

**ENVIRONMENTAL IMPACT ASSESSMENT PROCESS
DRAFT BASIC ASSESSMENT REPORT**

**PROPOSED RE-ALIGNMENT OF THE AUTHORISED 132kV
POWER LINE FROM LOERIESFONTEIN 3 SOLAR ENERGY
FACILITY TO THE HELIOS SUBSTATION, NORTHERN CAPE
PROVINCE**

DEA REFERENCE NUMBER: 14/12/16/3/3/1/817

**DRAFT BASIC ASSESSMENT REPORT
FOR PUBLIC COMMENT
27 FEBRUARY 2013 - 02 APRIL 2013**

Prepared for:

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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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:

1. 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.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
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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.
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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.
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 on the electronic copy of the report submitted to the competent authority.

PROJECT DETAILS

Title	:	Draft Basic Assessment Report: Proposed Re-Alignment of the Authorised 132kV Power Line From Loeriesfontein 3 Solar Energy Facility To The Helios Substation, Northern Cape Province
DEA Reference No	:	14/12/16/3/3/1/816
Applicant/Client	:	South Africa Mainstream Renewable Power Loeriesfontein 3 (Pty) Ltd
Authors	:	Savannah Environmental Taryn Bigwood Karen Jodas
Associated Consultants	:	McGregor Museum - David Morris Simon Todd Consulting - Simon Todd Chris Van Rooyen Consulting - Chris Van Rooyen
Report Status	:	Draft Basic Assessment Report for Public Review
Review period	:	27 February 2013 - 02 April 2013

When used as a reference this report should be cited as: Savannah Environmental (2013) Draft Basic Assessment Report: Draft Basic Assessment Report: Proposed Re-Alignment of The Authorised 132kV Power Line From Loeriesfontein 3 Solar Energy Facility To The Helios Substation, Northern Cape Province

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PURPOSE OF THE DRAFT BASIC ASSESSMENT REPORT

South Africa Mainstream Renewable Power Loeriesfontein 3 (Pty) Ltd (herein referred to as "Mainstream") obtained an environmental authorisation in October 2012 for a proposed 100 MegaWatt (MW) Solar Energy Facility near Loeriesfontein (DEA reference: 12/12/20/2321/2) on the Portion 2 of Farm Aan De Karree Doorn Pan 213 which is located approximately 60km north of Loeriesfontein in the Northern Cape Province. The Solar energy facility is referred to as Loeriesfontein 3 Solar Energy Facility in this basic assessment report. This Draft Basic Assessment Report has been prepared by Savannah Environmental in order to assess the potential environmental impacts associated with the construction and operation of the following infrastructure required for the authorised Loeriesfontein 3 Solar energy facility .

- » Loeriesfontein 132kV Power line; connecting the Loeriesfontein 3 solar energy facility to the Helios Substation.
- » Associated access roads.

The draft basic assessment report is available for public review from **27 February 2013 to 02 April 2013** at the Loeriesfontein Public Library. The report is available for download on www.savannahsa.com. Copies of the report may also be requested from the contact person below. To obtain further information, register on the project database, or submit written comment please contact:

Please submit your comments to:
Shawn Johnston of Sustainable Futures ZA
PO Box 749, Rondebosch, Cape Town, 7701
Tel: 083 325 9965
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Email: swjohnston@mweb.co.za
The due date for comments on the draft Basic Assessment Report is 02 April 2013

SUMMARY AND OVERVIEW OF THE PROPOSED PROJECT

South Africa Mainstream Renewable Power Developments (Pty) Ltd (herein referred to as "Mainstream") obtained an environmental authorisation in October 2012 for a proposed **100 MegaWatt (MW) Solar Energy Facility near Loeriesfontein (DEA reference: 12/12/20/2321/2)** on portion 2 of the Farm Aan De Karree Doorn Pan 213 which is located approximately 60km north of Loeriesfontein in the Northern Cape Province. The wind energy facility is now referred to as Loeriesfontein 3 Solar Energy Facility in this basic assessment report. The authorisation for the Loeriesfontein 3 solar energy facility included a power line linking the project to the Helios Substation, however through micro-siting and landowner negotiations, it has been determined that the power line and associated access road is required to be realigned on the remainder of the Farm Sous 226 before connecting to the Helios substation (located on Portion 1 of Farm Sous 226). These realignments are assessed within this Basic Assessment Report.

An application for authorisation has been submitted and accepted by the Department of Environmental Affairs (DEA) for the proposed realignment of the authorised power line and associated access road from Loeriesfontein 3 Solar Energy facility to the Helios Substation, Northern Cape Province (DEA Ref. No. 14/12/16/3/3/1/817).

The proposed project includes the following:

- » A 132kV overhead power line connecting the substation located within the solar farm to the Helios Substation, a distance of approximately 15.75km.
- » Access roads along the servitude for construction and operation purposes.

A broader corridor of approximately 500m wide is being considered for the proposed power line and associated infrastructure. This corridor passes over the following farm portions: Remainder and portion 3 (railway line) of Farm Sous 226 and portion 2 of Aan De Karree Doorn Pan 231 (refer to Figure 1.1).

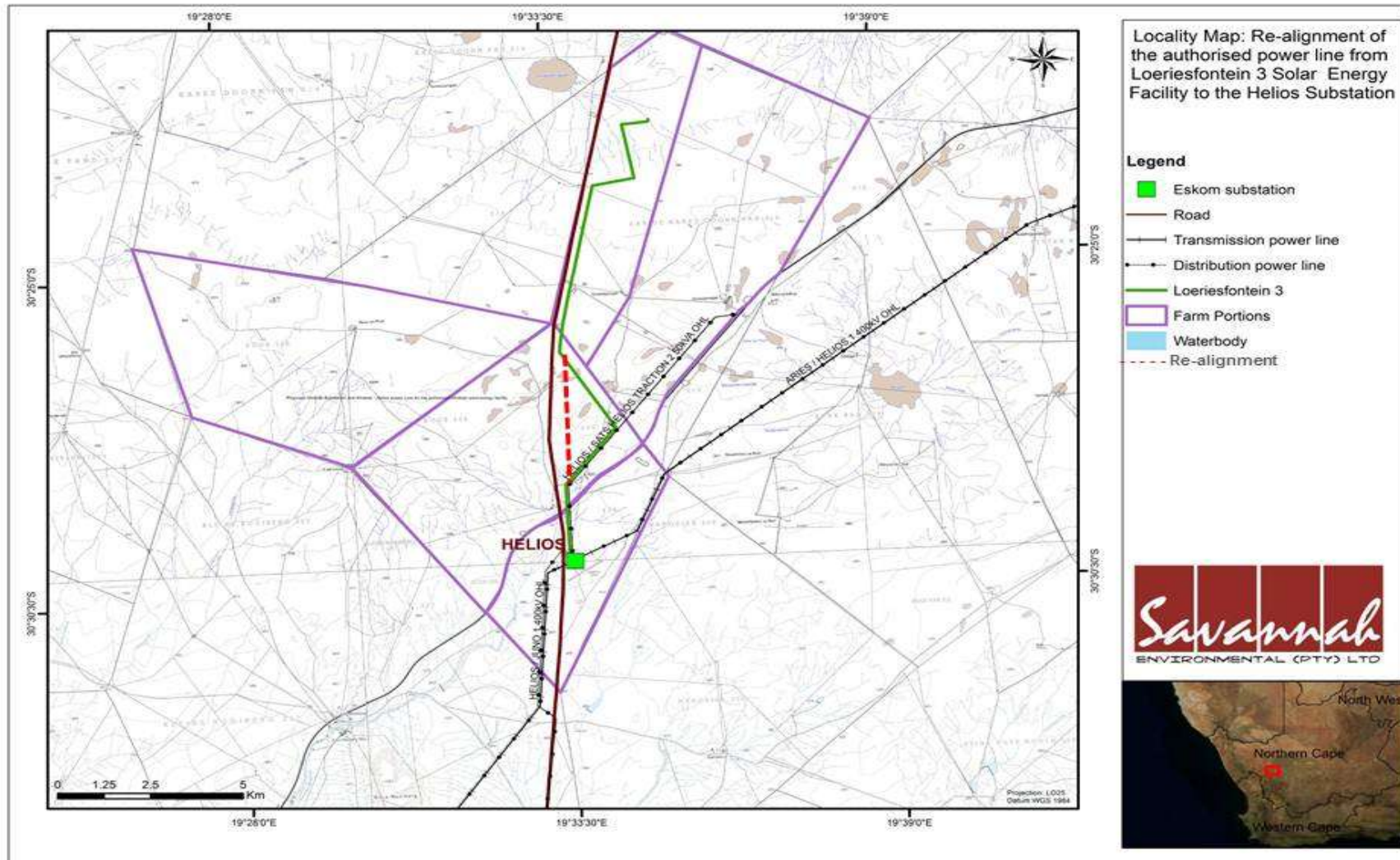


Figure 1: Site layout plan for the proposed re-alignment of the Loeriesfontein 3 - Helios 132kV Power Line

In terms of the Environmental Impact Assessment (EIA) Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998), Mainstream require authorisation for the re-alignment and operation of the power line and associated infrastructure. In terms of sections 24 and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations of GN R543, GR544 and R546 a Basic Assessment process is triggered by the proposed grid connection infrastructure required for the Loeriesfontein 3 Solar Energy Facility.

The nature and extent of all components of the proposed project are explored in more detail in this Basic Assessment Report. This report has been compiled in accordance with the requirements of the EIA Regulations of June 2010 and includes details of the activity description; the site, area and property description; the public participation process; the impact assessment; and the recommendations of the Environmental Assessment Practitioner.

1.1. Details of Environmental Assessment Practitioner and Expertise to conduct the Basic Assessment

Savannah Environmental has been appointed as the independent environmental consultant to undertake the Environmental Basic Assessment to identify and assess the potential environmental impacts associated with the proposed re-alignment of the 132kV power line and associated infrastructure between Loeriesfontein 3 Solar energy facility and Helios Substation. Neither Savannah Environmental nor any of its specialist sub-consultants on this project are subsidiaries of or are affiliated to Mainstream. Furthermore, Savannah Environmental does not have any interests in secondary developments that may arise out of the authorisation of the proposed project.

