 1 August 2014. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
- 3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
- 4. Where applicable **tick** the boxes that are applicable in the report.
- 5. An incomplete report may be returned to the applicant for revision.
- 6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
- 7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
- 8. No faxed or e-mailed reports will be accepted.
- 9. The signature of the EAP on the report must be an original signature.
- 10. The report must be compiled by an independent environmental assessment practitioner.
- 11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
- 12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
- 13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

## BASIC ASSESSMENT REPORT

- 14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
- 15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

## **SECTION A: ACTIVITY INFORMATION**

Has a specialist been consulted to assist with the completion of this section?

YES	NO
<b>✓</b>	

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

#### 1. PROJECT DESCRIPTION

## a) Describe the project associated with the listed activities applied for

The study area is situated in the Taunus Technical Service Area. The 2 x 11kV feeders from the existing Calcined Product Substation share a single cable from the transformer therefore, any fault on the cable renders the 11kV network inadequate. A new Calcined Products substation is required to strengthen the network in the area. The new feeders to be installed will assist in de-loading the current overloaded feeders at the existing Calcined Product and provide more back-feeding.

Consequently, Eskom Holdings SOC Limited proposes to acquire a new substation servitude from Nufcor to establish a new 132/11/6.6kV Calcined Products Substation which will entail the following installations:

- 2x20MVA Transformers;
- 1x10MVA (6.6kV) Transformers;
- 2x20MVA 132/11kV transformer bays;
- 1x10MVA 132/6.6kV transformer bay;
- 8x 11kV feeder breakers;
- 6.6kV Meter Panel;
- 2x132kV line bay's; and
- Loop in the station onto the proposed Taunus-Diepkloof/Quattro line.

The existing 44/11/6.6kV Calcined Products substation currently operating at a lower capacity will be decommissioned after the proposed new 132/11/6.6kV Calcined Products substation with higher capacity becomes operational.

The proposed project will be located on Farm Panvlakte 291 IQ, Portion1, within the jurisdiction of Westonaria Local Municipality in the Gauteng Province.

The aforementioned activities are listed activities under GNR 544 (Listing Notice 1) Activities 10 (i), 13 and 27 (i), therefore, an Environmental Authorization must be obtained in terms of the National Environmental Management Act, 1998 (Act No. 107of 1998) and the Environmental Impact Assessment Regulations, 2010.

## b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R.544, 545 and 546	Description of project activity		
	The proposed construction of the new Eskom 132/11/6.6kV Calcined Products substation and		

and distribution of electricity outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.	associated 132kV loop in and out servitude.
GN R.544 13. The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.	The transformers at the substation will store transformer oil which may be classified as a dangerous good. The required combined capacity is unknown.
GN R.544 Item 27(ii): The decommissioning of existing facilities or infrastructure, for – electricity transmission and distribution with a threshold of more than 132kV.	The existing Calcined Products and associated infrastructure will be decommissioned after commissioning of the proposed new Calcined Products Substation.

## 2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

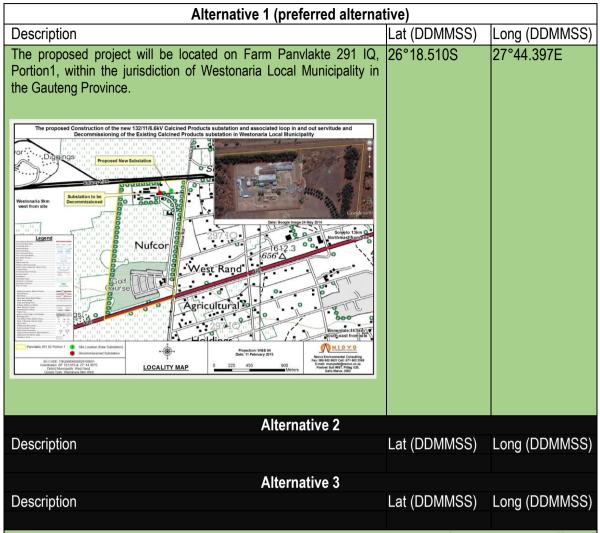
- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

## a) Site alternatives



The proposed project aims at strengthening the network in the area and further ensures sufficient provision of electricity in the industrial area as well as the newly developed residential areas.

The proposed project will be located adjacent to the existing (44/11/6.6kV) Calcined Products substation which will eventually be decommissioned. The site is already disturbed due to the activities that are already occurring. These activities include the existing substation, the Nufcor Uranium processing industry and waste water treatment works inside the Nufcor property, the N12 road as well as the offices and residential area located close to site. Therefore the siting of the project is perfectly located due to the existing substation as well as other activities surrounding the site hence no site alternatives were considered.

Latitude (S):

In the case of linear activities:

#### Alternative:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

(-)	3 3 4 4 7

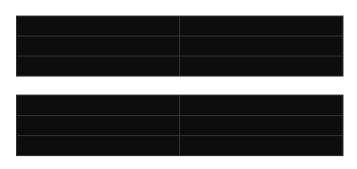
Longitude (E):

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

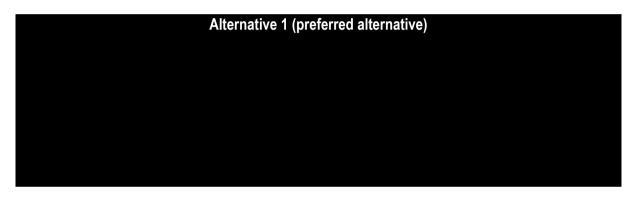
- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity



For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

## b) Lay-out alternatives



## c) Technology alternatives

## **Alternative 1 (preferred alternative)**

#### Overhead Cable

The proposed ±300m 132kV loop in loop out power lines will be overhead. Further, it will consist of steel monopole structures that require a 31m servitude and 14m clearance between the towers. It must be noted that within the vicinity of the proposed project site there are existing overhead cables such as the Taunus-Diepkloof/Quattro line etc., therefore, Alternative 1 will be in line with the other existing power lines in the area.

## Alternative 2

## **Underground Cable**

Instead of constructing the proposed line above ground, underground construction can be an alternative. The advantages of this alternative would include minimisation of the impact on land use, reduced impact on bird interaction and a distinct visual impact benefit.

Unlike overhead cables Underground cables need to be insulated against the surrounding soil. On low voltage reticulation networks (11kV & 22kV) the heat generated by the cable is low enough for standard insulation to be used.

Control of electrical losses and heat control are critical for underground cables. As a result, cables are as much as 4 times the diameter and 10 times the weight of equivalent overhead lines. Heat control is also a factor in the laying of the cables. The three phases of low and medium voltage cables (up to 132kV) can be placed in the same trench, while the phases for high voltage cables must be spaced apart, typically in a flat formation.

Faulting on underground cable is rare. Bush fires, lightning strikes and bird related faults make up 80% of faults on overhead transmission lines in South Africa. These are not risks associated with underground cables. When such faults occur on overhead lines they are usually re-energised by automatically reclosing the circuit-breaker within a few seconds of the fault. More serious faults, such as a damaged line may be easily found and repaired within a few days at most. On underground cables the faults are almost exclusively a permanent fault, requiring inspection and correction on site. This usually requires excavating a section of the line. However, location of faults is not easy unless there is clear evidence of excavation damage. Therefore, the search and repair of underground cables can take several weeks. This may severely compromise the network design standard.

Economically costs vary and are dependent on terrain, land use and size of line. However, underground cabling is in orders of magnitude greater than overhead cables.

## **Alternative 3**

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1
Alternative 2
Alternative 3

## e) No-go alternative

In accordance with GN R543, consideration must be given to the option not to develop. This option is usually considered when the proposed development is envisaged to have such significant negative environmental impacts that mitigation measures cannot ameliorate the identified impacts effectively.

The no-go alternative would be the option of not undertaking the proposed construction of the new Calcined Products substation, the loop in loop out lines and well as the associated infrastructure. Further, this will also imply that the existing Calcined Products substation will not be decommissioned.

Paragraphs 3 – 13 below should be completed for each alternative.

#### 3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

## Alternative:

Alternative A1<sup>1</sup> (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

 $m^2$ 

 $m^2$ 

Size of the activity:

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

m
m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

#### Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

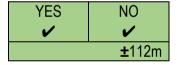
Size of the site/servitude:

±25917m <sup>2</sup>
m <sup>2</sup>
m <sup>2</sup>

## 4. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built



Describe the type of access road planned:

The proposed project and the existing substation to be decommissioned are situated adjacent to each other. An access road to the existing Calcined Products substation already exists.

In order to gain access to the proposed new Calcined Products substation, part of the existing access road will be used and an additional 112m section of a road will constructed so as to extend this access road up to the proposed new Calcined Products substation.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

The position of the road is depicted in the site plan attached as Appendix A.

 $<sup>^{\</sup>mbox{\scriptsize 1}}$  "Alternative A.." refer to activity, process, technology or other alternatives.

#### 5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s;)
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the
  centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal
  minutes. The minutes should have at least three decimals to ensure adequate accuracy. The
  projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

## Locality Map is attached as Appendix A.

#### 6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites:
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

## Layout Plan is attached as Appendix A.

## 7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWA);

- ridges;
- cultural and historical features:
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

Sensitivity Map is attached as Appendix A.

#### 8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Eight - directional colour photographs are attached as Appendix B.

## 9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

Facility Illustration is attached as Appendix C.

## 10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

Is the activity permitted in terms of the property's existing land use rights?	YES 🗸	NO	Please explain	
The proposed activity entails the construction of the new Eskom 132/11/6.6kV Calcined Products substation and associated 2x132kV loop in and out power lines. The proposed project will be located adjacent to an existing and operational 44/11/6.6kV Calcined Products substation which will be decommissioned after the new project becomes operational.				
2. Will the activity be in line with the following?				
(a) Provincial Spatial Poyalenment Framework (BSDE)		NO	Please explain	
(a) Provincial Spatial Development Framework (PSDF)		NO	riease expiairi	
The proposed project is part of the programme of increasing the electricity supply capacity and it will allow for improved infrastructure.				

(b) Urban edge / Edge of Built environment for the area	YES 🗸	NO	Please explain	
The proposed project is outside the urban edge.				
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO 🗸	Please explain	
According to the IDP, Westonaria Local Municipality provides electricity to formal areas, except the agricultural holdings, Bekkersdal and the mines. All informal settlements are without access to electricity or energy and all formal areas are fully electrified with a reliable source which is Eskom. Free basic electricity provided in accordance with the Draft Indigent Policy and they receive 50kwh per month per household. Public lighting was installed in high risk areas, like Informal Settlements. Ageing and dilapidated infrastructure network is one of the general challenges the municipality is facing.  The approval of this application would promote the aims and objectives of the Municipal IDP and SDF by promoting residential development, upgrading engineering and social infrastructure in the area as well as maintaining and upgrading residential quality. The proposed activity is in line with the Municipality's mandate to ensure reliable power supply within their area of jurisdiction.				
(d) Approved Structure Plan of the Municipality	YES	NO 🗸	Please explain	
It is not within the Municipality's mandate to approve Eskom Structure has been identified as a primary stakeholder eligible to comment.	Plan; how	vever, th	ne municipality	
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing				
environmental management priorities for the area and it so, can it be justified in terms of sustainability considerations?)	<b>/</b>	NO	Please explain	
environmental management priorities for the area and it so, can it be justified in terms of sustainability	ying signi if not we creased	ficance Il mana econom	as outlined in ged. However, ic activity and	
environmental management priorities for the area and it so, can it be justified in terms of sustainability considerations?)  The proposed project will have various environmental impacts of var Appendix F that to an extent may compromise the integrity of the EMF the long term developmental and sustainability goals coupled with in	ying signi if not we creased	ficance Il mana econom	ged. However, nic activity and	

3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?

YES NO Please explain

The proposed project is an energy supply related project which is priority for the Municipality and the country at large. Further, the proposed project is a Strategic Infrastructure Project (SIP) and is well aligned with the Westonaria Local Municipality IDP. According to the Westonaria Local Municipality IDP (2013/2014), the municipality's strategic objective is sustainable basic services to community, physical infrastructure which include:

- Physical infrastructure (Roads, electricity network, public amenities, water network, storm water network, sanitation network, etc.); and
- Municipal services (Water, sanitation, electricity, solid waste removal, electricity network and reliable municipal services etc.).

The municipal's strategic objectives in terms of electricity and renewing their communities include repair and maintenance of electrical equipment in municipal buildings, installation and repair of electrical meters, install electric meters to new households, repair and maintenance of street lighting and repair and maintenance of substations and mini-substations underground and overhead cables.

4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)

YES NO	Please explain
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Westonaria Local Municipality has many opportunities for growth and development. As indicated in the IDP, the municipality has many development opportunities, namely land available for development through partnerships with land owners, agricultural development, mining, transport, etc. The pending merger of Westonaria Local Municipality and Randfontein Local Municipality in 2016 presents even more development opportunities not only the two municipalities but also for the entire region as it moves towards the achievement of the Uni-City Vision.