Savannah Environmental is a specialist environmental consulting company providing holistic environmental management services, including environmental impact assessments and planning to ensure compliance and evaluate the risk of development; and the development and implementation of environmental management tools. Savannah Environmental benefits from the pooled resources, diverse skills and experience in the environmental field held by its team.

The Savannah Environmental team has considerable experience in environmental impact assessments and environmental management, and have been actively involved in undertaking environmental studies, for a wide variety of projects throughout South Africa, including those associated with electricity generation.

Karen Jodas, the principle Environmental Assessment practitioner (EAP) for this project, is a registered Professional Natural Scientist and holds a Master of Science degree. She has over 16 years experience consulting in the environmental field. Her key focus is on

strategic environmental assessment and advice; management and co-ordination of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; compliance reporting; the identification of environmental management solutions and mitigation/risk minimising measures; and strategy and guideline development. She is currently responsible for the project management of EIAs for several renewable energy and power line projects across the country.

Taryn Bigwood, holds a Masters degree in Geography focussing on Environmental Management and geomorphology. In addition, she holds an environmental management inspectorate qualification with 4.5 years experience in conservation research and environmental compliance. Her key focus is on environmental compliance, training, environmental assessments, specialist inputs, environmental impact assessments, environmental permitting, public participation, environmental management plans and programmes, environmental compliance advice and monitoring as well as providing technical input for projects in the environmental management field across many renewable projects.

SECTION A: ACTIVITY INFORMATION

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

NO

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

South Africa Mainstream Renewable Power Loeriesfontein 3 (Pty) Ltd (herein referred to as "Mainstream") obtained an environmental authorisation in October 2012 for a proposed **100 MW Solar Energy Facility near Loeriesfontein (DEA reference: 12/12/20/2321/2)** on portion 2 of the Farm Aan De Karree Doorn Pan 213 which is located approximately 60km north of Loeriesfontein in the Northern Cape Province. The solar energy facility is referred to as Loeriesfontein 3 Solar Energy Facility in this basic assessment report. The authorisation for the Loeriesfontein 3 Solar Energy Facility included the re-alignment of a power line linking the project to the Helios Substation. Through the micro-siting and project negotiations being undertaken for the solar energy facility, it has been determined that the power line and associated access road is required to be realigned on the remainder and portion 3 (railway line) of Farm Sous 226 before connecting to the Helios substation on Portion 1 of Farm Sous 226.

An application for authorisation have been submitted and accepted by the Department of Environmental Affairs (DEA) for the proposed realignment of the following grid connection infrastructure for the Loeriesfontein 3 Solar Energy Facility. The project is registered as:

- » Re-alignment of the authorised power line from Loeriesfontein 3 Solar Energy facility to the Helios Substation, Northern Cape Province (DEA Ref. No. 14/12/16/3/3/1/817)

This basic assessment report provides an assessment of the expected impacts associated with the proposed project.

The proposed project includes the following:

- » A 132kV overhead power line connecting the substation located within the solar farm to the Helios Substation, a distance of approximately 15.75km.
- » Access roads along the servitude for construction and operation purposes.

A broader corridor of approximately 500m wide is being considered for the proposed power line and associated infrastructure. This entire power line corridor passes over the following farm portions: Farm Sous 226 portion 1 (Helios substation), 3 (railway line) and remainder and Farm Aan De Karree Doorn Pan 231(portion 2) however the re-alignment is on the Farm Sous 226 portions 1 (Helios substation), 3 (railway line) and the remainder (refer to Figure 1.1)

Construction Activities And Components Associated With The Proposed Power Line and access road

Power lines are constructed in the following simplified sequence:

- Step 1:** Survey of the route
- Step 2:** Selection of best-suited conductor, towers, insulators, foundations
- Step 3:** Final design of line and placement of towers
- Step 4:** Issuing of tenders, and award of contract to construction companies
- Step 5:** Vegetation clearance and construction of access roads (where required)
- Step 6:** Tower pegging
- Step 7:** Construction of foundations
- Step 8:** Assembly and erection of towers on site
- Step 9:** Stringing of conductors
- Step 10:** Rehabilitation of disturbed area and protection of erosion sensitive areas
- Step 11:** Testing and commissioning
- Step 12:** Continued maintenance

Roads are constructed in the following simplified sequence:

- Step 1:** Demarcate the area
- Step 2:** Clear the vegetation on the impacted area
- Step 3:** Strip topsoil
- Step 4:** Grade area
- Step 5:** Compact surface
- Step 6:** Prepare the compacted surface for use

Construction of the power line re-alignment is required to be undertaken in accordance with the specifications of the Environmental Management Programme (EMP), as well as in compliance with Eskom's technical requirements.

The expected lifespan of the proposed power line is between 35 and 40 years, depending on the maintenance undertaken on the power lines structures. During the operational life of the power line, on-going maintenance is performed. Power line inspections are undertaken on an average of 1 – 2 times per year, depending on the area. During this maintenance period, the line is accessed via the access routes established during the construction phase.

In terms of sections 24 and 24D of NEMA, as read with the Environmental Impact Assessment Regulations of GNR544 and GNR546, a Basic Assessment process is required for the proposed power line and associated access road detailed above. The listed activities are described in Section B below.

b) Listed Activities

Provide a detailed description of the listed activities associated with the project as applied for.

Table 1.1: Listed activities relevant to the re-alignment of the Loeriesfontein 3 solar energy facility – Helios Power Line (DEA reference number 14/12/16/3/3/1/816)

Indicate the number and date of the relevant notice:	Activity No (s) (in terms of the relevant notice) :	Describe each listed activity as per project description ¹ :
GN 544, 18 June 2010	10	The construction of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts Realignment of a 132 kV power line -
GN 544, 18 June 2010	11	The construction of: (xi) infrastructure or structures covering 50 square metres or more Where such construction occurs within a watercourse or within 32 metres of a watercourse, measures from the edge of a watercourse, excluding where such construction will occur behind the development setback line. The Power line does traverse drainage lines and a pan (watercourse) and therefore may require the construction of infrastructure within 32m of a watercourse.
GN 544, 18 June 2010	18	The infilling or depositing of any material of more than 5 cubic meters into, or the dredging excavation, removal or moving of soil, shells, shell grit, pebbles or rock from.

¹ Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description

Indicate the number and date of the relevant notice:	Activity No (s) (in terms of the relevant notice) :	Describe each listed activity as per project description ¹ :
		<p>(1) A watercourse</p> <p><i>The road may need to cross drainage lines therefore dredging and excavation may be needed remove material from a watercourse.</i></p>
GN 544, 18 JUNE 2010	22	<p>The construction of a road, outside urban areas, ii) where no reserve exists where the road is wider than 8 meters</p> <p><i>A new road linking an existing road to the proposed re-aligned power line route will need to be a maximum of 10 meters wide to accommodate for the transportation of equipment to the site.</i></p>

1. 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

Option 1 - Preferred Location		
Description	Lat (DDMMSS)	Long (DDMMSS)
Option 2 - Alternative Location		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

The proposed re-alignment of the 132kV Loeriesfontein 3 - Helios power line will be located from the footprint of the approved Loeriesfontein 3 Solar Energy Facility located on Portion 2 of the Farm Aan De Karree Doorn Pan 231 and will transverse across the Remainder of the Farm Sous, through portion 3 (railway line) and connect to (Helios substation) located on portion 1. The power line has been sighted in accordance with the technical considerations associated with the power line.

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred):

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

30°22'35.03"S	19°35'24.27"E
30°26'23.40"S	19°33'36.08"E
30°29'51.47"S	19°33'33.44"E

Alternative S2

- 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.

Refer to Appendix A2

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) Layout alternatives

No layout alternatives have been assessed within this Basic Assessment as the placement of the power line towers and any associated infrastructure will be required to be in line with Eskom’s technical requirements, as well as with specific landowner requirements. This will be negotiated within the broader corridor being considered for the power line. This broader corridor of 500m for the re-aligned 132kV power line also allows for the possible avoidance of environmentally sensitive areas identified through this Basic Assessment process.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

No feasible alternative technologies exist to connect the Solar energy facility to the electricity grid.

Alternative 1 (preferred alternative)
Alternative 2

Alternative 3

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

The choice of structure to be used for the power line will be determined in consultation with Eskom and does not significantly affect the environmental impact of the proposed development in any way. A monopole structure is recommended for the proposed power line structures as these have a smaller footprint and lower visual impact than lattice structures. However, lattice structures would be required to be used at the bend points of the line in order to ensure stability of the power line during operation. The line must be constructed according to the standards for a power line approved by Eskom.

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

e) No-go alternative

This is the option of not re-aligning the Loeriesfontein 3 – Helios authorised 132kV power line. This option is assessed as the “no go alternative” in this Basic Assessment Report.

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

2. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative	Size of the activity:	
Alternative A1 ² (preferred activity alternative by the developer):		
Alternative A2 (alternative activity alternative by the developer)		

Alternative A3 (if any)

or, for linear activities: **Re-alignment of the Loeriesfontein 3 Solar Energy Facility- Helios 132kV power line**

Alternative:

Alternative A1

Alternative A2

Alternative A3

Length of the activity:

15.75 km

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

Alternative:

Alternative A1 (preferred alternative)

Alternative A2

Alternative A3

Size of servitude:

Up to 36m

3. SITE ACCESS

Does ready access to the site exist?

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

YES	
	m

Describe the type of access road planned:

Existing or previously authorised roads in the area will be utilised to access the power line servitude as far as possible. In order to accommodate for the transportation of equipment to the site, a new road (maximum of 10m wide) may be required to link the re-aligned section of the power line to existing roads. The access road will run parallel to the power line route.

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. (This is not necessary as the roads will run parallel to the power line).

Refer to Appendix A for location of the access road and Power line route, the power line was assessed as a 500m corridor

4. 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 km, 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).