Westonaria Local Municipality has committed itself to ensure provision of sustainable basic service delivery to its communities, to ensure excel in internal municipal business processes, by positioning itself strategically in order to ensure that integrate sustainable development takes place and provides a democratic and accountable government for local communities through broadening local democracy

The industrial community around the Westonaria Municipality is expanding and some areas within the municipality are currently marginalised in terms of electricity supply, therefore it can be concluded that the project is of national and local importance.

5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)

The required services for the proposed project include primarily access roads which already exist but will need to be extended by about 112m in order to provide access to the new Calcined Products substation.

6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)

YES NO Please explain

The proposed new Eskom Calcined products substation will strengthen the arm of electricity within the Local Municipality and beyond. The proposed project is a much needed project as it will add support to form part of a link to strengthen the bulk supply network in areas. This project will allow for load growth and will improve reliability of supply as well as entrench the reach of electricity to the marginalised communities.

7. Is this project part of a national programme to address an issue of national concern or importance?

YES NO Please explain

This project addresses a localized problem. However at national level, the project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME, 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply.

8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)

YES NO Please explain

The proposed new Eskom Calcined products Substation, loop in and loop out powerline as well as the associated infrastructure is located in close proximity to the existing and operational Calcined Products substation; therefore the proposed location perfectly favours the proposed land use as it follows suite to other electrical activities in the area.

9. Is the development the best practicable environmental option for this land/site?

YES NO Please explain

The proposed site is already disturbed due to existing Eskom substation, a waste water treatment works and the nearby Nufcor Uranium processing company. Further, the proposed site has been approved by the Municipality for the proposed land use, with the aim being to strengthen the electricity network in the area to cater for current and future developments.

## YES 10. Will the benefits of the proposed land use/development NO Please explain outweigh the negative impacts of it? The proposed project will benefit the community, Municipality and the country at large. The identified impacts will be managed according to the recommendations from the specialists as well as the EMPr approved by the Department of Environmental Affairs. Moreover the proposed development will ensure a more positive economic outlook; Therefore the benefits of the proposed project will outweigh the negative impacts. The negative impacts have been identified and mitigation measures proposed. NO 11. Will the proposed land use/development set a precedent for YES Please explain similar activities in the area (local municipality)? The proposed project will be located adjacent to the existing Calcined Products substation, therefore, the proposed development will not set a precedent but will compliment activities in the area. NO 12. Will any person's rights be negatively affected by the YES Please explain proposed activity/ies? The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The undertaking of the Basic Assessment process is in line with the state's obligations as outlined in the constitution in its effort to ensure sustainability. NO 13. Will the proposed activity/ies compromise the "urban edge" YES Please explain as defined by the local municipality? The proposed project is outside the urban edge. 14. Will the proposed activity/ies contribute to any of the 17 YES NO Please explain Strategic Integrated Projects (SIPS)? The proposed project is SIP 10 which entails: Expansion and the transmission and distribution network to address historical imbalances provide access to electricity for all and support economic development. Align the 10-year transmission plan. the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity. 15. What will the benefits be to society in general and to the local Please explain communities? At the local level, the project would contribute to reliability of power supply. There would also be a less tangible but nonetheless important benefit of positioning the municipality on the lead in terms of sustainable energy supply to its communities. At the national level, the project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME, 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply. 16. Any other need and desirability considerations related to the proposed Please explain activity? None.

## 17. How does the project fit into the National Development Plan for 2030?

Please explain

The project would contribute to implementing South Africa's new energy policy as embodied in the White Paper on Energy (DME, 1998). The priorities to which this project would contribute are laying the groundwork for promoting electrification and off-grid power supply.

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

The general objectives of IEM have been taken into account by means of identifying, evaluating, and predicting the actual and potential impacts on the natural, cultural and social environment. The risks, consequences and mitigation measures have been considered to minimise the negative impacts, enhance the positive impacts and promote compliance with environmental management principles.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

The principles of NEMA have been considered in this assessment through compliance with the requirements of the applicable legislation. This Basic Assessment Report (BAR) ensures that the impacts of the proposed activity on the environment are thoroughly and comprehensively assessed to ensure sustainability. Further, successful implementation of the EMPr will aid in minimising pollution and environmental degradation.

The undertaking of the Basic Assessment process has been transparent in approach and as such involves Interested and Affected Parties (I&AP), landowners, organs of state and other key stakeholders, which will ensure that well informed decision is undertaken by the Authority.

## 11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
Republic of South Africa – Constitution, Act 108 of 1996	The Constitution of South Africa Act No. 108 of 1996 provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state has an obligation to respect, promote and fulfil the rights as defined in the Bill of Rights. The environmental right states that: "Everyone has the right - a) To an environment that is no b)To have the environment protected, for • Prevent pollution and ecological degradation; • Promote conservation; and • Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social		1996

	development."		
	The undertaking of the BA process is in line with the state's obligations as outlined in the constitution in its effort to ensure sustainability.		
National Environmental Management Act, Act 107 of 1998 (as amended in 2009)	The overarching principles of sound environmental responsibility are reflected in the National Environmental Management Act (NEMA The principles set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998), hereafter referred to as NEMA, applies to all listed projects. Construction and operation have to be conducted in line with the generally accepted principles of sustainable development, integrating social, economic and environmental factors.	National & Provincial Government	1998
National Environmental Management: Biodiversity Act, Act 10 of 2004	The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. The specialist study did not identify sensitive areas within the study area that may need to be avoided.	National & Provincial Government	2004
National Environmental Management: Air Quality Act, Act 39 of 2004	The objective of the Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air and to prevent pollution of air and ecological degradation.  Part 6 of the Act makes provision for measures to control dust, noise and offensive odours.  The assessment of impacts relating to air quality control and management, where appropriate, will form part of the environmental impact assessment report and environmental management	National & Provincial Government	2004

	plan. The Proposed Area has not been declared as a dust control area in terms of section 27 of the APPA. The proposed project may create minimal dust during excavations which is expected to be short term and site specific.		
National Water Act, Act 36 of 1998	The Act ensures protection of water resources. There are no identified streams and wetlands in proximity to the proposed therefore the requirements of the Act may not necessarily apply directly. It is however, recommended that the resources be protected at all times.	National & Provincial Government	1998
National Heritage Act, Act 25 of 1999	The Act legislates the necessity for cultural and heritage impact assessments in areas earmarked for development, which exceed 0.5ha. The Act makes provision for potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).  There were no Stone or Iron Age materials that we were able to find (and or observe), in any part of the proposed Substation Calcined Products. The area is disturbed to yield any cultural heritage materials.	National & Provincial Government	1999
Noise Control Regulations in terms of the Environmental Conservation Act 73 of 1989	The assessment of impacts relating to noise pollution management and control, where appropriate, forms part of the environmental impact assessment report and environmental management plan. Applicable laws regarding noise management and control refers to the national noise control regulations issued in terms of the Environment Conservation Act 73 of 1989.  The inhibition of sites by contractors may generally increase the ambient noise levels in the area. Additional	Local Authority	

	noise may be expected from the increased heavy duty traffic as well as construction equipment.		
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)	The purpose of this Act is to provide for the protection, conservation and management of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes. The diversity of ecological processes was determined throughout the study. This Act will be read together with relevant policies and management plans.  There are few protected areas around the site as well as areas that are ecologically sensitive.	National	2003

## 12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

## a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?



If YES, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

The construction of the substation and loop in loop out lines as well as the decommissioning of the existing substation will generate general construction waste which will be removed by a waste contractor and be disposed of at a registered waste disposal site. Any solid waste produced on site will be collected in suitable containers and removed from site by means of waste disposal vehicle. Further, details on solid waste management are provided in the Environmental Management Programme (EMPr). Solid waste could include the following:

- conductor off-cuts;
- steel:
- concrete rubble from structure foundations;
- · any vegetation cleared; and
- general waste produced by construction workers.

All waste will be taken to registered waste sites. Should any hazardous waste be produced, it shall be disposed of appropriately at a registered waste disposal site. Records of the type and quantity of waste disposed of at the waste disposal site will be kept on site.

Where will the construction solid waste be disposed of (describe)?

Solid waste will be managed and disposed of in accordance with the attached EMPr and may include:

- General waste, consisting of non-hazardous substances and substances that cannot be recycled. Examples include (but not limited to rubble, that cannot be reused, and food waste. This will be disposed and collected in a waste skip and disposed of at a registered site.
- Re-usable and excess material, which can be used at construction sites will be carefully packaged and delivered to other sites for reuse.
- Hazardous waste which will be disposed of accordingly at a registered hazardous waste disposal site.
- Refuse will at all times be disposed of at a registered site, which is also approved by the local authority. Refuse will not be burned or buried on or near the site.
- Records of the type and quantity of waste disposed of at the waste disposal site will be kept on site.

Will the activity produce solid waste during its operational phase?



If YES, what estimated quantity will be produced per month? How will the solid waste be disposed of (describe)?

Waste produced during the operational phase will be primarily from maintenance and domestic waste from employees (site security guards and other). Waste produced will be managed according to the requirements of the EMPr, which will include proper disposal of waste at a registered site as well as recycling were feasible. A record of waste generated and disposed of will be kept and managed accordingly to encourage waste reduction.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

A registered landfill site will be used and permission will be sought from the municipality before commencement of the construction activities. It is assumed that the closest registered waste disposal site will be used.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

Waste that does not fit into the municipal waste stream will be disposed of at a registered hazardous waste disposal site while recyclable and reusable will be treated as such.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?



If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?



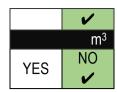
If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

## b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

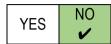
YES NO

If YES, what estimated quantity will be produced per month? Will the activity produce any effluent that will be treated and/or disposed of on site?



If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?



If YES, provide the particulars of the facility:

Facility name:			
Contact			
person:			
Postal			
address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

None identified.

## c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?

If YES, is it controlled by any legislation of any sphere of government?

	NO >
YES	NO
	<b>/</b>

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

The only gaseous emissions will be from normal vehicle operation as well as limited dust generation due to vehicle movements taking place during the construction and decommissioning activities. Dust emissions will have a low significance.

Low levels of dust emissions may also be created from excavations during the construction and decommissioning phases; this will be site specific and low in significance, provided that mitigation measures are in place.

Appropriate dust control measures such as dampening of surfaces will be put in place as may be required. Further detail on dust management is provided in the EMPr.

## d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

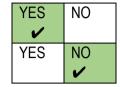


If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

## e) Generation of noise

Will the activity generate noise?

If YES, is it controlled by any legislation of any sphere of government?



Describe the noise in terms of type and level:

Noise pollution will occur as a result of construction and decommissioning activities as well as movement of vehicles on site; the impact will be highly localised and of a temporary nature.

The potential noise impact will be mitigated by restricting construction activities to normal working hours, which will result in an impact of low significance.

Further details on noise management are provided in the EMPr.

#### 13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream,	Other	The activity will
<b>✓</b>	vvalei boaiu		dam or lake	Other	not use water

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?



If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

#### 14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

## None.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

None.

## SECTION B: SITE/AREA/PROPERTY DESCRIPTION

## Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

- 2. Paragraphs 1 6 below must be completed for each alternative.
- 3. Has a specialist been consulted to assist with the completion of this section?



If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

# Property description/physical address:

Province	Gauteng Province	
District	District Municipality	
Municipality		
Local Municipality	Westonoria Local Municipality	
Ward Number(s)	Ward 16	
Farm name and	Panvllakte 291IQ	
number		
Portion number	Portion 1	
SG Code	T0IQ0000000029100001	

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Agricultural			

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?



#### 1. **GRADIENT OF THE SITE**

Indicate the general gradient of the site.

## Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper		
<b>✓</b>						than 1:5		
Alternative S2 (if any):								

### Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper
						than 1:5

## Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper
						than 1:5

#### 2. **LOCATION IN LANDSCAPE**

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	2.4 Closed valley		2.7 Undulating plain / low hills	
2.2 Plateau	2.5 Open valley		2.8 Dune	
2.3 Side slope of hill/mountain	2.6 Plain	~	2.9 Seafront	
2.10 At sea				

#### 3. **GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

Is the site(s) located on any of the following?

Shallow water table (less than 1.5m deep)

Dolomite, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)

Unstable rocky slopes or steep slopes with loose soil

Dispersive soils (soils that dissolve in water)

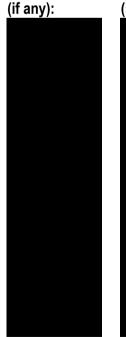
Soils with high clay content (clay fraction more than 40%)

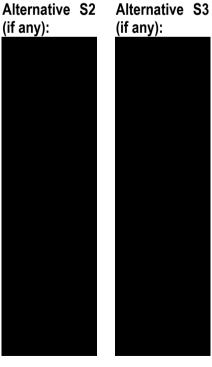
Any other unstable soil or geological feature

An area sensitive to erosion



Alternative S1:





If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

#### 4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition <sup>E</sup>	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure ✓	Bare soil 🗸

If any of the boxes marked with an "E "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

Vegetation Study was undertaken by Mpho Ramalivhana of Naledzani Environmental Services. Refer to Appendix D1 for the Report.

#### 5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO 🗸	UNSURE
Non-Perennial River	YES	NO 🗸	UNSURE
Permanent Wetland	YES	NO 🗸	UNSURE
Seasonal Wetland	YES	NO 🗸	UNSURE
Artificial Wetland	YES	NO 🗸	UNSURE
Estuarine / Lagoonal wetland	YES	NO 🗸	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.