A locality map has been included in **Appendix A1**.

5. 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.

A layout plan has been included in **Appendix A1**.

6. 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.

An Environmental sensitivity map has been included in **Appendix A4**.

7. 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.

Site photographs have been included as in **Appendix B**.

8. 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.





A facility illustration has been included in **Appendix C**.

9. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	Yes	Please explain
Mainstream have received a land-use re-zoning of the Loeriesfontein 3 Solar Energy Facility from the Hantam Local Municipality.		
2. Will the activity be in line with the following?		

(a) Provincial Spatial Development Framework (PSDF)	YES	[REDACTED]	Please explain
<p>The Northern Cape Province Spatial Development Framework (NC PSDF) makes reference to the need to ensure the availability of inexpensive energy. It notes that in order to promote economic growth in the Northern Cape the availability of electricity to key industrial users at critical localities at rates that enhance the competitiveness of their industries must be ensured. At the same time, the development of new sources of energy through the promotion of the adoption of energy applications that display a synergy with the province's natural resource endowments must be encouraged. The NCPSDF also highlights the importance of close co-operation between the public and private sectors in order for the economic development potential of the Northern Cape to be realised. Therefore the power line for the proposed Loeriesfontein 3 Solar energy facility will ultimately be in line with the Northern Cape PSDF as it will link the Solar energy facility to the national electricity grid.</p>			
(b) Urban edge / Edge of Built environment for the area	[REDACTED]	NO	Please explain
<p>The re-alignment of the power line location is located in a remote area, approximately 60km north of the town of Loeriesfontein. The site does not fall in the urban edge.</p>			
(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	[REDACTED]	Please explain
<p>The site near Loeriesfontein falls within the Hantam Local Municipality, which is within the greater Namakwa District Municipality. Electricity, amongst other municipal services, is highlighted as a priority issue warranting attention, in particular the provision of access to electricity to affected communities and the improvement of the electricity infrastructure (mini-sub, cables). These objectives are anticipated to be achieved through the following strategies (Hantam Local Municipality IDP - 2009-2010):</p> <ul style="list-style-type: none"> » Upgrade of the bulk electricity networks » Building of 150 houses which will therefore require the provision of electricity » Electricity installations at SAPS offices » Upgrading of Grootmaat electricity provision » Developing a Master and Maintenance plan for electricity <p>In 2008, the Namakwa District Municipality planned to conduct viability studies on the possibility of creating green energy in the Namakwa District for exporting purposes. Studies were to be done on wind, solar and ocean energy. It is therefore evident that the proposed development is aligned with the goals of the municipal IDPs in the study area as it will link a Solar energy facility to the national electricity grid. The project will not compromise IDP objectives but will rather assist directly or indirectly in reaching these as this project will assist in supporting the local electricity supply through strengthening of power to the Helios Substation.</p>			
(d) Approved Structure Plan of the Municipality	YES	[REDACTED]	Please explain
<p>The municipality is aware of the Loeriesfontein Solar Energy Facility and associated infrastructure. The proposed power line linking the facility to the existing Helios Substation supports this approved project and does not compromise the structure of the municipal plan.</p>			

<p>(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 if so, can it be justified in terms of sustainability considerations?)</p>	<p>YES</p>		<p>Please explain</p>
<p>There is no EMF for the study area. The site lies within the planning domain of the Namakwa Biodiversity Sector Plan. This biodiversity assessment identifies Critical Biodiversity Areas (CBAs) which represent biodiversity priority areas which should be maintained in a natural to near natural state. The CBA maps indicate the most efficient selection and classification of land portions requiring safeguarding in order to maintain ecosystem functioning and meet national biodiversity objectives. The site does not fall within the CBA and the nearest CBAs are more than 10km away, suggesting that the area is not likely to be highly significant in terms of known biodiversity pattern or for the maintenance of broad-scale ecological processes. The Biodiversity Conservation Plan aims to protect indigenous natural vegetation. Therefore, provided the project avoids natural vegetation as far as possible, the proposed re-alignment of the 132kV Loeriesfontein 3 Solar energy facility – Helios power line will not compromise the integrity of the existing environmental management priorities for the area.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>		<p>NO</p>	<p>Please explain</p>
<p>None applicable.</p>			
<p>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)?</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>Not applicable - The Namakwa District Municipality is in the process of initiating a project for the District's Spatial Development Framework, as well as Spatial Development Plans and Land use management schemes for all six B-municipalities in its jurisdiction. This will ensure that all development planning and control measures regarding property are in place in all the municipalities.</p>			
<p>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.)</p>	<p>YES</p>		<p>Please explain</p>
<p>The main purpose of this re-alignment is to facilitate the connection of the substation on Loeriesfontein 3 Solar Energy facility to the national grid. Therefore, the proposed project will enable a Solar energy facility to connect to the electricity grid, which will have a positive economic impact at a local and regional scale. South Africa is in need of other forms of energy beside electricity from coal, and therefore there is a need for the Solar energy facility, which is supported by the proposed power line to connect into the Eskom electricity grid. Locally, the local community and area is in need of development and electricity infrastructure, which the power line will contribute to.</p>			
<p>5. Are the necessary services with adequate capacity</p>		<p>NO</p>	<p>Please explain</p>

<p>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.)</p>		
<p>Not relevant – the project does not require any services directly from the municipality.</p>		
<p>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.)</p>	NO	Please explain
<p>Not relevant – the project does not require or is not reliant on any infrastructure directly from the municipality.</p>		
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES	Please explain
<p>Within a policy framework, the development of renewable energy in South Africa is supported by the White Paper on Renewable Energy (November 2003). In order to meet the long-term goal of a sustainable renewable energy industry, a goal of 17,8GW of renewables by 2030 has been set by the Department of Energy (DoE) within the Integrated Resource Plan (IRP) 2010. The energy will be produced mainly from wind, solar, biomass, and small-scale hydro (with wind and solar comprising the bulk of the power generation capacity). This amounts to ~42% of all new power generation being derived from renewable energy forms by 2030. This is however dependent on the assumed learning rates and associated cost reductions for renewable options.</p> <p>In order to integrate the power generated at Loeriesfontein 3 Solar energy facility into the electricity grid, the facility is required to be connected to the existing Helios Substation as described in this report.</p>		
<p>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.)</p>	YES	Please explain
<p>The Loeriesfontein 3 Solar Energy Facility is an authorised facility and the Helios substation is an existing substation with spare capacity. The location and accessibility of this facility is therefore already determined. In terms of Eskom’s requirements, the Solar energy facility is required to connect to the Helios Substation. The proposed re-alignment of the power line as described in this basic assessment will enable the Solar energy facility to connect to the electricity grid at the required connection point. In addition, the realignment of the power line will be in accordance with the requirements of the affected landowners. The location of the proposed project is therefore the most favourable option.</p>		
<p>9. Is the development the best practicable environmental option for this land/site?</p>	YES	Please explain
<p>The Loeriesfontein 3 Solar Energy Facility is an authorised facility and the Helios substation is an</p>		

<p>existing substation with spare capacity. The location of this facility is therefore already determined. In terms of Eskom’s requirements, the Solar energy facility is required to connect to the Helios substation. In addition, the realignment of the power line will be in accordance with the requirements of the affected landowners. The proposed re-aligned power line corridor is considered to be the most appropriate for this infrastructure, taking technical and environmental (social and biophysical) issues into consideration. The specialist studies undertaken as part of this Basic Assessment conclude that re-aligning the Loeriesfontein 3 Solar energy facility – Helios 132kV power line will have medium - low environmental impacts. Should the infrastructure not be constructed as proposed, the Solar energy facility would not be connected to the electricity grid, which would result in a lost opportunity in terms of renewable energy generation. The implementation of the proposed project is therefore the best practicable environmental option.</p>		
<p>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</p>	<p>YES <input type="checkbox"/></p>	<p>Please explain</p>
<p>The specialist studies undertaken as part of this Basic Assessment conclude that the re-alignment of this power line will have low -medium environmental impacts. The proposed project will facilitate the connection of the Loeriesfontein 3 Solar Energy Facility to the national electricity grid thereby facilitating the transmission of renewable energy. This will have a positive impact at a local, regional and national level.</p>		
<p>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</p>	<p>NO <input type="checkbox"/></p>	<p>Please explain</p>
<p>The proposed re-aligned power line is associated with the approved Loeriesfontein 3 Solar Energy Facility. The site is already impacted by electricity transmission infrastructure (Helios substation and associated power lines). Therefore, the proposed power line will not differ from the infrastructure already present on the site.</p>		
<p>12. Will any person’s rights be negatively affected by the proposed activity/ies?</p>	<p>YES <input type="checkbox"/></p>	<p>Please explain</p>
<p>Private landowners will be affected by the proposed project. However, they will be compensated for the use of their land. These landowners have been consulted by the developer and the environmental team and are aware of the proposed project (option/lease agreements have been signed with the relevant land owners). In addition, the realignment of the power line will be in accordance with the requirements of the affected landowners to consolidate power line infrastructure in the area.</p>		
<p>13. Will the proposed activity/ies compromise the “urban edge” as defined by the local municipality?</p>	<p>NO <input type="checkbox"/></p>	<p>Please explain</p>
<p>The re-alignment of the power line location is located in a remote area, approximately 60km north of the town of Loeriesfontein. The site does not fall in the urban edge.</p>		
<p>14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?</p>	<p>YES <input type="checkbox"/></p>	<p>Please explain</p>
<p>As the 17 Strategic Integrated Projects promote balanced economic development, unlock economic opportunities, promote mineral extraction and beneficiation, address socio-economic needs, promote job creation and help integrate human settlements and economic development. The proposed development will assist in promoting balanced economic development, economic opportunity, assist in achieving socio-economic needs, promote jobs through job creation and assist with economic development. The proposed re-alignment of the power line will give people</p>		