#### 6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential 🗸	Hospital/medical centre	Filling station H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential <sup>A</sup>	Church	Agriculture (Stock Farming)
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial 🗸	Sewage treatment plant <sup>A</sup>	Nature conservation area
Medium industrial AN	Train station or shunting yard N	Mountain, koppie or ridge
Heavy industrial AN	Railway line N 🗸	Museum
Power station	Major road (4 lanes or more) N ✓	Historical building
Office/consulting room 🗸	Airport N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam <sup>A</sup>	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course ✔	Other land uses (describe)  Orphanage (HIV)  Water Treatment plant.

If any of the boxes marked with an "N "are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

## The proposed site is located along the N12.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO 🗸
Core area of a protected area?	YES	NO 🗸
Buffer area of a protected area?	YES	NO 🗸
Planned expansion area of an existing protected area?	YES	NO 🗸
Existing offset area associated with a previous Environmental Authorisation?	YES	NO 🗸
Buffer area of the SKA?	YES	NO 🗸

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

## 7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:



If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

Mr Munyadziwa Magoma of Vhubvo Archaeo-Heritage Consultants undertook a Phase 1 Archaeological Impact Assessment in January 2015. The specialist deduced that the proposed area is disturbed by past activities related to agriculture, such that it is not possible for any archaeological materials to have remained in *situ* on the affected landscape. Further, the specialist indicated that although no archaeological objects were observed during the survey, should any archaeological material be unearthed accidentally during the course of construction, the South African Heritage Resources Agency should be alerted immediately and construction activities be stopped.

Will any building or structure older than 60 years be affected in any way? Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	NO 🗸
YES	NO 🗸

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

## 8. SOCIO-ECONOMIC CHARACTER

The source of information provided hereunder is the Integrated Development Plan 2014/2015 for the Westonaria Local Municipality.

### a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

According to the IDP the population within the Westonaria Local Municipality is 111 765 people. Unemployment rate in the municipality is 29.5%.

Economic profile of local municipality:

According to the IDP, the largest percentage of households either does not earn an income, or earn between R 19600 and R 76400 per year. This is indicative of a significantly uneven distribution of income.

When comparing the figures of the 2001 and 2011 Census data, it should be noted that the percentage of households who falls into the "no income category" have remained basically unchanged. An increased number of households have indicated a higher income within the Westonaria Local Municipal area.

#### Level of education:

Within the Westonaria Local Municipality, only 20.6% of the population has completed Grade 12 and this percentage is the lowest of all the Local Municipalities within the West Rand District Municipality. However, the majority of the people have only obtained some secondary level of education which is likely to impact negatively on their ability to find employment.

Functional literacy affects the quality of labour being offered. Inadequate training and skills levels are barriers preventing a greater proportion of the available labour force to find employment, thus contributing to the unemployment.

## b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

What is the expected yearly income that will be generated by or as a result of the activity?

Will the activity contribute to service infrastructure?

Is the activity a public amenity?

Cost estimations have not been calculated as they strongly depend on construction current costs and the site selected for use. It is not expected that the proposed development will earn any income - it is primarily to provide reliable bulk services to the local industries and communities. YES NO 1 YES NO

Undetermined.

How many new employment opportunities will be created in the During the construction development phase of the activity? well as as decommissioning phases of the proposed project it is not envisaged that any direct employment will be created. The Client will appoint Contractors who will bring in their own working teams to undertake the project. This cannot yet be What is the expected value of the employment opportunities during the development phase? quantified as it is not foreseen that anv additional employment will be generated by the project. What percentage of this will accrue to previously disadvantaged None - it is not foreseen individuals? that additional any employment opportunities will be created by the project. How many permanent new employment opportunities will be created None - due to the during the operational phase of the activity? nature of the project no permanent employees will be required on site manage the operational phase. No direct employment What is the expected current value of the employment opportunities during the first 10 years? opportunities will be generated by the project, during any of the phases. However it estimated that indirect numerous employment opportunities might be generated as a result of additional the bulk infrastructure which the project proposes install in the area. What percentage of this will accrue to previously disadvantaged None it is not individuals? that foreseen any additional employment opportunities will be generated by the project.

## 9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category			Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	

## b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	0	
Near Natural (includes areas with low to moderate level of alien invasive plants)	10	The vegetation in the proposed project is no-longer in its According to the Biodiversity report the vegetation in the proposed area consists of grass layer which is a typical grassland vegetation formation. The general floristic view of the area is homogenous with trees such as Eucalyptus cinerea, E. camaldulensis and Pinus patula.natural conditions.
Degraded (includes areas heavily invaded by alien plants)	70	There are alien invasive species that were identified on site and these are <i>Pinus patula</i> , <i>Melia azaderach and Eucalyptus camaldulensis</i> .
Transformed (includes cultivation, dams, urban,	10	The existing Calcined Products substation to be decommissioned is located on a disturbed area (pavement, access road etc.)

plantation, roads, etc)

## c)

- Complete the table to indicate:
  (i) the type of vegetation, including its ecosystem status, present on the site; and
- (i) (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems							
	Critical	Wetland (including rivers,							
Ecosystem threat	Endangered	depressions, channelled as			Estuary C		Cooc	Coastline	
status as per the National	Vulnerable	unchanneled wetlands, flats, seeps pans, and artificial wetlands)			LSu	uary	ary Coasun		
Environmental									
Management:	Least		NO			NO		NO	
Biodiversity Act (Act	Threatened	YES	V	UNSURE	YES	NO	YES	NO	
No. 10 of 2004)	<b>/</b>					/		~	

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The proposed project area as falls within the Grassland biome which is second largest biome in South Africa. Further, this biome is considered to have an extremely high biodiversity. According to the Biodiversity study, possible protected trees that could occur in the study area are *Khadia beswickii* (L.Bolus) N.E.Br, Adromischus umbraticola C.A.Sm. subsp. Umbraticola, Ilex mitis (L.) Radlk. var. mitis and Gunnera perpensa L. none of these plant species were recorded on site. The site does not fall within a Critical Biodiversity Area.

No mammal species were identified including both large and small mammals. A number of burrows and holes were observed in the study area and confirms the presence of other smaller mammals that were not identified during site visits. No Red Data mammal species or mammals of conservation importance were sighted during the field surveys.

With regards to reptiles, a few termite mounds were observed on site. Termite mounds provide nesting site for numerous lizards and snakes. Burrows, trees including stumps and bark are vital habitats for numerous arboreal reptiles such as chameleons, snakes, agamas, geckos and monitors).