<p>living in the area opportunities to gain employment during construction which would address the socio economic needs of individuals to some extent.</p>	
<p>15. What will the benefits be to society in general and to the local communities?</p>	<p>Please explain</p>
<p>The main purpose of the re-alignment of the power line is to ensure connection of the authorised Loeriesfontein 3 Solar Energy Facility to the National electricity grid. As the Solar energy facility will need to be built and operated this will create employment opportunities for members of local communities. The increased economic benefit to the local community will improve the sustainability of the area and reduce the unemployment rate.</p>	
<p>16. Any other need and desirability considerations related to the proposed activity?</p>	<p>Please explain</p>
<p>None.</p>	
<p>17. How does the project fit into the National Development Plan for 2030?</p>	<p>Please explain</p>
<p>By 2030, South Africa aims to reduce carbon emissions, promote economic development and increase the GDP. To achieve this, South Africa has aimed to improve Infrastructure and Basic Services; Socio-economic Development; Institutional Transformation; Good Governance and Public Participation; Financial viability and Management. This project is to facilitate the connection of the Loeriesfontein 3 Solar energy facility to the national electricity grid which will assist in reaching the South Africa socio-economic development needs.</p>	
<p>18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.</p>	
<p>The general objectives of Integrated Environmental Management have been taken into account for the development of the Loeriesfontein 3 Solar energy facility and therefore this Basic Assessment Report by means of identifying, predicting and evaluating the actual and potential impacts on the environment, socio-economic conditions and cultural heritage component.</p> <p>The risks, consequences, alternatives as well as options for mitigation of activities have also been considered with a view to minimise negative impacts, maximise benefits and promote compliance with the principles of environmental management.</p>	
<p>19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.</p>	
<p>The principles of NEMA have been considered in this assessment through compliance with the requirements of the relevant legislation in undertaking the assessment of potential impacts, as well as through the implementation of the principle of sustainable development where appropriate mitigation measures have been recommended for impacts which cannot be avoided. In addition, the successful implementation and appropriate management of this proposed project will aid in achieving the principle of minimisation of pollution and environmental degradation.</p> <p>This process has been undertaken in a transparent manner and all effort have been made to involve interested and affected parties, stakeholders and relevant Organs of State such that an informed decision regarding the project can be made by the Regulating Authority.</p>	

The principle of environmental management as set out in section of NEMA states that:

- » Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably;
- » Development must be sustainable socially (people), environmentally (planet) and economically (prosperity);and
- » Sustainable development requires the consideration of all the relevant factors,

These principles have been taken into account for this Basic Assessment report by means of identifying, predicting and evaluating the actual and potential impacts on the environment, socio-economic conditions and cultural heritage component. The risks, consequences, alternatives as well as options for mitigation of activities have also been considered with a view to minimise negative impacts, maximise benefits, and promote compliance with the principles of environmental management.

10. 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. Refer to **Table 1.3** below.

Table 1.3: Applicable Legislation, Policies and/or Guidelines

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
National Legislation			
National Environmental Management Act (Act No 107 of 1998)	<p>The Basic Assessment Regulations have been promulgated in terms of Chapter 5 of the Act. Listed activities which may not commence without an environmental authorisation are identified within these Regulations.</p> <p>In terms of S24(1) of NEMA, the potential impact on the environment associated with these listed activities must be assessed and reported on to the competent authority charged by NEMA with granting of the relevant environmental authorisation.</p> <p>In terms of GN R543, R544, R545 and R546 of 18 June 2010, a Basic Assessment Process is required to be undertaken for the proposed project.</p>	<p>Department of Environmental Affairs – competent authority</p> <p>Department of Environmental and Nature Conservation (DENC) - commenting authority</p>	The listed activities triggered by the proposed power line re-alignment have been identified and assessed in the Basic Assessment Process being undertaken. This Basic Assessment Report will be submitted to the competent and commenting authority in support of the application for authorisation.
National Environmental Management Act (Act No 107 of 1998)	In terms of the Duty of Care Provision in S28(1) the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to ensure that any pollution or degradation of the environment associated with this project is avoided, stopped or minimised.	Department of Environmental Affairs	While no permitting or licensing requirements arise directly by virtue of the proposed project, this section has found application during the Basic Assessment Process through

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
	<p>In terms of NEMA, it has become the legal duty of a project proponent to consider a project holistically, and to consider the cumulative effect of a variety of impacts.</p>		<p>the consideration of potential impacts (cumulative, direct, and indirect). It will continue to apply throughout the life cycle of the project.</p>
<p>Environment Conservation Act (Act No 73 of 1989)</p>	<p>National Noise Control Regulations (GN R154 dated 10 January 1992)</p>	<p>Department of Environmental Affairs Department of Environmental and Nature Conservation (DENC)- Local Authorities</p>	<p>Noise impacts are expected to be associated with the construction phase of the project and are not likely to present a significant intrusion to the local community. Therefore is no requirement for a noise permit in terms of the legislation.</p>
<p>National Water Act (Act No 36 of 1998)</p>	<p>Water uses under S21 of the Act must be licensed, unless such water use falls into one of the categories listed in S22 of the Act or falls under the general authorisation (and then registration of the water use is required).</p> <p>Consumptive water uses may include the taking of water from a water resource - Sections 21a and b. Non-consumptive water uses may include impeding or diverting of flow in a water course - Section 21c; and altering of bed, banks or characteristics of a watercourse - Section 21i.</p>	<p>Department of Water Affairs Provincial Department of Water Affairs</p>	<p>A water use license (WUL) is required to be obtained if wetlands or drainage lines are impacted on, or if infrastructure lies within 500m of such features. Pans occur on the project site, but outside of the development footprint.</p> <p>Should water be abstracted from ground water/ a borehole on site for use, a water use license may be required.</p>
<p>Minerals and Petroleum Resources Development Act</p>	<p>A mining permit or mining right may be required where a mineral in question is to be mined (e.g.</p>	<p>Department of Mineral Resources</p>	<p>As no borrow pits are expected to be required for the</p>

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
(Act No 28 of 2002)	<p>materials from a borrow pit) in accordance with the provisions of the Act.</p> <p>Requirements for Environmental Management Programmes and Environmental Management Plans are set out in S39 of the Act.</p>		<p>construction of the power line, no mining permit or right is required to be obtained.</p>
National Environmental Management: Air Quality Act (Act No 39 of 2004)	<p>Measures in respect of dust control (S32) – no regulations promulgated yet.</p> <p>Measures to control noise (S34) - no regulations promulgated yet.</p>	Department of Environmental Affairs	<p>No permitting or licensing requirements arise from this legislation.</p> <p>The Act provides that an air quality officer may require any person to submit an atmospheric impact report if there is reasonable suspicion that the person has failed to comply with the Act.</p>
National Heritage Resources Act (Act No 25 of 1999)	<ul style="list-style-type: none"> » Stipulates assessment criteria and categories of heritage resources according to their significance (S7). » Provides for the protection of all archaeological and paleontological sites, and meteorites (S35). » Provides for the conservation and care of cemeteries and graves by SAHRA where this is not the responsibility of any other authority (S36). » Lists activities which require developers any person who intends to undertake to notify the responsible heritage resources authority and 	South African Heritage Resources Agency Ngwao Boswa Kapa Bokoni - Provincial Heritage Resources Authority of the Northern Cape Province.	<p>An HIA has been undertaken as part of the Basic Assessment Process to identify heritage sites (refer to Appendix D). The site does not contain any heritage resources however if any heritage artefacts are found during construction a permit must be obtained.</p>

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
	<p>furnish it with details regarding the location, nature, and extent of the proposed development (S38).</p> <ul style="list-style-type: none"> » Requires the compilation of a Conservation Management Plan as well as a permit from SAHRA for the presentation of archaeological sites as part of tourism attraction (S44). 		
<p>National Environmental Management: Biodiversity Act (Act No 10 of 2004)</p>	<ul style="list-style-type: none"> » Provides for the MEC/Minister to identify any process or activity in such a listed ecosystem as a threatening process (S53) » A list of threatened and protected species has been published in terms of S 56(1) - Government Gazette 29657. » Three government notices have been published, i.e. GN R 150 (Commencement of Threatened and Protected Species Regulations, 2007), GN R 151 (Lists of critically endangered, vulnerable and protected species) and GN R 152 (Threatened or Protected Species Regulations). » Provides for listing threatened or protected ecosystems, in one of four categories: critically endangered (CR), endangered (EN), and vulnerable (VU) or protected. The first national list of threatened terrestrial ecosystems has been gazetted, together with supporting information on the listing process including the purpose and rationale for listing ecosystems, the criteria used to identify listed ecosystems, the implications of listing ecosystems, and summary statistics and 	<p>Department of Environmental Affairs</p>	<p>As the applicant will not carry out any restricted activity, as is defined in S1 of the Act, no permit is required to be obtained in this regard.</p> <p>Specialist flora and fauna studies have been undertaken as part of the Basic Assessment Process (Appendix D2). As such the potentially occurrence of critically endangered, endangered, vulnerable, and protected species and the potential for them to be affected has been considered.</p>

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
	<p>national maps of listed ecosystems (National Environmental Management: Biodiversity Act: National list of ecosystems that are threatened and in need of protection, (G 34809, GN 1002), 9 December 2011).</p> <ul style="list-style-type: none"> » This Act also regulates alien and invader species. » Under this Act, a permit would be required for any activity which is of a nature that may negatively impact on the survival of a listed protected species. 		
<p>Conservation of Agricultural Resources Act (Act No 43 of 1983)</p>	<ul style="list-style-type: none"> » Prohibition of the spreading of weeds (S5) » Classification of categories of weeds & invader plants (Regulation 15 of GN R1048) & restrictions in terms of where these species may occur. » Requirement & methods to implement control measures for alien and invasive plant species (Regulation 15E of GN R1048). 	<p>Department of Agriculture</p>	<p>This Act will find application throughout the life cycle of the project. In this regard, soil erosion prevention and soil conservation strategies must be developed and implemented. In addition, a weed control and management plan must be implemented.</p> <p>The permission of agricultural authorities will be required if the Project requires the draining of vleis, marshes or water sponges on land outside urban areas. However this activity will not be needed for this proposed project.</p>

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
National Forests Act (Act No. 84 of 1998)	According to this act, the Minister has declared a tree, group of trees, woodland or a species of trees as protected. The prohibitions provide that 'no person may cut, damage, disturb, destroy or remove any protected tree, or collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a licence granted by the Minister'.	National Department of Forestry	Therefore no permit is required. They are no protected trees in the study area.
National Veld and Forest Fire Act (Act 101 of 1998)	In terms of S12 the applicant must ensure that the firebreak is wide and long enough to have a reasonable chance of preventing the fire from spreading, not causing erosion, and is reasonably free of inflammable material. In terms of S17, the applicant must have such equipment, protective clothing, and trained personnel for extinguishing fires.	Department of Agriculture, Forestry and Fisheries (DAFF)	While no permitting or licensing requirements arise from this legislation, this act will find application during the construction and operational phase of the project.
Hazardous Substances Act (Act No 15 of 1973)	This Act regulates the control of substances that may cause injury, or ill health, or death due to their toxic, corrosive, irritant, strongly sensitising or inflammable nature or the generation of pressure thereby in certain instances and for the control of certain electronic products. To provide for the rating of such substances or products in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, modification, disposal or dumping of such substances and products.	Department of Health	It is necessary to identify and list all the Group I, II, III, and IV hazardous substances that may be on the site and in what operational context they are used, stored or handled. If applicable, a license is required to be obtained from the Department of Health.

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
	<p>Group I and II: Any substance or mixture of a substance that might by reason of its toxic, corrosive etc., nature or because it generates pressure through decomposition, heat or other means, cause extreme risk of injury etc., can be declared as Group I or Group II substance</p> <p>Group IV: any electronic product; and</p> <p>Group V: any radioactive material.</p> <p>The use, conveyance, or storage of any hazardous substance (such as distillate fuel) is prohibited without an appropriate license being in force.</p>		
<p>National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)</p>	<p>The Minister may by notice in the <i>Gazette</i> publish a list of waste management activities that have, or are likely to have, a detrimental effect on the environment.</p> <p>The Minister may amend the list by –</p> <ul style="list-style-type: none"> » Adding other waste management activities to the list. » Removing waste management activities from the list. » Making other changes to the particulars on the list. <p>In terms of the Regulations published in terms of this Act (GN 718), A Basic Assessment or Environmental</p>	<p>National Department of Water and Environmental Affairs</p> <p>Department of Nature conservation (general waste)</p>	<p>As no waste disposal site is to be associated with the proposed project, no permit is required in this regard.</p> <p>Waste handling, storage and disposal during construction and operation is required to be undertaken in accordance with the requirements of the Act, as detailed in the EMP (refer to Appendix G).</p> <p>The volumes of waste to be generated and stored on the site during construction and</p>

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
	<p>Impact Assessment is required to be undertaken for identified listed activities.</p> <p>Any person who stores waste must at least take steps, unless otherwise provided by this Act, to ensure that:</p> <ul style="list-style-type: none"> » The containers in which any waste is stored, are intact and not corroded or in » Any other way rendered unfit for the safe storage of waste. » Adequate measures are taken to prevent accidental spillage or leaking. » The waste cannot be blown away. » Nuisances such as odour, visual impacts and breeding of vectors do not arise; and » Pollution of the environment and harm to health are prevented. 		<p>operation of the facility will not require a waste license (provided these remain below the prescribed thresholds).</p>
<p>National Road Traffic Act (Act No 93 of 1996)</p>	<ul style="list-style-type: none"> » The technical recommendations for highways (TRH 11): "Draft Guidelines for Granting of Exemption Permits for the Conveyance of Abnormal Loads and for other Events on Public Roads" outline the rules and conditions which apply to the transport of abnormal loads and vehicles on public roads and the detailed procedures to be followed in applying for exemption permits are described and discussed. » Legal axle load limits and the restrictions imposed on abnormally heavy loads are 	<ul style="list-style-type: none"> » South African National Roads Agency Limited (national roads) » Provincial Department of Transport 	<p>An abnormal load/vehicle permit may be required to transport the various components to site for construction. These include route clearances and permits will be required for vehicles carrying abnormally heavy or abnormally dimensioned loads. Transport vehicles exceeding the dimensional limitations</p>

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
	<p>discussed in relation to the damaging effect on road pavements, bridges, and culverts.</p> <p>» The general conditions, limitations, and escort requirements for abnormally dimensioned loads and vehicles are also discussed and reference is made to speed restrictions, power/mass ratio, mass distribution, and general operating conditions for abnormal loads and vehicles. Provision is also made for the granting of permits for all other exemptions from the requirements of the National Road Traffic Act and the relevant Regulations.</p>		<p>(length) of 22m.</p> <p>Depending on the trailer configuration and height when loaded, some of the re aligned 132kV Loeriesfontein 3 – Helios power line components may not meet specified dimensional limitations (height and width).</p>
Promotion of Access to Information Act (Act No 2 of 2000)	All requests for access to information held by state or private body are provided for in the Act under S11.	Department of Environmental Affairs	No permitting or licensing requirements.
Promotion of Administrative Justice Act (Act No 3 of 2000)	<p>In terms of S3 the government is required to act lawfully and take procedurally fair, reasonable, and rational decisions.</p> <p>Interested and affected parties have a right to be heard.</p>	Department of Environmental Affairs	No permitting or licensing requirements.
Provincial Legislation			
Northern Cape Nature Conservation Act, Act No. 9 of 2009	This Act provides for the sustainable utilisation of wild animals, aquatic biota and plants; provides for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora; provides for offences and penalties for contravention of the Act; provides for the	Provincial Department of Environmental Affairs	Permitting or licensing are a requirement for this proposed site as there are a number of protected plants found in the area as depicted in Appendix D1.

Legislation	Applicable Requirements	Relevant Authority	Compliance Requirements
	<p>appointment of nature conservators to implement the provisions of the Act; and provides for the issuing of permits and other authorisations. Amongst other regulations, the following may apply to the current project:</p> <ul style="list-style-type: none"> » Boundary fences may not be altered in such a way as to prevent wild animals from freely moving onto or off of a property; » Aquatic habitats may not be destroyed or damaged; » The owner of land upon which an invasive species is found (plant or animal) must take the necessary steps to eradicate or destroy such species. » The Act provides lists of protected species for the Province. 		

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

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

YES

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

13.5 m³

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

The solid waste will be disposed of at a licensed waste disposal facility by a suitably qualified contractor.

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

The solid waste will be disposed of at the closest registered waste facility.

Will the activity produce solid waste during its operational phase?

NO

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

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

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

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

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?

NO

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? NO

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? NO

If YES, what estimated quantity will be produced per month? m³

Will the activity produce any effluent that will be treated and/or disposed of on site? NO

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? NO

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:

Not applicable.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities? NO

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

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:

Minor dust impacts may occur during the construction phase of the re-alignment of the power line, but will not exceed acceptable limits.

d) Waste permit

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

	NO
--	----

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?

	NO

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

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.

If NO, describe the noise in terms of type and level:

Noise may be generated by vehicle movement during construction, but would not exceed acceptable limits. Corona noise from the power line during operation is expected to be negligible due to the nature of the local environment.

12. 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, dam or lake	Other	The activity will not use water
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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:

YES	
YES	

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.

The developer will apply for a water use licence to the Department of Water Affairs for the construction and operation of the Loeriesfontein 3 larger project – which will include the Solar energy facility, and the re-alignment of the authorised power line and associated infrastructure however water for the re alignment of the power line will only be needed during construction.

13.ENERGY EFFICIENCY

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

Not applicable

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

The Solar facility will generate electricity from a renewable source (i.e. the Solar). The power line will transmit this electricity into the Eskom grid for use.

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?

YES	
-----	--

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	Northern Cape Province
District Municipality	Namakwa District Municipality
Local Municipality	Hantam Local Municipality
Ward Number(s)	5
Farm name and number	Farm Sous 226 Farm Aan De Karree Doorn Pan 231
Portion number	Sous 226 portions 1 (Helios substation), 3 (railway line) and remainder; Portion 2 of Aan De Karree Doorn Pan 231
SG Code	C015000000002260000 C015000000002260001 C015000000002260003 C015000000002310002

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 (Live stock farming)

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?

YES NO

A servitude would be required to be registered for a power line.

A. RE ALIGNMENT OF THE LOERIESFONTEIN 3 SOLAR ENERGY FACILITY- HELIOS 132KV POWER LINE

The section below relates to the environment affected by the preferred re-alignment of the Power line:

B1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Preferred Alternative S1:

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

Alternative S2:

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

B2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>

B3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1: Preferred option
Shallow water table (less than 1.5m deep)	NO
Dolomite, sinkhole or doline areas	NO
Seasonally wet soils (often close to water bodies)	NO
Unstable rocky slopes or steep slopes with loose soil	NO
Dispersive soils (soils that dissolve in water)	NO
Soils with high clay content (clay fraction more than 40%)	NO
Any other unstable soil or geological feature	NO
An area sensitive to erosion	YES

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.

B4. 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).

Both power line options displayed the same ground cover characteristics.

Natural veld - good condition ^E	Natural veld with scattered aliens^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	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.

Refer to Appendix D: Ecological Assessment

The national vegetation map (Mucina & Rutherford 2006) for the study area is depicted in Figure 1.3. The entire site falls within the Bushmanland Basin Shrubland vegetation type. This is one of the most extensive vegetation types in South Africa. Bushmanland Basin Shrubland occurs on the extensive basin centered on Brandvlei and Van Wyksvlei, spanning Granaatboskolk in the west to Copperton in the east, and Kenhardt in the north to around Williston in the south. The area is characterized by slightly irregular plains dominated by a dwarf shrubland, with succulent shrubs or perennial grasses in places. The abundance of alien species at the site was generally low. The only large woody invader observed at the site was *Prosopis glandulosa*, which occurred infrequently within the lower lying parts of the site. Other less significant alien species observed includes *Salsola kali*, *Atriplex lindelyi* subsp *inflata* and *Atriplex semibacatta*.

B5. SURFACE WATER

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

The realignment crosses four drainage line

Perennial River		NO	UNCERTAIN
Non-Perennial River (Drainage Lines)	YES		
Permanent Wetland		NO	
Seasonal Wetland		NO	
Artificial Wetland		NO	
Estuarine / Lagoonal wetland		NO	

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

The power line traverses non-perennial (seasonal) drainage lines at four point (refer to environmental sensitivity map). Note that the power line can easily be strung across the drainage lines to avoid the banks and riparian vegetation. The National Fresh Ecosystem Priority Areas (NFEPA)(layer suggests that there are a number of small pans at the site. In practice the majority of these are areas of bare ground where water collects occasionally and are not vegetated.

B6. 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 ^A	Church	Agriculture (sheep farming)
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	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 ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Agriculture

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

N/A

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:

N/A

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:

N/A

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

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

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

A map showing the SKA project and the power line is attached to Appendix A. The developer has submitted an application to SKA. Feedback/ comment from SKA is awaited.

C. 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:

NO

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:

Input from a heritage specialist was obtained (refer to Appendix D). A survey of the re-aligned power line was undertaken and did not reveal any significant heritage/ cultural features.

Will any building or structure older than 60 years be affected in any way?

NO

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

NO

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

D. SOCIO-ECONOMIC CHARACTER

The description below is relevant for all components of the proposed project

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:

Employment levels in the Namakwa District Municipality were substantially better than the province in total, probably due to exported unemployment and conversely imported

labour for the mining industry. These workers would then return to their home areas if employment levels declined in the district. High local level employment is probably due to a small population largely employed in the agricultural sector (MasterQ Research, 2012, Socio-Economic Assessment for the Loeriesfontein 3 Solar Energy Facility).

Economic profile of local municipality:

The Northern Cape is comparatively sparsely populated as a province, which usually translates into low economic output when compared to population centres. Gross Domestic Product figures support this notion and the Northern Cape contributed only 2.3% of national GDP in 2008 (StatsSA, 2009).

The Namakwa DM area contains a historically important mining node in the province, namely the area surrounding the town of Springbok, and the mining industry has been one of the main productive forces in the NDM area. The NDM LED plan indicates that mining continues to dominate the economic landscape in that area with a contribution of 52%. In general it appears that the NDM area is not economically diversified and therefore more prone to economic shocks in its key industries, especially the mining industry. This happened in 2008 during the global economic crisis, when the economy was adversely affected to a significant degree due to a number of mining operations closing down temporarily in the Springbok area (Urban Econ, 2009).

The Local Economic Development (LED) documentation for the NDM area indicates that distance from markets and a lack of infrastructure represent the biggest challenges to development as these factors limit the ability of businesses to access major markets in a cost effective manner. Furthermore, the NDM area and the Northern Cape Province is currently experiencing a population decline, putting a severe constraint on available local skills for growth and development. According to the above documentation the economic development strategies and future target areas of the NDM area focuses on the development, diversification and stabilization of the regional economy (MasterQ Research, 2012, Socio-Economic Assessment for the Loeriesfontein 3 Solar Energy Facility).

Level of education:

Large portions (81%) of the adult population (20+years) in Hantam Local Municipality have not completed secondary education (MasterQ Research, 2012, Socio-Economic Assessment for the Loeriesfontein 3 Solar Energy Facility).

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	+/-R31 million
What is the expected yearly income that will be generated by or as a result of the activity?	N/A

Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	No
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	18-30 people
What is the expected value of the employment opportunities during the development and construction phase?	Unknown
What percentage of this will accrue to previously disadvantaged individuals?	+/-R31 million
How many permanent new employment opportunities will be created during the operational phase of the activity?	Nil. Eskom will maintain from current staff complement
What is the expected current value of the employment opportunities during the first 10 years?	N/A
What percentage of this will accrue to previously disadvantaged individuals?	N/A

E. 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.

Refer to Ecology specialist report contained in Appendix D.

- 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				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)	The site does not fall within a CBA; the nearest CBAs are more than 10km away from the development footprint, suggesting that the area is not likely to be highly significant in

				terms of known biodiversity pattern or for the maintenance of broad-scale ecological processes.
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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)	98%	Relatively good condition
Degraded (includes areas heavily invaded by alien plants)	0%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	2%	Cultivation, roads, homesteads.

c) Complete the table to indicate:

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

Terrestrial Ecosystems		Aquatic Ecosystems			
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)	Estuary	Coastline	
	Endangered				
	Vulnerable				
	Least Threatened				
			NO		NO

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)

Vegetation:

The national vegetation map (Mucina & Rutherford 2006) for the study area is depicted in Figure 1.3. The entire site falls within the Bushmanland Basin Shrubland vegetation type. This is one of the most extensive vegetation types in South Africa. Bushmanland Basin Shrubland occurs on the extensive basin centered on Brandvlei and Van Wyksvlei, spanning Granaatboskolk in the west to Copperton in the east, and Kenhardt in the north to around Williston in the south. The area is characterised by slightly irregular plains dominated by a dwarf shrubland, with succulent shrubs or perennial grasses in places. The geology consists largely of mudstones and shales of the Ecca group and Dwyka tillites with occasional dolerite intrusions. Soils are largely shallow to non-existent, with calcrete present in most areas. Rainfall ranges from 100-200mm and falls mostly during the summer months as thunder storms. As a result of the arid nature of the area, very little of this vegetation type has been affected by intensive agriculture and it is classified as Least Threatened. The vegetation of the site is relatively homogenous and consists largely of a dwarf shrubland dominated by perennial shrubs less than 40cm tall.

Endemic Species

There are few endemic and biogeographically important species present at the site and only *Tridentea dwequensis* is listed by Mucina and Rutherford as biogeographically important while *Cromidon minimum*, *Ornithogalum bicornutum* and *O.ovatum* subsp *oliverorum* are listed as being endemic to the vegetation type. Although a full description of the common and dominant species which typically dominate this vegetation type is provided by Mucina and Rutherford, this is not related here as an actual description of the vegetation as it occurs at the site.

Other vegetation types which occur in the area include Hantam Karoo, Bushmanland Vloere and Western Bushmanland Klipveld. However, none of these vegetation types are in close proximity to the site. The presence of only Bushmanland Basin Shrubland within the site was confirmed in the field survey.

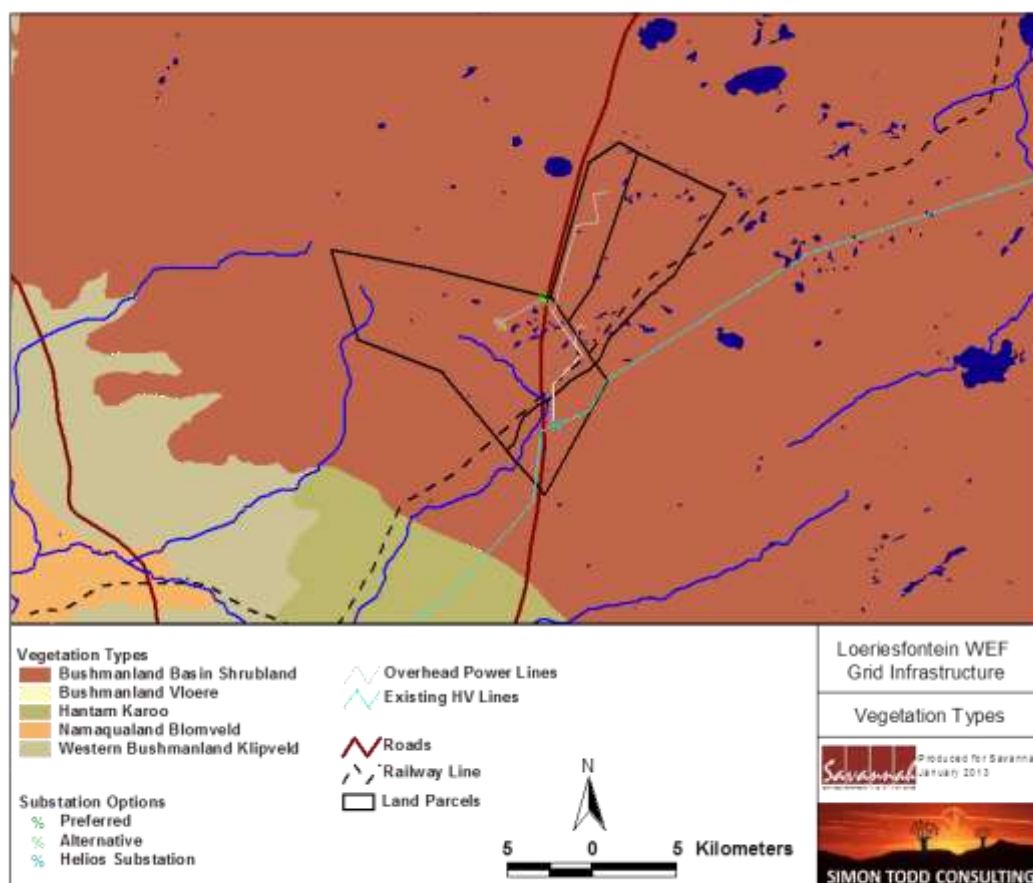


Figure 1.3. The national vegetation map (Mucina & Rutherford 2006) for the study area. Rivers and wetlands delineated by the National Freshwater Ecosystem Priority Areas Assessment (Nel et al. 2011) are also depicted.

Listed Plant Species

The study area has been very poorly sampled in the past and many of the quarter degree squares in the area have no data available whatsoever. According to the SIBIS database, a total of 135 indigenous species are known from the area. This is however clearly an underestimate and the broad area is likely to harbor significantly more species. However, the area is not species-rich and even with more intensive sampling the area is not likely to demonstrate exceptional richness. Apart from the listed species- *Hoodia gordonii* and *Aloinopsis luehmannii* which was observed at the site, the only other listed species which may occur at the site are *Cephalophyllum fullerii* which is classified as Rare and *Lithops otzeniana* which is classified as Vulnerable. Overall, the site is not considered highly sensitive in terms of biodiversity.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Northwester Newspaper and the Ons Kontrei Newspaper	
Date published	22nd of February 2013	
Site notice position	Latitude	Longitude
	30°29'50.38"	19°33'27.34"
	30°26'27.95"	19°33'27.27"
Date placed	15 February 2013	

Include proof of the placement of the relevant advertisements and notices. See 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.

<p>The public consultation process has included the following tasks:</p> <ol style="list-style-type: none"> 1. Placement of site notices on site and in public places in the study area 2. Publishing of newspaper adverts which detailed the proposed project and availability of draft Basic Assessment report for public review. 3. Distribution of notification letters to identified I&APs and Organs of State. 4. Providing written notice to affected and neighbouring landowners and consultation through one-on-one consultation sessions and via telephone.

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

Refer to Appendix E5 for the information required in this section

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)

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.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

All comments received during the review period of the draft Basic Assessment Report as well as responses provided will be captured and recorded within the Comments and Response Report attached as Appendix E in the final Basic Assessment Report.

The comments received will be included in the final Basic Assessment Report.

Summary of main issues raised by I&APs	Summary of response from EAP

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.

No comments have been received on the project to date. All comments received during the review period of the draft Basic Assessment Report as well as responses provided will be captured and recorded within the Comments and Response Report attached as Appendix E in the final Basic Assessment Report.

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
Department of Agriculture, Forestry & Fisheries	Ms Thoko Buthelezi	0123197634		thokob@daff.gov.za	Private Bag X120 Pretoria 0001
Department of Agriculture, Forestry & Fisheries	Ms Jacoline Mans	0543385909	0543340030	jacolinema@daff.gov.za	PO Box 2782 Upington 8800
Department of Agriculture, Forestry & Fisheries	Ms Mashudu Marubani	0123197619		mashuduma@daff.gov.za	Private Bag X120 Pretoria 0001
Department of Energy	DDG Programmes and Projects	0124067568			Private Bag X96 Pretoria 0001
Department of Energy	The Director: Northern Cape	0538071752	0865627065		Private Bag X6093 Kimberley 8300
Department of Mineral Resources	Ntsundeni Ravhugoni	0538071700	0538300827	Ntsundeni.Ravhugoni@dmr.gov.za	Private Bag X6093 Kimberley 8300
Department of Rural Development and Land Reform	Ms Debbie Khan	0123129490	0123236072	dkhan@ruraldevelopment.gov.za	Private Bag X833 Pretoria 0001
Department of Science and Technology	Nombuyiselo Mokoena	0128436632			Private Bag X894 Pretoria 0001
Department of Water Affairs	Mr A Abrahams	0828836741	0538314534	abrahamsa@dwa.gov.za	Private Bag X6101 Kimberley 8300
Department of Water Affairs	Ms Tocky Ngobeni		0123367488	ngobenit@dwa.gov.za	Private Bag X313 Pretoria 0001
Department of Water Affairs	Ms Mashudu Ranwedzi	0533385800		ranwedzim@dwa.gov.za	Department of Water Affairs

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
					Louisvale Road Upington 8800
Eskom	Mr John Geeringh	0115167233	0866614064	john.geeringh@eskom.co.za	PO Box 1091 Johannesburg 2001
Eskom	Henk Landman	021 9803412	086 6626503	henk.landman@eskom.co.za	PO Box 222 Brackenfell 7561
Hantam Local Municipality	Mr Charl Du Plessis	0273418500	0273418501	municipalmanager@hantam.gov.za	Private Bag X14 Calvinia 8190
Hantam Local Municipality	Mr Ivan Valentein	0273418542	0273418401		Private Bag X14 Calvinia 8190
Namakwa District Municipality	Ms Madeline Brand	0277128000	0277128040	jolenes@namakwa-dm.gov.za	Private Bag X20 Springbok 8240
Northern Cape Department of Agriculture, Land Reform & Rural Development	Mr Ali Diteme	0538389106	0538324328	aditeme@agriculture.gov.za	Private Bag X5018 Kimberley 8300
Northern Cape Department of Environment and Nature Conservation	Mr E Botes	0538077300	0538077367	twessels@ncpg.gov.za	Private Bag X6102 Kimberley 8300
Northern Cape Department of Environment and Nature Conservation	Mr J Mutyorauta	0538077431		jmutyorauta@ncpg.gov.za	Private Bag X6010 Kimberley Northern Cape 8300
Northern Cape Department of Roads and Public Works	Mr Kenneth Markman	0536311355	0536311357	kenneth.markman@vodamail.co.za	PO Box 133 De Aar 7000
Northern Cape Department of Roads and Public Works	Mr Kholikile Nogwili	0538382109	0866176108	lucindavanwyk@ncpg.gov.za	PO Box 3132 Squarehill Park Kimberley 8300
Northern Cape Department of	Ms Ruth Palm	0538392103	0538392290		PO Box 3132 Squarehill Park

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Roads and Public Works					Kimberley 8300
Northern Cape Provincial Heritage Resources Agency	Mr Andrew Timothy	0538312537	0538331435	ratha.timothy@gmail.com	PO Box 1930 Kimberley 8300
South African Civil Aviation Authority	Ms Lizell Stroh	0115451232	0115451282	strohl@caa.co.za	Private Bag X 73 Halfway House 1685
South African Heritage Resources Agency (SAHRA)	Ms Mariagrazia Galimberti	0214624502	0214624509	mgalimberti@sahra.org.za	PO Box 4637 Cape Town 8000
South African Heritage Resources Agency (SAHRA)	Ms Kathryn Smuts	0214624502		ksmuts@sahra.org.za	PO Box 4637 Cape Town 8000
South African National Roads Agency Limited (SANRAL)	Rene De Kock	0219574607		dekockr@nra.co.za	Private Bag X19 Bellville Cape Town 7535
Square Kilometre Array (SKA): South Africa	Mr Adrian Tiplady	0114422434		atiplady@ska.ac.za	PO Box 522940 Saxonwold 2132

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

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 included as Appendix E5.

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

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.

A. 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.

The assessment of impacts considers all components of the proposed project, i.e.:

- » Construction of the re-alignment of the 132kV Loeriesfontein 3-Helios Power line; and
- » Associated infrastructure such as access roads and temporary lay down areas.

The total development footprint for the re-aligned power line and associated access road

No alternatives were assessed for the re-alignment as the power line itself is already authorised.

B. ASSESSMENT OF RE-ALIGNMENT OF THE LOERIESFONTEIN 3 SOLAR ENERGY FACILITY-HELIOS 132kV POWER LINE

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (Technically preferred alternative)			
Clearing of vegetation for power line towers and access road.	Direct Impacts: Loss of vegetation due to the construction of the power line and access road.	Medium	<ul style="list-style-type: none"> » Keep removal of vegetation and trampling to a minimum. » Educate staff to keep construction activities within the demarcated areas. » Conduct a thorough search and rescue operation of all footprint areas prior to construction to remove and relocate species of conservation concern that can be re-planted. » Prevent spillage of construction material beyond area affected by servitude. » Control and regularly monitor the establishment of alien invasive species and remove as soon as detected.
	Indirect impacts: Reduction of Indigenous species.	Medium	As listed above.
	Cumulative impacts: There is other power generation and transmission infrastructure in the broader area (including power lines, substations and the proposed Solar energy facility) as well as a number of additional power lines in the area which would cause similar impacts	Low-Medium	Appropriate management of the individual projects.
Construction of power line and access road (vegetation clearing,	Direct impacts: Temporary displacement and disturbance of animals, wildlife and avifauna.	Low	<ul style="list-style-type: none"> » Any animals directly threatened by the construction activities should be removed to a safe location by the ECO or other suitably qualified person. If small animals are trapped they are to be caught and released in the general area.

Activity	Impact summary	Significance	Proposed mitigation
<p>stringing of the power line and excavations for pylons).</p>			<ul style="list-style-type: none"> » The collection, hunting or harvesting of any plants or animals at the site should be strictly forbidden. Personnel should not be allowed to wander off the construction site. » Fires should only be allowed within fire-safe demarcated areas. » If the construction camp or lay down area must be lit at night for security purposes, this should be done with low-UV type lights (such as most LEDs), which do not attract insects. » All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill. » All construction vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises.
	<p>Indirect impacts: -</p>	-	-
	<p>Cumulative impacts: The further loss of habitat due to other power generation and transmission infrastructure being developed in the broader area (including power lines, substations and Solar energy developments) may exacerbate the impact.</p>	Low	<ul style="list-style-type: none"> » Keep removal of vegetation and trampling to a minimum. » Control and regularly monitor the establishment of alien invasive species and remove as soon as detected.
<p>Construction of power line (vegetation clearing, stringing of the power line and excavations for</p>	<p>Direct: Soil Erosion</p>	Medium	<ul style="list-style-type: none"> » If it is not possible to retain a good plant cover during construction, erosion control measures should be employed to keep the soil covered by other means, i.e. straw, mulch, erosion control mats, etc., until a healthy plant cover is again established. » Care should be taken to control and contain storm water run-off. » Re-vegetation of the site must be undertaken after decommissioning of

Activity	Impact summary	Significance	Proposed mitigation
pylons) and access roads.			the power line and after removal of temporary infrastructure such as lay-down areas and temporary construction compound. » Pylon foundations and access roads to be regularly inspected to determine if erosion control or soil stabilisation is required.
	Indirect:-	-	» -Down stream sedimentation
	Cumulative: Accelerated erosion, gully / sheet erosion and soil loss due to disturbance due to the Solar energy facility and power line construction	Medium	» Good soil management of various sites/ project is required. » Implement appropriate erosion control measures at individual sites.
	Direct: Damage to drainage lines.	Low	» Place pylons as far as possible out of the drainage lines and their embankments. » Do not use the drainage lines or their banks as access points for construction activities. » String power line across the drainage lines. » Monitor drainage lines and stabilise the soils, if required. » During heavy rainfall events, avoid construction across drainage lines.
	Indirect: Erosion, increased run-off, sedimentation downstream of the drainage lines and possible soil loss.	Low	As above
	Cumulative: -	-	-Damage due to construction of numerous projects in the area.
Excavations for pylons	Direct impact: The potential damage or loss of below and above ground pre-colonial archaeological /heritage sites/graves/ fossils.	Low	» No mitigation is proposed before construction starts because the archaeological remains (if any) are of low significance (excluding human remains). However, all construction activities of the power line site must be monitored by a suitably qualified ECO who has received training regarding heritage sites likely to be found in the study area. If concentrations of archaeological materials are exposed then all work

Activity	Impact summary	Significance	Proposed mitigation
	Indirect impact:-	-	must stop such that an archaeologist can investigate and record the site as may be required by the heritage authority. » If any human remains, fossils or any other concentrations of archaeological or heritage material are exposed during construction, all work must cease and it must be reported immediately to the nearest museum/archaeologist or the Northern Cape Heritage Authority. » A systematic and professional investigation of any finds must be undertaken. Sufficient time should be allowed to investigate and to remove/collect such material.
	Cumulative impact: No heritage sites of importance were identified on the development footprints. Minimal archaeological traces mean that cumulative impacts would be negligible.	Low	
Power Line structures and operation	Direct Collision and electrocution of bird species with the power line.	Medium	» Build the proposed steel monopole with the standard Eskom Bird Perch on top of the pole to provide sufficient safe perching space for vultures above the dangerous hardware. » Utilise bird perches. » In addition to the Bird Perch, the structure must conform to Eskom's requirements for bird friendly structures. » The entire power line should be marked with Bird Flight Diverters, to reduce the risk of collisions of specifically Ludwig's Bustard. Bird collisions or electrocutions will be minimised through the installation of bird flappers.
	Indirect Impacts: Loss of bird species to the area, creating a vacuum.	Medium	
	Cumulative: There are existing power line in the broader study area, therefore higher bird mortalities is possible	Medium	
Visibility of the Power line structures during its operational life	Direct: Potential visual impact of the power line on any visual receptors and sense of place	Low	None is possible.
	Indirect:-	-	-
	Cumulative: Due to other electricity infrastructure in the area	-	-
Staff required for	Direct	Low (Positive)	» Employ local staff, as far as possible.

Activity	Impact summary	Significance	Proposed mitigation
construction and maintenance of the power line	During construction a few temporary jobs (~18-30) will be created to construct the power line. The operational phase will also create a few jobs.		» Attempt to provide skills development and training for local employees.
	Indirect -	-	-
	Cumulative The development of the Solar energy facility on the site, adds to possible social benefits and spin-offs.	Medium (Positive)	» Employ local staff, as far as possible. » Attempt to provide skills development/ training for local employees
Presence of construction workers on the site during construction.	Direct Noise, dust, traffic, risk of damage to existing farm infrastructure associated with the construction of the power line.	Low (if the site is well managed)	» No open fires must be allowed on site and areas for smoking must be demarcated. » Members of the construction team should be easily identifiable (through the use of uniforms or name badges) and should behave fittingly at all times. » Fines should be given for not adhering to rules and regulations (with regards to conduct and safety). » Residents should be informed of the construction activities and schedules prior to the construction workforce entering the property. Privacy of residents and property owners should be respected. » Good housekeeping and waste management of servitude that is under construction. » Dust control on access roads. » Construction vehicles to obey the speed limit.
	Indirect Impacts: None	N/A	-
	Cumulative Impacts:	Low	» The EMP developed for the Solar project as well as that for the power

Activity	Impact summary	Significance	Proposed mitigation
	The development of the Solar energy facility on the site, adds to possible social risks to the local community/landowners.		line must be utilised to manage social impacts. » The developer to maintain communication with the local community during construction and operations.

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

No-Go Alternative:

This option will result in no impacts occurring on the biophysical environment (i.e. biodiversity, soils) due to re-alignment of the Power Line. However, this will result in the situation where the Loeriesfontein 3 Solar Energy Facility cannot be connected to the electricity grid (as the current authorised connection route no longer feasible). This will result in a lost opportunity for renewable energy production within the country. The no-go option is therefore not preferred.

5. 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 after 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.

Re-aligned power line option

In order to connect the Loeriesfontein 3 Solar Energy Facility³ to the national electricity grid, South Africa Mainstream Renewable Power Developments (Pty) Ltd is proposing the re-alignment of the authorised 132 kV power line connecting the Solar energy facility to the Eskom electricity grid via the existing Helios substation.

The route extends from the on-site substation to the Helios Substation, a distance of approximately 15.75 km. The route to be re-aligned is only on the farm Sous portion remainder. The need for this realignment is to satisfy the requirements of the affected landowner in order to consolidate power line infrastructure on the property.

The following conclusions have been made:

- » **Flora and Fauna:** Due to the small footprint of the power line (tower footprints within 36 metre servitude) with its limited access road and linear nature, many of the impacts on flora and fauna will be reduced with effective management of the site as well as the utilization of rehabilitation after construction. For the plant species of special concern, it is recommended that these species are identified and rescued before construction commences. Loss of vegetation is also important for animals as it constitutes habitat loss. However, these impacts can be reduced to a **low** negative if mitigation measures are actively implemented.
- » **Soils:** The construction of the power line and associated access road can result in exposed areas which can trigger soil erosion. With the implementation of soil erosion management measures during the construction and operation of the power line and associated infrastructure, the development is likely to have a **low impacts on soils**.
- » **Heritage:** In general the proposed power line re-alignment appears to be of low heritage and cultural significance and therefore an impact of **low** significance is expected. Although it would appear unlikely that any significant in situ heritage sites/material will be exposed during the construction phase of this development, sites/materials may be covered by soil and vegetation. Appropriate mitigation is required to be implemented to minimise any potential impacts.
- » **Visual:** It is not expected that the proposed re-alignment of the power line will significantly alter the significance of the visual impacts associated with the Loeriesfontein 3 Solar energy facility. The potential visual impacts associated with the proposed re-alignment should therefore not alter/influence the outcome of the project decision-making. Visual impacts of the power line will

³ This project was previously known as a 50 MW Solar Energy Facility near Loeriesfontein (DEA reference: 2/12/20/2321/1) and authorised by DEA in 2012.

be of a **low significance**

- » **Avifauna:** Collision and mortality of bird species with the power line is possible and expected to be of **medium** significance. The power line should be marked with Bird Flight Diverters to reduce the risk of collisions for Ludwig's Bustard specifically. Bird collisions or electrocutions will be minimised through the installation of bird diverters and appropriate design of the power line towers.

The re-alignment will traverse a pan and 4 drainage lines. These areas can however be easily avoided due to the nature of the development. Through the implementation of the EMPr (Appendix G), it is expected that impacts on identified sensitive areas can be mitigated to acceptable levels.

It is the conclusion of the Environmental Assessment Practitioner that the re-alignment of the authorised power line from Loeriesfontein 3 Solar Energy Facility to the Helios Substation is considered acceptable from an environmental perspective provided the recommended mitigation measures are implemented. Based on the nature and extent of the proposed re-alignment of the power line, the potential impacts associated can be mitigated to an acceptable level.

Alternative B: N/A

Alternative C: N/A

No-go alternative (compulsory)

This is the option of not re-aligning the power line. This option will result in no impacts on the biophysical environment (i.e. biodiversity, soils), and will result in no visual impact. However, this will result in the situation where the Loeriesfontein 3 Solar energy facility cannot be connected to the Eskom national electricity grid (as the current authorised power line route is no longer feasible). This is an undesirable option for the project as it will pose negative impacts on the Loeriesfontein 3 Solar Energy Facility as well as a lost opportunity for renewable energy production within the country, and will impact on the economic development of the local community.

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)?

YES

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 the conclusion of the Environmental Assessment Practitioner that the re-alignment of the 132kV Loeriesfontein 3 - Helios power line is considered acceptable from an environmental perspective provided the recommended mitigation measures are implemented. Based on the nature and extent of the proposed project, the potential impacts associated with the proposed project can be mitigated to an acceptable level.

The following mitigation and management measures should be implemented:

Construction:

- » All relevant practical and reasonable mitigation measures detailed within this report and the specialist reports contained within Appendix D must be implemented.
- » The EMPr should form part of the contract with the Contractor appointed to construct the power line, and must be used to ensure compliance with environmental specifications and management measures. The implementation of this EMPr for all life cycle phases of the proposed project is considered key in achieving the appropriate environmental management standards as detailed in this report.
- » An independent Environmental Control Officer (ECO) should be appointed to monitor compliance with the specifications of the EMPr for the duration of the construction period.
- » Existing tracks/roads should be used as far as possible, and construction activities should be limited to the authorised site.
- » Identified sensitive areas should be avoided as far as possible.
- » During construction, unnecessary disturbance to habitats should be strictly controlled and the footprint of the impact should be kept to a minimum.]
- » Disturbed areas should be rehabilitated as soon as possible once construction is complete in an area.
- » A walk-through survey of the final power line tower positions should be undertaken

by an ecologist and avifauna specialist to determine any additional site-specific mitigation which should be implemented.

- » Before development can continue the region need to be checked for the presence of bird nesting sites.
- » Contractors must be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.
- » All declared alien plants must be identified and managed in accordance with the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), the implementation of a monitoring programme in this regard is recommended.
- » The developer should obtain all necessary permits prior to the commencement of construction.

Operation Phase:

The mitigation and management measures previously listed in this Basic Assessment Report should be implemented in order to minimise potential environmental impacts. The following mitigation measures should also be implemented.

- » Maintenance of erosion control measures (i.e. berms).
- » Development and implementation of a storm water management plan.
- » On-going maintenance of the infrastructure to minimise the potential for visual impacts.
- » On-going monitoring of the development sites to detect and restrict the spread of alien plant species.

Bird diverters must be installed and maintained along the entire length of the power line in order to minimise the risk of collision.

Is an EMPr attached?

YES

The EMPr must be attached as Appendix G.

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.

KAREN JODAS

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDICES

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)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information