From field evaluation of the study area, no Red Data avifauna species were recorded. During the field survey, bird habitats that were identified such as open grasslands and tree covers especially on *C. africana*. The only bird seen on site was *Numida meleagris* feeding on a peach tree. Though the area is a grassland no grass owl was noted on site.

## **SECTION C: PUBLIC PARTICIPATION**

## 1. ADVERTISEMENT AND NOTICE

Publication name	The Star				
Date published	10 December 2014				
Site notice position	Latitude Longitude				
	27°44' 19.74'E	26°18′ 32.96′S			
	27°44' 24.30'E	26°19′ 10.91′S			
Date placed	10 December 2014				

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

Proof of placement of notice is attached as Appendix E1.

## 2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2) (e) and 54(7) of GN R.543.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2) (b) of GN R.543:

Title, Name and Surname	Affiliation/ key status	stakeholder	Contact details (tel number or e-mail address)
S. Selamolela	Landowner		sselamolela@anglogoldashanti.com Cell No: 082 372 4364
			Calcined Products (PTY) Ltd(Nuclear Fuels of South Africa (PTY) Ltd, P/Bag X9, Westonaria, 1780
Lerato Lesona	NUFCOR		N12 Himard Zuurbekom 1870 011 637 8203
S. Ndima	NUFCOR		N12 Himard Zuurbekom 1780 011 637 8203

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or

or any other proof as agreed upon by the competent authority.

Proof of written notification to key stakeholders attached as Appendix E2.

## 3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
None to date.	

## 4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

Comments and Response have been attached as Appendix E3.

## 5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	E-mail	Postal address
Gauteng Department of Roads and Transport	Mr. Ismail Vadi	011 355 7000		gproads.transport@ga uteng.gov.za	P/Bag x 83, Marshalltown, 2107
Westonaria Local Municipality	T. Rankholi	011 278 3000		krankholu@westonari a.gov.za	P.O.Box 19, Westonaria, 1780
Gauteng Department of Agriculture and Rural Development	Ms. Belot	011 240 3051		Boniswa.belot@gaute ng.gov.za	P.O Box 8769, Johannesburg, 2000
Department of Water and Sanitation	Mr Justice Maluleke	012 336 8733	012 336 8850		Private Bag X313, Pretoria, 0001

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

Proof has been included as Appendix E4.

## BASIC ASSESSMENT REPORT

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

## 6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

## List of Registered I&AP attached as Appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

No meetings have been held to date.

## SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A (2) of this report.

Activity	Impact summary	Significance	Proposed mitigation					
	Alternative 1 (preferred alternative)							
Impacts asso	ciated with the construction of the	new Calcined Pro	oducts Substation					
	Direct impacts:  Soils and erosion The loss of topsoil in South Africa is a national concern and thus erosion control should be taken seriously. Ineffective storm water management systems can result in soil erosion. Where soils are highly erodible, adequate measures must be implemented to prevent undue soil erosion.  Extensive soil erosion is not expected during the construction of the proposed project, however, it is anticipated proposed project that occurrence of such might occur during wet seasons especially on the stockpiles (Topsoil and Subsoil).  The potential impact on soils will be of low significance.	Low	<ul> <li>Stockpiles should not be higher than 2m.</li> <li>Foundation excavations for each structure must be inspected by a competent person during construction.</li> <li>Excavation must not be left open for longer than three weeks.</li> <li>Proper storm water management measures must be put in place.</li> </ul>					
	<ul> <li>Flora and Fauna</li> <li>The development of the development of the site would not generate any impacts of</li> </ul>	Low	The proposed development area should be demarcated and					

Activity	Impact summary	Significance	Proposed mitigation
	broader significance and as a site is already disturbed, the loss of the disturbed natural vegetation from the site is not deemed to be significant.  No fauna or flora species of conservation concern were observed in the development footprint.  It is highly unlikely that any fauna would be significantly impacted by the development.		cordoned—off using construction tape, fencing or similar structure.  Cement mixing, cleaning and similar 'dirty' activities should take place within a designated area with appropriate runoff control.  All contaminated soil, litter and building rubble should be cleared from the site at the end of construction.  Areas designated for vegetation clearing should be identified and visibly marked off. Ideally, topsoil stockpiles should not exceed 2m in height.  The removed topsoil should be stockpiled and used to rehabilitate disturbed areas.  Vegetation clearing in natural areas should be kept to a minimum and restricted to the proposed development footprint only.  Any fauna disturbed or encountered during construction activities should be removed to safety by the ECO or other suitably qualified persons.
	Employment Creation The planning and design of the proposed development requires input from various individuals, resulting in the employment opportunities for such persons. This additional employment would include both direct (e.g. Environmental Consultants, Engineers, Project Managers, Planners, etc.) and indirect (e.g. reviewing and commenting authorities such as the local authority planning authorities and the environmental authorities).	Medium to High	<ul> <li>Use local labour as far as possible for less or unskilled work during construction phase.</li> <li>Create opportunities for the employment of women.</li> <li>Where possible use labour-intensive methods of construction.</li> <li>Go beyond the minimum wage rate and invest in local staff.</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
	The extent and magnitude of this impact is relatively low compared to the other economic impacts, and is typically restricted to a limited number of professionals. All the identified alternatives are likely to result in the same level of significance for this impact. The No-go Alternative would differ in that this impact would not occur.		Where possible provide training to ensure skill transfers.
	Traffic During construction, increase in traffic is likely to result from delivery of construction materials to and from the construction works. The impact of increased traffic can be considered local in extent, short term in duration with the overall impact been negative with low significance. However with implementation of proper mitigation measures, it can be reduced to low significance.	Low	<ul> <li>The delivery of construction material and equipment should be limited to hours outside peak traffic times (including weekends) prevailing on the surrounding roads.</li> <li>Delivery vehicles must comply with all traffic laws and bylaws.</li> <li>A speed limit of 40km must be adhered to avoid dust.</li> </ul>
	Avifauna The receiving environment is disturbed and the site is adjacent to an operational Calcined Products substation. The short distance of the proposed line and the background existing habitat destruction mean this impact will be negligible on avifauna in the area.  It is unlikely that birds will nest on the short additional line in the area. In fact considering the extremely short distance the line will traverse there will be hardly any additional towers available for the birds to nest on. This impact is seen as negligible for this project.	Low	<ul> <li>The steel monopole design should be used for the new power line towers. This will mitigate for the impact of electrocutions as well as the impact of bird induced faulting.</li> <li>A general construction EMPr should be followed to mitigate for the general habitat destruction and disturbance when building the new line.</li> </ul>

Impact on cultural and heritage resources  There were no Stone or Iron Age materials that we were able to find (and or observe), in any part of the proposed Substation Calcined Products. The area is disturbed to yield any cultural heritage materials.  The potential impact of the proposed project on cultural heritage sites is considered to be low and therefore insignificant.  Surface and Ground Water  There are no watercourses located in or around the proposed project site. It can therefore be deduced that the impact on surface water, if any, will be low.  Low  Care must be taken not to spill fuels or oil during service or re-fuelling of construction equipment.  During refuelling drip trays must be placed under the machinery or vehicle to prevent contamination of soil in case of spillages.  In the event of a spillage of a hazardous substance the requirements of the EMPr must be implemented.  Social Environment  The construction phase may have an impact on the surrounding residents if not properly managed. It could result in the disturbance of residents due to construction related activities. The potential increase in traffic may pose a safety risk to surrounding residents. Other social related issues may include theft; however, this will be local.	Activity	Impact summary	Significance	Proposed mitigation
There are no watercourses located in or around the proposed project site. It can therefore be deduced that the impact on surface water, if any, will be low.  During refuelling drip trays must be placed under the machinery or vehicle to prevent contamination of soil in case of spillages.  In the event of a spillage of a hazardous substance the requirements of the EMPr must be implemented.  Social Environment  The construction phase may have an impact on the surrounding residents if not properly managed. It could result in the disturbance of residents due to construction related activities. The potential increase in traffic may pose a safety risk to surrounding residents. Other social related issues may include theft; however, this will be local.		resources There were no Stone or Iron Age materials that we were able to find (and or observe), in any part of the proposed Substation Calcined Products. The area is disturbed to yield any cultural heritage materials.  The potential impact of the proposed project on cultural heritage sites is considered to be low and therefore insignificant.	Low/ Negligible	archaeological artefacts be discovered during construction or operational phase, all works within at least 10m radius from the affected area must be stopped and SAHRA must
The construction phase may have an impact on the surrounding residents if not properly managed. It could result in the disturbance of residents due to construction related activities. The potential increase in traffic may pose a safety risk to surrounding residents. Other social related issues may include theft; however, this will be local.		There are no watercourses located in or around the proposed project site. It can therefore be deduced that the impact on	Low	spill fuels or oil during service or re-fuelling of construction equipment.  • During refuelling drip trays must be placed under the machinery or vehicle to prevent contamination of soil in case of spillages.  • In the event of a spillage of a hazardous substance the requirements of the EMPr
Encoderate the control of the contro		The construction phase may have an impact on the surrounding residents if not properly managed. It could result in the disturbance of residents due to construction related activities. The potential increase in traffic may pose a safety risk to surrounding residents. Other social related issues may include	Medium	channels between the contractor and local community structures in an effort to maximise the

Activity	Impact summary	Significance	Proposed mitigation
	The proposed development may have the capacity to produce considerable opportunities of employment mainly during the construction phase. During operation, employment opportunities may arise as a result of the actual maintenance work required to keep the facility running.	Medium	No mitigation is required.
	Indirect impacts:		
	None identified		
	Cumulative impacts:		
	None identified		
Impacts asso	ciated with the decommissioning o	of the existing Cal	cined Products substation
	Direct impacts:  Dust  Decommissioning of the facility and other infrastructure may lead to increased amounts of airborne particles in the local atmosphere as the infrastructure is dismantled and transported to the disposal site.	The significance of this impact will be of low negative significance.	<ul> <li>Dust suppression techniques to be put in place, such as spraying with a water bowser.</li> <li>Avoid working during windy season.</li> </ul>
	Soil  The clearing of vegetation, as well as the exposing of soil during the demolition of the facilities may lead to erosion due to rain and wind if not properly managed.	Low	<ul> <li>Re-vegetation of disturbed surfaces should be conducted as soon as reasonably possible.</li> <li>Areas that have not been allocated alternative uses following the decommissioning should be rehabilitated and revegetated.</li> </ul>
	Waste  The decommissioning of the substation will contribute to large amounts of waste material that will be produced. The waste will be in the form of solid waste,	Medium	<ul> <li>Disposal of waste at a registered waste disposal site.</li> <li>Non-hazardous material should be recycled and utilised in other construction processes.</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
	hazardous liquid waste from the transformers, concrete rubble and general from the inhibition of the site by contractors. The impact of waste on the environment can be considered to be of negative and of medium significance.		<ul> <li>An appropriate rehabilitation plan should be in place.</li> <li>An integrated waste management approach must be used. This must be based on best practices and should incorporate reduction, recycling, reuse and disposal where appropriate.</li> <li>Waste must not be left unattended for longer than 14 days.</li> <li>Storage and handling of waste must be properly done, particularly hazardous waste.</li> </ul>
	Alien and invasive plants		Alien and invasive plant species found on the study area should be eradicated and managed according to the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) and Section 28 of the National Environmental Management Act, 1998 (Act No. 107 of 1998). The invasive species control plan should be implemented at least every three month after completion of the activity. All areas of the proposed activity will be deemed as the study area.
	Noise  Decommissioning and remediation activities at the site will entail the use of heavy machinery and equipment. These activities would cause some	Medium	<ul> <li>It must be ensured that all vehicles used during decommissioning activities are appropriately maintained.</li> <li>Surrounding residents should be notified in</li> </ul>

Activity	Impact summary	Significance	Proposed mitigation
	noise.		<ul> <li>advance of construction schedules.</li> <li>Working hours must be restricted to daytime only (8am – 5pm).</li> <li>Selecting equipment with lower sound power levels which is in accordance with the Health and Safety Regulations</li> </ul>
	Heritage	Low	As indicated above, no obvious heritage sites were noted in close proximity to the substation site and powerlines, however, if any new evidence of archaeological sites or artefacts, palaeontological fossils, graves or other heritage resources are found during the decommissioning activities, the South African Heritage Resources Agency or an archaeologist must be alerted immediately.
	Health and Safety  The proposed project will entail use of heavy machinery and vehicles as well as dismantling of structures. These activities could result in health and safety issues, i.e. people getting injured.	Low	The decommission activities must comply with the Occupational Health and Safety Standards as set out in the Occupational Health and Safety Act no. 85 of 1993 at all times.
	Indirect impacts: None		
	Cumulative impacts:  1. The dust impact can be considered cumulative to the area, as there are other activities in the vicinity of the site which are sources of dust–areas with sandy surfaces; roads.		

Activity	Impact summary	Significance	Proposed mitigation
	2. The noise impact is considered to be cumulative, as there are other activities in the vicinity of the site contributing to the noise, such as the Afrisam Factory, R21 and other industrial activities including construction of the new substation.		
Alternative 2			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
Alternative 3			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
No-go option			
	Direct impacts:		
	Socioeconomic Should the proposed substation and associated infrastructure not be constructed, this implies that in future there will not be sufficient electricity provision in the area given the residential	High	The proposed new Calcined Product substation must be constructed in order to ensure reliable electricity supply in the area. Further, the existing Calcined substation must be

Activity	Impact summary	Significance	Proposed mitigation	1
	developments that are taking place in the area. Further, the 2 x 11kV feeders from the existing Calcined Product substation will continue to share a single cable from the transformer which will pose threat of insufficient electricity provision should any fault occur on the cable.		decommissioned construction of t substation.	after
	Indirect impacts:  None identified.			
	Cumulative impacts:  None identified.			

A complete impact assessment in terms of Regulation 22(2) (i) of GN R.543 must be included as Appendix F.

A complete Impact Assessment has been attached as Appendix F.

# 2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment <u>after</u> the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

# Alternative A (preferred alternative)

Certain factors have been taken into account when assessing the impact of the proposed activity on the environment.

FACTORS	COMMENTS
Environmental impact on the ecosystems of the locality.	The proposed activity is not expected to have any long-term impacts on the ecosystems of the locality.  Mitigation measures are proposed to protect surrounding Environment.

Possible reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality.	No reduction of the environmental quality of the locality is expected in the longer term.
Any possible effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations	No obvious heritage sites were noted in close proximity to the substation site and power line.
Any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974);	The proposed site is not expected to have an impact on any habitat of protected fauna as it is highly disturbed.
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air.	No animal or plant species is expected to be endangered as a result of the proposed activities.
Any long-term effects on the environment	No significant long term effect on the environment is expected.
Possible degradation of the quality of the environment.	Mitigation measures would be employed to ensure no significant degradation of the environment.
Any pollution of the environment	The proposed activity is not expected to result in long term pollution of the environment. Mitigation measures are proposed to ensure pollution is restricted to short term localised effects.
Any environmental problems associated with the disposal of waste	No long term environmental problems associated with the disposal of waste material are expected.

# PLANNING AND DEVELOPMENT PHASE

Impacts associated with the planning and development phase of the proposed activity include the creation of job opportunities for skilled engineers and planning professions. This positive impact will be definite and short term in duration. No significant negative impact has been associated with this phase and the proposed activity.

#### **CONSTRUCTION PHASE**

The positive impacts identified for this phase include job creation and a positive economic outlook for the municipality and the country at large, these impacts will be enhanced in order to maximise the benefits. Impacts associated with the construction phase of the proposed activity can be regarded as being of low significance. These includes impacts of low significance on the following:

- Vegetation;
- faunal and avifaunal impacts of low significance; and
- Visual, noise, air pollution and traffic.

With corrective measures in place none of the identified negative impacts are considered to be a fatal flaw.

#### **OPERATIONAL PHASE**

No significant negative impact can be associated with the operational phase of the proposed activity.

#### **DECOMMISIONING PHASE**

No significant impacts have been identified for the decommissioning phase of the proposed new 132/11/6.6kV Calcined Products substation since its decommissioning will not take place for the proposed activity in the foreseeable future. However, if decommissioning of the proposed new Calcined Products substation were to take place it will have a negative impact due to job losses, soil erosion and waste generation.

The potential negative impacts of the proposed decommissioning of the existing 44/11/6.6kV Calcined Products substation are as follows:

- A temporary increase in noise and dust in the vicinity of the site due to the construction-type nature of decommissioning activities.
- A temporary increase in the amount of heavy traffic at the site during the construction type decommissioning activities.
- If undertaken incorrectly, decommissioning activities at the site could lead to an increased environmental risk of soil and groundwater contamination.
- If inadequate training is undertaken and inadequate fire-fighting equipment is kept at the site, decommissioning activities could increase the risk of fire.
- The potential positive effects of the proposed decommissioning include job creation.
- The removal of potential environmental risk at the site associated with old structure and infrastructure being left unmaintained and degenerating over time.

The potential negative environmental impacts can be mitigated to an acceptable level and, provided that the proposed mitigation measures are implemented, no factors were determined which should prevent the proposed decommissioning from taking place.

### Alternative B

The recommendations are the same as Alternative 1.

### Alternative C

# No-go alternative (compulsory)

The no-go alternative was assessed not to be an option given the economic and social benefits of the proposed project which far outweigh other identified impacts. If the no-go alternative is considered none of the identified impacts will be realised.

# SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?



If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

It is recommended that the proposed project be authorised i.e. the construction of the new Eskom 132/11/66kV Calcined Products substation and associated 2x132 loop in and out powerline as well as the decommissioning of the existing 44/11/6.6kV Calcined Products substation. The recommendation is based on the following:

- The identified environmental impacts are of low significance given the disturbed nature of the proposed project site;
- The identified positive impacts far outweigh the negative impacts; and
- The proposed project will strengthen electricity network in the area thereby ensuring better livelihood.

Environmental Management Programme (EMPr) has been prepared by the consultant and it will serve as the key reference of the EAPs recommendations jointly with Eskom's policies that are already in place. The EMPr has included measures proposed to mitigate any adverse impacts of the activities and the monitoring. Some of the key recommendation include:

- Areas outside of the footprint and reasonable construction access to be marked as no-go areas.
- Implement erosion control measures where applicable.
- The steel monopole design should be used for the new power line towers. This will ensure that minimum disturbance on the soil. Further, it will mitigate the impact of electrocutions as well as the impact of bird induced faulting.
- Whilst the proposed project specifically is not anticipated to add significantly to the current ambient noise levels it is recommended that noise be reduced at all times.
- It is recommended that should an archaeological artefact be found during excavations, an SAHRA be contacted for further investigation.
- Despite the absence of wet areas, ensure that the site is not within the 1:100 year flood line and further ensure strict compliance with the requirements of the National Water Act and associated legislation.
- The attached construction EMPr must be implemented and adhered to in order to minimise all potential negative impacts and to enhance positive impacts where applicable.
- Rehabilitate in accordance with the EMPr after construction and decommission.

Is an EMPr attached?

YES

✓ NO

The EMPr must be attached as Appendix G.

# BASIC ASSESSMENT REPORT

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

MUNYADZIWA RIKHOTSO	
NAME OF EAP	-
SIGNATURE OF EAP	- <u>-</u> DATE

# **SECTION F: APPENDIXES**

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

D1 - Biodiversity Impact Assessment Report

D2 - Heritage Impact Assessment Report

Appendix E: Public Participation

E1-a: Proof of Site Notice

E1-b: Newspaper Advertisement

E2: Registered Mail Sent to Key Stakeholders

E3-a: Public Participation Report

E3b: Comments and Response Report

E4: Proof of Written Notices to Authorities and Organs of State

E5: I&APs Database

E6: Correspondence and Minutes of Meetings

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest