

## Ekapa Minerals (Pty) Ltd.

### Basic Assessment Report for the proposed PV plant development at Ekapa Mine - Boshoff floors, Kimberley. – Final

Report date: 13 June 2023

Reference: NC/BA/10/FB/SOL/KIM1/2023

**SHANGONI**  
Management Services (Pty) Ltd



Stewards



Problem Solvers



Team Players

*Influencing decisions since 2000 through identification, quantification and mitigation of environmental, safety, health and compliance risks*

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**agriculture, environmental affairs,  
rural development and land reform**

Department:  
agriculture, environmental affairs,  
rural development and land reform .  
NORTHERN CAPE PROVINCE  
**REPUBLIC OF SOUTH AFRICA**

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(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**


**Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.**

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**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, 2014 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 07 April 2017. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

## Section A: Activity information

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

YES  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. ACTIVITY DESCRIPTION

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

Ekapa is an established diamond mine situated on the outskirts of the city of Kimberley, Northern Cape Province, South Africa. Ekapa consists of two sections namely Ekapa Minerals (Pty) Ltd ("Ekapa Minerals") and Ekapa Resources (Pty) Ltd each operating separately. Ekapa Minerals focussed on the re-treatment of surface resources, by dozing and loading or excavation and loading, and hauling of tailings material from Tailing Mineral Residue ("TMRs") to the Combined Treatment Plant ("CTP"). Ekapa Minerals is located within the Frances Baard District Municipalities with the regional services council being the Sol Plaatje Local Municipalities.

This Environmental Application and Basic Assessment process will be focusing on the proposed 100 MW photovoltaic ("PV") plant that Ekapa Minerals proposes to construct on the Remaining Portion of Farm Dorstfontein 77 that falls within Ekapa Minerals Mining Right (NC 30/5/1/2/2/ (142) MR (A) This project can be considered to be an embedded generation project (grid-tied, behind-the meter), producing electricity solely for consumption by Ekapa Minerals to provide the CTP with electricity and to prevent shutdowns during loadshedding.

The proposed project area for the construction of the PV plant and the respective infrastructure will be constructed on an area of approximately 240 ha that has been historically mined and is currently being disturbed by artisanal miners. The environmental aspects of the proposed project did not reveal that the area is of high significance, due to the historical disturbances. The vegetation associated with the site comprises a dominant grass layer with scattered, mostly alien invaders, trees, with no endangered species present on site. Secondary vegetation has undergone modification and a fundamental shift from its original state, in this case the Kimberley Thornveld. No natural water bodies are associated with the area proposed for the PV plant. The Northern Cape has a diverse natural and cultural landscape with a variety of heritage resources that are representative of the rich cultural diversity. Several historical domestic middens / waste dumps are present in the western part of the site, this area will be fenced with a boundary of 10 m.

The proposed project area falls within the Renewable Energy Development Zones ("REDZs") (Zone 5 - Kimberley), categorised as suitable for large renewable energy generation. The proposed PV plant will generate the ultimate capacity of 100 MWp (megawatts-peak) and will be constructed in three phases. The first phase will generate 22 MWp, second phase 68 MWp and then the third phase the remaining 10 MWp.

The first phase of the PV plant will be located in the area between the 132 Kv Eskom power lines that transverse the prosperity and the R64. The remaining phases will be located North of the first phase in the area between the 132 kV Eskom powerlines that transverse the Property (in an east-west direction) and west of the 66 kV Eskom powerlines that transverse the property in a north-south direction.

The R64, via the existing haulage road located on the eastern side of the proposed PV area, will be used as the main access route. New internal access roads will be required to link the haulage road with the PV plant. Proposed internal roads will also be constructed around the PV plant area to access all the proposed infrastructure and is anticipated to be at least 6 m wide and 15 km long when the construction phases are completed.

For the construction of the PV plant, vegetation clearance will firstly take place, followed by ground and civil works. Thereafter, the PV panels will be mounted on tracking structures (hydraulic panels moving with the sun) that will be 90 m in length, 2,6 m wide and 3 m high. The details surrounding the ground mounting structures has not yet been finalised, however, the civil arrangements for these structures are typically similar for most projects.

The PV strings will be configured in such a manner as to minimize DC ("Direct current") cable runs where practical. DC cabling will be routed along the mounting structures and deliver the generated electricity to inverter stations located in the field. It is anticipated that these will be either of a modular or skid-mounted design. The output voltage of the inverter stations will be medium voltage and will be transmitted via buried MV ("Medium Voltage") cables to the two substations.

The new PV plant substations will be new standalone structures, designed in accordance with the relevant codes and standards. Transformers will be installed at the substations to step up the voltage to 66 kV, which in turn will be transmitted to the Jack Matthews substation ("JMS") via overhead lines. The overhead lines will be approximately 1.8 km in length and consist of 15 pylons that will run along the existing services corridors. Should it be deemed not possible to construct overhead lines, then the possibility of burying the 66 kV lines will be explored. Low voltage consumers (small power, lighting, and tracker actuators) will be fed from small power and lighting transformers inside the substations.

The main plant substation will be constructed during the first phase where after a secondary plant substation will be constructed in the second phase. The power from the main and secondary sub plant will both feed into the JMS. The MV lines to both the substations will be buried, as well as the MV lines from the secondary sub station leading to the Main substation. It is also proposed to upgrade the JMS to be able to receive the generated electricity.

Non generating infrastructure, such as the following, is proposed to be constructed as part of the PV plant project:

- An access control point with a guard house.
- An operations building consisting of
  1. Office space
  2. Meeting/boardroom
  3. Male and female ablutions
  4. Kitchenette
  5. Server Room
  6. Control room
  7. First aid room
  8. Stores
  9. Workshop area (light maintenance)
- Covered parking area (6 bays)
- Waste handling area suitable for a 6 m<sup>3</sup> waste skip.
- Water pipelines from a specified tie-in point at the JMS to the PV Plant

From a water use perspective, the region is considered to be water-scarce, and hence the objective will be to minimise the use of water should be minimized as far as possible. Dry panel cleaning is the preferred method but will only be confirmed following the detailed design. If additional water for the cleaning process is required, the existing water use licence with reference number 08/C91E/CAIJ/8109 will cover the amount of water needed. Therefore, this project will not require a water use licence.

A water pipeline will be constructed from the Ekapa Minerals tie in point at the JMS and also into the existing municipal portable water pipeline to the new proposed office building and PV plant area. The pipeline from the JMS tie in point will approximately be 1.81 km long and constructed within the existing service corridor. It is anticipated that water use will be predominantly limited to infrastructural requirements. The ablution facilities will tie in with the existing Municipal facilities running past the property.

The stormwater design shall integrate with the existing stormwater flow patterns across the site and will be designed such that the water volumes will not be concentrated or significantly increased at the various points of discharge. Any source of potential pollutants (around transformers, hydrocarbon, or chemical storage) shall be bunded in accordance with the relevant legislation and best practice and designed in such a manner as to not contaminate “clean” water or the surrounding soils.

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

**Detailed** description of listed activities associated with the project.

According to “**Notice of identification in terms of Section 24(5)(a) and (b) of the National Environmental Management Act, 1998, of the procedure to be followed in applying for Environmental authorisation for large scale wind and solar photovoltaic energy development activities identify in terms of section 24(2)(a) of the National Environmental Management Act, 1998, when occurring in geographical areas of strategic importance**”

Schedule 3 indicated that: “*Application for the environmental authorisation for large scale wind or solar photovoltaic energy facilities, when such facilities trigger activity 1 of Environmental Impact Assessment Regulation Listing Notice 2 of 2014 and any other listed and specified activities necessary for the realization of such facilities, and where the entire proposed facility is to occur in such Renewable Energy Development Zones (REDZs), must follow the basic assessment procedure contemplated in Regulation 19 and 20 of the Environmental Impact Assessment Regulations, 2014, in order to obtain environmental authorisation, as required in terms of the Act.*”

The proposed PV plant will be constructed within a “(GNR113 of 16 February 2018) (Zone 5 – Kimberley) that are of strategic importance for large scale solar photovoltaic (“PV”) energy development. Activity 1 (Listing Notice 2) of the EIA Regulations 2014 (as amended) is triggered.

Hence a Basic Assessment procedure is triggered and will be followed as contemplated in Regulation 19 and 20 of the Environmental Impact Assessment Regulations, 2014 (as amended), in order to obtain environmental authorisation.

Listed activity as described in GN 327, 325 and 324.	Description of project activity
<b>GN 327 Listing Notice 1</b>	
<b>GN 327 Listing Notice 1 Activity 11 (ii)</b> "The development of facilities or infrastructure for the transmission and distribution of electricity—	The proposed PV plant at Ekapa Minerals will be transmitting and distributing more than 33 but less



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<p>(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or  (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more; excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is —  (a) temporarily required to allow for maintenance of existing infrastructure;  (b) 2 kilometres or shorter in length;  (c) within an existing transmission line servitude; and  (d) will be removed within 18 months of the commencement of development. "</p>	<p>than 275 kilovolts to the Combined Treatment Plant and office buildings.</p>
<p><b>GN 327 Listing Notice 1 Activity 24</b>  "The development of a road—  (i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or  (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;  but excluding a road—  (a) which is identified and included in activity 27 in Listing Notice 2 of 2014;  (b) where the entire road falls within an urban area; or  (c) which is 1 kilometre or shorter."</p>	<p>Transformers will be installed at the proposed substations to step up the voltage to 66 kV, which in turn will be transmitted to the Jack Matthews substation ("JMS") via overhead lines. The overhead lines will be approximately 1.81 km, that will be constructed within the existing service corridor.</p>
<p><b>GN 327 Listing Notice 1 Activity 56</b>  "The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre—  (i) where the existing reserve is wider than 13,5 metres; or  (ii) where no reserve exists, where the existing road is wider than 8 metres excluding where widening or lengthening occur inside urban areas."</p>	<p>A perimeter road 8 m wide and 9 km long will be developed around the PV plan, internal roads of more or less 6 km will also be constructed.</p>
<p><b>GN 325 Listing Notice 2</b></p>	
<p><b>GN 325 Listing Notice 2 Activity 1</b>  The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs -  (a) within an urban area; or  (b) on existing infrastructure.</p>	<p>The proposed PV plant at Ekapa will be generating 100 MW.</p>
<p><b>GN 325 Listing Notice 2 Activity 15</b></p>	<p>The clearance of approximately 240 ha is required for the proposed PV plant development at Ekapa Minerals.</p>

<p>"The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for—</p> <p>(i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan"</p>	
--	--

**2. FEASIBLE AND REASONABLE ALTERNATIVES**

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

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

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. 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.

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, 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 (SA)**

**Refer to Annexure 1 Under Appendix A for the coordinates for the linear activities greater than 500 m in length.**

<b>Alternative 1 (preferred alternative)</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>SA1 - The preferred site for the proposed PV plant is located North of Ekapa Minerals. The preferred area comprises of an open and typically rather sparse semi-arid woodland (most or all of it likely regenerating from having been previously cleared for agriculture or surface mining) with a grass, shrub and weedy ground cover, with scattered trees, mostly invaders.</p>	28°43'59.45"S	24°48'18.61"E

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<p>The preferred area has been chosen based on the fact:</p> <ul style="list-style-type: none"> <li>• That the area has been historically disturbed</li> <li>• It is a big enough area to generate 100 MW</li> <li>• Easily accessible</li> <li>• It is part of the existing mining right area</li> <li>• Close to tie in with the existing infrastructure needed for the distribution of the electricity</li> </ul> <p>Refer to alternative layout plan under Appendix A</p>		
<b>Alternative 2</b>		
<b>Description</b>	<b>Lat (DDMMSS)</b>	<b>Long (DDMMSS)</b>
SA 2 -The second site alternative was dismissed as the only available space would have been located within an undisturbed area in the nature reserve /game farm Rooifontein situated next to Ekapa Mine.	28°44'46.44"S	24°49'42.56"E

In the case of linear activities:

1. Transmission Lines from the new proposed Substation to the existing Jack Mathews substation.

**Alternative: Transmission line**

**Latitude (S):**

**Longitude (E):**

Alternative S1 (preferred)

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

28°44'10.69"S	24°48'29.58"E
28°44'22.96"S	24°49'1.15"E
28°44'38.61"S	24°49'7.51"E
28°44'45.11"S	24°48'56.81"E

Alternative S2 (if any)

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

N/A	N/A
-----	-----

2. Transmission lines from the PV plant to the new proposed substation.

**Alternative: Transmission line**

**Latitude (S):**

**Longitude (E):**

Alternative S1 (preferred)

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

28°44'10.69"S	24°48'29.58"E
28°44'22.96"S	24°49'1.15"E
28°44'38.61"S	24°49'7.51"E
28°44'45.11"S	24°48'56.81"E

Alternative S2 (if any)

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

N/A	N/A
-----	-----

3. Access Road: Access road leading from the existing gravel road within Ekapa Minerals mining right will be upgraded and widened to 8 m.

**Alternative: Access Road**

Alternative S1 (preferred)

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

**Latitude (S):**

**Longitude (E):**

28°44'10.69"S	24°48'29.58"E
28°44'9.69"S	24°48'41.88"E
28°44'10.06"S	24°48'29.49"E

Alternative S2 (if any)

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

N/A	N/A
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4. Road accessing the PV plant: Road from the access road leading to the proposed SKIDs for the first phase.

**Alternative: Access Road**

Alternative S1 (preferred)

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

**Latitude (S):**

**Longitude (E):**

28°44'10.12"S	24°48'29.42"E
28°44'17.86"S	24°48'22.62"E
28°44'20.08"S	24°48'19.74"E
28°44'8.53"S	24°47'40.25"E
28°43'56.99"S	24°47'38.67"E

Alternative S2 (if any)

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

N/A	N/A
-----	-----

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

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.1

Refer to Annexure 1 under appendix 1 for the co-ordinates taken every 250 m.

**b) Lay-out alternatives**

<b>Alternative 1 (preferred alternative)</b>		
Description – Corners of the preferred site	Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
Coordinates of corner points of study area	28°44'7.74"S	24°47'38.28"E
	28°43'50.90"S	24°47'38.55"E
	28°43'43.99"S	24°47'39.77"E
	28°43'42.45"S	24°47'41.09"E
	28°43'37.28"S	24°47'51.24"E
	28°43'50.50"S	24°47'53.58"E

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	28°43'54.63"S	24°48'7.69"E
	28°43'41.98"S	24°48'25.26"E
	28°43'34.42"S	24°48'23.88"E
	28°43'26.76"S	24°49'3.66"E
	28°43'31.58"S	24°49'21.11"E
	28°43'57.77"S	24°48'46.63"E
	28°44'22.10"S	24°49'0.10"E
	28°44'22.62"S	24°48'57.44"E
	28°44'12.06"S	24°48'28.59"E
	28°44'19.51"S	24°48'18.33"E
<b>Alternative 2</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
Northern Corner	28°44'13.54"S	24°49'46.35"E
Eastern Corner	28°44'48.58"S	24°50'27.84"E
Southern Corner	28°45'26.35"S	24°49'30.30"E
Western Corner	28°44'36.47"S	24°49'11.51"E

**c) Technology alternatives**

<b>Alternative 1 (preferred alternative)</b>
No technology or renewable energy alternatives, such as biomass, hydro energy or wind energy were found appropriate to the location and assessed for this project.

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

<b>Alternative 1 (preferred alternative)</b>
N/A
<b>Alternative 2</b>
N/A

**e) No-go alternative**

The no-go option would be the status quo whereby Ekapa Minerals remains reliant on the national grid, without supplementing electricity supply from renewable resources.
--

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

**3. PHYSICAL SIZE OF THE ACTIVITY**

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

**Alternative:**

Alternative LA1 (preferred layout alternative)

**Size of the activity:**

240 ha
--------

Alternative LA2 (if any) 240 ha

or, for linear activities: **Transmission Lines from PV Plant to The Proposed New Substation**

**Alternative: Transmission Lines from PV Plant to The Proposed New Substation**

**Length of the activity:**

Alternative A1 (preferred activity alternative) 1460 m  
 Alternative A2 (if any) NA

Linear activity: **Transmission lines from the new proposed substation to the existing Jack Mathews substation**

**Alternative:**

**Size of the activity:**

Alternative TA1 (preferred layout alternative) 1810 m  
 Alternative TA2 (if any) NA

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

**Alternative:**

**Size of the site/servitude:**

Alternative SA1 (preferred site alternative) 240 ha  
 Alternative SA2 (if any) 240 ha

#### 4. SITE ACCESS

Does ready access to the site exist? **YES**      **NO**  
 If NO, what is the distance over which a new access road will be built N/A

Describe the type of access road planned:

There are two existing access roads leading to the proposed PV plant area.

The preferred access road will be from the existing gravel road located between the discard dump and the proposed PV plant area, where a small gravel road leads to the proposed PV plant area. The small gravel road will be upgraded and widened to 8 m. The type of access road will still be a gravel road, where dust suppression will continue to be done to ensure minimal dust generated during construction and operational phase of the PV plant.

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.

#### 5. LOCALITY MAP

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

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

Refer to Appendix A.

## 6. LAYOUT/ROUTE PLAN

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

The site or route plans must indicate the following:

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

Refer to Appendix A.

## 7. SENSITIVITY MAP

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

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

Refer to Appendix A.

## 8. SITE PHOTOGRAPHS

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

## 9. FACILITY ILLUSTRATION

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

Refer to the project layout plan as included under Appendix A.

## 10. ACTIVITY MOTIVATION

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

<b>1. Is the activity permitted in terms of the property's existing land use rights?</b>	<b>YES</b>	NO	Please explain
The proposed area selected for the Photovoltaics ("PV") plant is within the Ekapa Minerals Mining right area.			
<b>2. Will the activity be in line with the following?</b>			
<b>(a) Provincial Spatial Development Framework (PSDF)</b>	<b>YES</b>	NO	Please explain
<p>The proposed activity is in line with the Northern Cape PSDF (2012) Energy Policy, which states that <i>"renewable energy sources (e.g. wind, solar thermal, biomass, and domestic hydroelectricity generation) are to comprise 25% of the province's energy generation capacity by 2020"</i> and the PSDF Objectives which include <i>"to promote the development of renewable energy supply schemes. Large-scale renewable energy supply schemes are strategically important for increasing the diversity of domestic energy supplies and avoiding energy imports while minimizing detrimental environmental impacts"</i>.</p> <p>Recognising the suitability of the province to optimise the use of solar power, the Northern Cape Provincial Spatial Development Framework (PSDF) has set the following energy objectives for the province:</p> <ul style="list-style-type: none"> <li>• to promote the development of renewable energy supply schemes;</li> <li>• to reinforce the existing transmission network and to ensure a reliable electricity supply in the Northern Cape;</li> <li>• to develop and institute innovative new energy technologies to improve access to reliable, sustainable and affordable energy services with the objective to realise sustainable economic growth and development; and</li> <li>• to develop and institute energy supply schemes with the aim to contribute to the achievement of the targets set by IRP 2010 – 2030.</li> </ul>			



<b>(b) Urban edge / Edge of Built environment for the area</b>	YES	NO	Please explain
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The new proposed PV plant development fall within the urban edge of the town Kimberley in the Northern Cape Province (See figure below). However, the proposed PV plant will be constructed on an old mining area at Ekapa Minerals (Pty) Ltd with mining right (NC 30/5/1/2/2/142 MR (A)). Therefore, the proposed PV plant will not compromise the urban growth or development.

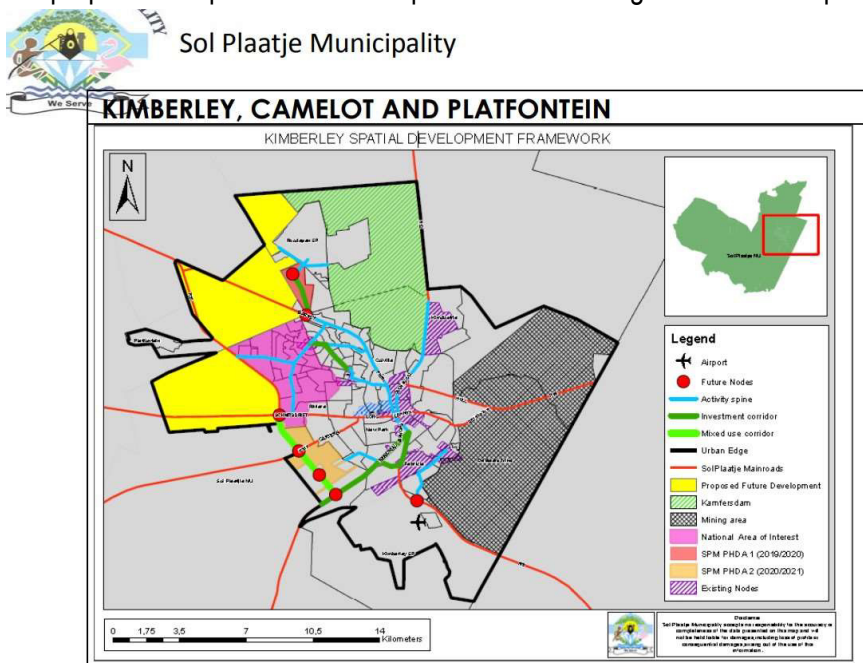


Figure 1: Urban edge of Kimberly, Northern Cape

<b>(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?).</b>	YES	NO	Please explain
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According to the Sol Plaatje Local Municipality Integrated Development Plan 2022-2027 has the following key elements focusing on:

- Category 6: Promotion of Renewable (“SDF”) Energy- Promotion of low carbon footprint and greenery and
- Category 11: Transitional Zones- Reverting mine dumps to alternative uses such as Agri\*energy etc.

Therefore, the proposed PV Plant is within the approval of the SDF.

<b>(d) Approved Structure Plan of the Municipality</b>	YES	NO	Please explain
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Refer to section c above.

<b>(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?)</b>	YES	NO	Please explain
--	-----	----	----------------

The PV Plant is situated within the Ekapa Minerals mining rights area (old, rehabilitated area) and will not compromise the existing environmental management priorities for the area.

(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
There are no other plans applicable.			
<b>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)?</b>	YES	NO	Please explain
<p>The project poses no threat to the land uses as the current land use is mining as the proposed PV plant is situated within Ekapa Minerals mining rights boundary (NC 30/5/1/2/2/142 MR (A)), the location of the project is also in a strategically important area known as renewable energy development zones (“REDZ’s”). As mentioned REDZ’s are gazetted geographical areas:</p> <ul style="list-style-type: none"> <li>• In which clusters (several projects) of wind and PV solar development will have the lowest negative impact on the environment while yielding the highest possible social and economic benefit to the country;</li> <li>• That are widely agreed to have strategic importance for wind and PV solar development;</li> <li>• Where the environmental and other authorisation processes have been aligned and streamlined based on scoping level pre-assessment and clear development requirements;</li> <li>• Where pro-active and socialised investment can be made to provide time efficient infrastructure access</li> </ul> <p>The study area falls within the REDZ 5 which is earmarked for large scale solar energy facilities, and by utilising the previously disturbed mining area for the proposed PV plant forms part of the priorities in the IDP.</p>			
<b>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.)</b>	YES	NO	Please explain
<p>Recent outages or load shedding by Eskom have highlighted the need for additional generation capacity in South Africa. One focus is the switch to increased generation from renewable energy sources.</p> <p>The Department of Energy's Renewable Energy Independent Power Producer Procurement (“REIPP”) program is designed to encourage more independent power producers (private sector) to meet the country's growing electricity needs. This can only be done by implementing more renewable energy projects.</p> <p>Congestion in South Africa's generation and distribution system has prioritized the demand for increased and stable electricity supply not only in North Cape, but in all other South African provinces. The National Development Plan (2030) indicated that technologies such as solar energy systems are important in reducing a country's overall ecological footprint from power generation and paving the way for sustainability. The proposed project therefore addresses national/strategic priorities.</p>			

<p><b>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</b></p>	YES	NO	Please explain
<p>Ekapa Minerals proposes to tie in with the existing Municipal sewage pipeline as well as the bulk water pipeline that is in close proximity to the proposed PV plant area. No other municipal services will be required or used, for the proposed PV plant.</p>			
<p><b>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.)</b></p>	YES	NO	Please explain
<p>The infrastructure required for the proposed PV plant development is to be provided and maintained by the Developer, and it will not conflict with municipal infrastructure planning or priorities. In addition, the proposed development is to be constructed on a disturbed mining area, with little or no existing or planned infrastructure.</p>			
<p><b>7. Is this project part of a national programme to address an issue of national concern or importance?</b></p>	YES	NO	Please explain
<p>The project aims at meeting the National Development Plan objectives. The National Development Plan states the following as a priority objective: <i>Procuring at least 20 000 MW of renewable electricity by 2030, importing electricity from the region, decommissioning 11 000 MW of ageing coal-fired power stations and stepping up investments in energy-efficiency</i> obtained from the <i>National Development Plan 2030 Our Future make it work Executive Summary</i>. Therefore, this PV Plant is part of a national programme to address an issue of national concern of importance to reduce the impact of coal-fired power stations.</p>			
<p><b>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.)</b></p>	YES	NO	Please explain
<p>The Northern Cape has been recognised as having the highest solar resource in the country and so is ideally suited to solar power generation.</p> <p>Therefore, Ekapa Minerals has selected the proposed area as it is an already disturbed area and situated close to their mining operation, that will be supplied by the electricity that will be generated.</p>			
<p><b>9. Is the development the best practicable environmental option for this land/site?</b></p>	YES	NO	Please explain
<p>The proposed PV plant falls within South Africa's eight REDZs i.e. REDZ 5 Kimberley, that was declared suitable for Large scale solar PV facilities. Therefore, this area has been identified as one of the most suitable areas in the country for renewable energy development, in terms of environmental, economic, and infrastructural factors, hence a very suitable land use option for the proposed site.</p>			

<b>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</b>	YES	NO	Please explain
<p>The proposed impacts for the construction of a PV plant are expected to be mostly of low to medium significance after acceptable mitigation measures are implemented.</p> <p>The proposed PV project will supply Ekapa Minerals with renewable energy decreasing the amount of electricity the mine will need from Eskom and decreasing the amount of diesel to fuel generators during loadshedding and load reduction stages. The proposed site for the PV plant is historically disturbed by means of mining activities. The benefits of the proposed PV plant outweigh the negative impacts of coal fuel energy on the environment.</p>			
<b>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</b>	YES	NO	Please explain
<p>There are already two other solar plant areas around Kimberley. The land use development will set a precedent for similar activities in the area, as the generation of renewable energy will be in line with the regulation regarding REDZ for large scale solar PV facilities.</p> <p>With the current stage of loadshedding the construction of renewable energy generation facilities in the REDZ's will increase.</p>			
<b>12. Will any person's rights be negatively affected by the proposed activity/ies?</b>	YES	NO	Please explain
<p>The construction of the PV plant is expected to have a general positive impact. However, the public participation process will confirm if there are any concerns.</p>			
<b>13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</b>	YES	NO	Please explain
<p>It is not foreseen that the proposed PV plant will compromise the urban edge as identified. The PV plant will be constructed on Ekapa Minerals mining right area that has not been identified as an area for residential development, according to Figure 1 referred to in question 1 above.</p>			
<b>14. Will the proposed activity/ies contribute to any of the 18 Strategic Integrated Projects (SIPs)?</b>	YES	NO	Please explain
<p>The proposed development is in line with the Energy Strategic Integrated Projects (SIPs) 8 and 9, by supporting green energy and electricity generation to support socio-economic development (Accelerate the construction of new electricity generation capacity in accordance with the IRP to meet the needs of the economy, referring to efficient mining and processing minerals at Ekapa Minerals).</p>			
<b>15. What will the benefits be to society in general and to the local communities?</b>	Please explain		
<p>The benefits that will arise from the proposed solar plant is the generation of electricity from a truly renewable energy source, a clean and silent process, reducing the mine's dependence on fossil fuel derived electricity.</p> <p>The benefits to society in general include Ekapa Minerals being less reliant on the Eskom grid for electricity.</p>			

<p><b>16. Any other need and desirability considerations related to the proposed activity?</b></p>	<p>Please explain</p>
<p>The proposed PV Plant will provide Ekapa Minerals with electricity without them relying on the Eskom grid. With the current loadshedding schedules not stabilising, Ekapa Minerals is investing a lot of money on diesel for generators and production is currently not as efficient as it could be.</p> <p>The proposed PV plant will save the mine money in the long term and enable them to have a more productive and processing line, that can't currently run at full capacity due to loadshedding and load reduction.</p> <p>The proposed PV plants also fits into the country's national goals to reduce greenhouse gas emissions and impacts on climate change, which on an international and global scale is aligned with the International Conventions and Agreements.</p> <p>The proposed PV plant will also have a positive impact on the communities in the area as the proposed PV plant will provide job opportunities and indirect economic spin offs. Among those employed for the project, skills will be developed through training thus bringing about empowerment for both permanent and temporary employees.</p>	
<p><b>17. How does the project fit into the National Development Plan for 2030?</b></p>	<p>Please explain</p>
<p>The National Development Plan for 2030 seeks to promote economic growth and development through the provision of quality energy services that are competitively priced, reliable, and efficient.</p> <p>The National Development Plan states the following as a priority objective: <i>Procuring at least 20 000 MW of renewable electricity by 2030, importing electricity from the region, decommissioning 11 000MW of ageing coal-fired power stations and stepping up investments in energy-efficiency.</i></p> <p>The proposed PV plant at Ekapa Minerals will add 100MW to meet the goal of 20 000MW of renewable energy target set out.</p>	
<p><b>18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.</b></p>	
<p>The general objectives of IEM, as set out in Section 23 of NEMA, has been addressed by:</p> <ul style="list-style-type: none"> <li>• Possible effects of the proposed PV plant project have been recognized, predicted, assessed and mitigation strategies have been proposed. There have been suggestions for potential ways to reduce and mitigate the potential negative effects of this development on the environment, socio-economic conditions, and cultural heritage. EMPr has been attached in Appendix D.</li> <li>• Knowledge gaps have been identified and described where appropriate;</li> <li>• Mitigation measures have been suggested where possible, as well as the monitoring of potential environmental effects;</li> <li>• Through dialogue and the public participation process, there has been adequate contact between the government departments, the community, and the EAP.</li> </ul>	

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

The EIA Process identified all the possible impacts and the principles of Environmental management as set out in Section 2 of NEMA:

- Environmental management should place people and their needs at the forefront;
- Ensuring sustainable development that is socially, economically, and environmentally sustainable; and
- Sustainable development requires the consideration of all relevant factors.

These considerations of sustainable development have been made through submitting an BA application to the Department of Agriculture, Environmental Affairs, Rural Development and Land Reform for environmental authorisation.

The BA process was undertaken by identifying and assessing the impacts of the Proposed PV plant by making use of specialist impact assessments:

- Wetland impact assessment.
- Biodiversity impacts assessment including fauna, flora, and avifauna.
- 1st Phase Heritage.
- Desktop Palaeontology impact assessment.
- Glint and glare impacts assessment.
- Visual impact assessment and
- Sosial impact assessment.

The Air Traffic & Navigation Services (“ATNS”) has been appointed to do the Communication, Navigation and Surveillance Impact and Obstacle Evaluation Assessment for the proposed PV plant as requested, due to the scale of the project. This report is busy being compiled and is seen as additional information as the glint and glare study for the proposed PV plant has been compiled and included in the BA.

The BA process includes mitigation measures within the Environmental Management Programme (“EMPr”), to minimise these impacts to be more economically, socially, and environmentally sustainable.

Further hereto, a full public participation process in accordance with Regulations 41 – 44 of the EIA Regulations, 2014 (as amended) will be undertaken as part of this assessment by notifying all the Interested and affected parties (“I&APs”) means of letters, advertisement, and site notices. I&APs will be given the opportunity to register and comment on the Draft BAR.

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

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

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority
National Environmental Management Act, 1998 (Act No. 107 of 1998)	2014 NEMA Regulations applicable, construction of the proposed PV plant development listed in terms of the Regulations. NEMA principles will apply as well as Section 28(1), Duty of Care.	National Department of Environmental Affairs and Tourism
Energy Development Activities in terms of Section 24(2)a of NEMA, 1998 when occurring in Geographical Areas of Strategic Importance (GG No. 114, 16 February 2018)	The proposed PV plant will be constructed within the Geographical Areas of Strategic Importance known as REDZ's 6 – Kimberley.	
The Constitution of the Republic of South Africa ("CSA") (1996).	The CSA was considered and applied throughout the Basic Assessment Report ("BAR"), as the Constitution states that everyone has the right; (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that; (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.	South African Government
The Promotion of Access to Information Act, 2000 (Act No. 2 of 2000).	Without access to information, a person may be unable to determine whether or not his or her right to just administrative action (or to an environment not harmful to human health or wellbeing or, for that matter, any other Constitutional right) has been infringed. The purpose of the Promotion of Access to Information Act ("PAIA") is to give effect to the Constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights, and to provide for matters connected therewith. In addition to providing access to information, cognisance should be taken that PAIA also makes provision for the refusal of access to information that is deemed to be of a sensitive, confidential or classified nature. This is captured under Chapter 4 of part 2 and 3 of PAIA.	The National Department of Justice and Constitutional Development
The Environmental Impact Assessment Regulations	The BAR was compiled in terms of the requirements of Appendix 2 of the	Northern Cape Department of

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority
(GN R982 dated 2014, as amended).	Environmental Impact Assessment (“EIA”) Regulations (GN R.982 dated 2014, as amended).	Environment and Nature Conservation (DENC)
The Environmental Impact Assessment Regulation. Listing Notice 1. (GN 327 dated 2014, as amended).	Activity 1, 11, 24, 27 and 56 of Listing Notice 1 are applied for as part of the proposed PV Plant project.	Northern Cape Department of Environment and Nature Conservation (DENC)
The Environmental Impact Assessment Regulation. Listing Notice 2. (GN 325 dated 2014, as amended).	Activity 1, 9 and 15 of Listing Notice 2 are applied for as part of the proposed PV Plant project.	Northern Cape Department of Environment and Nature Conservation (DENC)
Guideline on Need and Desirability in terms of the Environmental Impact Assessment (“EIA”) Regulations, 2010. Government Notice 891 of 2014	The need and desirability were assessed for the proposed PV plant and are discussed in terms of the required format contained in the Guideline on Need and Desirability (GN 891 of 2014).	The Department of Forestry, Fisheries and Environment (DFFE)
The National Water Act (Act No. 36 of 1998, as amended).	The proposed PV plant does not trigger any activities related to the National Water Act.	Department of Water and Sanitation (DWS)
The National Environmental Management: Biodiversity (Act 10 of 2004, as amended).	Biodiversity disturbance related to the proposed PV plant were considered when the sites were selected.	The Department of Forestry, Fisheries and Environment (DFFE)
Alien and Invasive Species Regulations (GN R598 dated 2014).	The occurrence of alien and invasive species was assessed in accordance with these regulations.	The Department of Forestry, Fisheries and Environment (DFFE)
National Environmental Management: Waste Act, 008 (Act No. 59 of 2008) [as amended] • Section 16 General duty in respect of waste management; • Section 17; Reduction, re-use, recycling and recovery of waste; • Section 21 General requirements for storage of hazardous and general waste.	The development activities will produce general waste which need to be managed and disposed of according to best practices such as recycling, safe storage, etc.	The Department of Forestry, Fisheries and Environment (DFFE)



BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority
<p>• Section 25; All waste (general and hazardous) generated during construction may only be disposed of at appropriately licenced waste disposal sites.</p>		
<p>SABS Code of Practice 0103 of 2008: The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication. SABS Code of Practice 0328 of 2008: Environmental Noise Impact Assessments.</p>	<p>The SABS Code of Practice 0103 will be considered when the mitigation measures for the project are identified</p>	
<p>National Heritage Resources Act (Act No. 25 of 1999, as amended).</p>	<p>A heritage impact assessment was compiled for the proposed PV plant site. A small area with historical middens were found on site. This site will be fenced with a boundary of 10 m and mitigation measures for the projection thereof are identified.</p>	<p>South African Heritage Resources Agency (SAHRA)</p>
<p>Electricity Regulation Act No. 4 of 2006 as amended by the Electricity Regulation Amendment Act No. 28 of 2007</p>	<p>These regulations will be followed as it provides guidelines for generating and distributing electricity for private use.</p>	
<p>Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) with Construction Regulations, 2014 No 489 of 2 June 2017</p>	<p>The contractors must comply with the Act and if construction work other than contemplated in regulation 3(1), will be communicated to the provincial director.</p>	<p>Department of Labour</p>
<p>Environmental Impact Assessment Guidelines for Renewable Energy Projects, GNR 989 of 2015 in terms of NEMA (Act No. 107 of 1998)</p>	<p>The guidelines stipulated in the Environmental Impact Assessment Guidelines for Renewable Energy Projects, will be used during this project.</p>	<p>The Department of Forestry, Fisheries and Environment (DFFE)</p>

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

**a) Solid waste management**

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

YES	NO
-----	----

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

Undetermined
--------------

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

Construction waste will be collected in skips and disposed of by the appointed registered contractors. Other recycle solid waste will be sorted and collected by a local recycle company. No burning or burying of solid waste will be permitted on site.

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

The construction solid waste will be disposed of by an appointed registered contractor.

Will the activity produce solid waste during its operational phase?

YES	NO
-----	----

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

Undetermined
--------------

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

The solid waste relating to the operational stage of the PV plants are the waste generated when converters, batteries or the PV panels needs to be replaced. This waste will be disposed of or recycled as needed to a registered facility.

The non-recycle domestic waste that will be generated, will be disposed of at the nearest landfill site by the Ekapa it self, to ensure waste is collected and disposed of at a registered landfill site.

The domestic recycle waste will be recycled by means of using colour coded recycle bins to be collected by a local appointed recycle company.

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

N/A

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

As mentioned Ekapa Minerals will appoint a registered contractor to dispose of all the construction solid waste accordingly. Recyclable solid waste will be recycled, and other solid waste will be disposed of at a registered landfill site by Ekapa Minerals.

*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? 

YES	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.

The only hazardous waste that will be produced at the PV plant site will be the use of oil and lubricants at the workshop, and the lithium batteries when it reaches the end of its lifespan (15 to 20 years) These two activities don't trigger a Waste Management Licence under NEM:WA.

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

YES	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?

YES	NO
-----	----

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

N/A

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	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?

YES	NO
-----	----

Ablution facilities will be constructed with the office building. The sewage effluent pipeline will tie in with the existing municipal pipeline, in close proximity to the property. If YES, provide the particulars of the facility:

<b>Facility name:</b>	Greenpoint sewage works		
<b>Contact person:</b>	Sol Plaatje Municipality		
<b>Postal address:</b>	Private Bag X5030, Kimberley		
<b>Postal code:</b>	8300		
<b>Telephone:</b>	053 830 6911/6100	<b>Cell:</b>	N/A
<b>E-mail:</b>	CRoom@solplaatje.org.za	<b>Fax:</b>	N/A

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

Limited water will be used for the proposed PV plant, therefore there is currently no reuse or recycling of water measurements in place.
--

**c) Emissions into the atmosphere**

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

YES	NO
-----	----

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

YES	NO
-----	----

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

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

The emissions that will be released into the atmosphere will only be during the construction of the PV plant and relevant infrastructure that will include, emissions from vehicles, generators, and machines. However, it is not seen as being significant as only a small number of these vehicles will be used.

**d) Waste permit**

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

YES	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?

YES	NO
-----	----

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

YES	NO
-----	----

Describe the noise in terms of type and level:

Noise will be generated from construction vehicles; however, this will be confined to the construction phase and during business hours only.

**13. WATER USE**

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

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

Only the amount of water authorised under section 21 (a) in the existing water use licence will be used. Ekapa Minerals will be using the remaining amount of water authorised for abstraction at Beers Pit shaft, du Toits Pan (Green Point Effluent) and Kamfers Dam.

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

YES

NO

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

Ekapa Minerals already has a Water Use License (“WUL”) for abstracting water and dust suppression. The existing WUL have sufficient abstraction amounts for the cleaning and dust suppression for the proposed PV plant. Therefore, there is no need to apply for additional water uses under Section 21 (a) of the NWA.

#### 14. ENERGY EFFICIENCY

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

The proposed PV plant will be constructed within the REDZ’s area identified for renewable energy projects.

The location for the proposed PV plant was chosen due to the flat surface and no high buildings around that can lead to shady areas. The PV panels will be mounted in such a way that it receives the optimal amount of sun during the day and the PV sting will be configured in such a manner as to minimize DC cable runs where possible.

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

This project entails the construction of a PV plant, which will be used for generating energy for Ekapa Minerals. No alternative energy sources have been considered for this project.

## Section B: SITE/AREA/PROPERTY DESCRIPTION

### Important notes:

- 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.

1

- Paragraphs 1 - 6 below must be completed for each alternative.

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

YES

NO

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:**

<b>Province</b>	Northern Cape
<b>District Municipality</b>	Frances Baard District Municipality
<b>Local Municipality</b>	Sol Plaatje Local Municipality
<b>Ward Number(s)</b>	-
<b>Farm name and number</b>	Farm Dorsfontein 77
<b>Portion number</b>	Portion 0
<b>SG Code</b>	SG 21 Digit Code: C03700000000007700000

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:**

The proposed area for the PV plant has been zoned as a mining area as per the local municipality IDP.

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

### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

#### Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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#### Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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#### Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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### 2. 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 type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	X	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	X	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

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

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

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water) (40% of the proposed area has high clay fraction)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%) (40% of the proposed area has high clay fraction)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion (40% of the proposed area is sensitive to erosion)	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the

completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

#### 4. GROUND COVER

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).

<del>Natural veld — good condition<sup>E</sup></del>	<del>Natural veld with scattered aliens<sup>E</sup></del>	<b>Natural veld with heavy alien infestation<sup>E</sup></b>	<b>Veld dominated by alien species<sup>E</sup></b>	Gardens
<del>Sport field</del>	<del>Cultivated land</del>	<del>Paved surface</del>	<del>Building or other structure</del>	<b>Bare soil (partially)</b>
<b>Historical disturbed area</b>				

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.

Dimela Eco Consulting was appointed to compile a Terrestrial Vegetation and Sensitive Plant Species Habitat Assessment. Report attached in Appendix C.

#### 5. SURFACE WATER

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

Perennial River	YES	<b>NO</b>	UNSURE
Non-Perennial River	YES	<b>NO</b>	UNSURE
Permanent Wetland	YES	<b>NO</b>	UNSURE
Seasonal Wetland	YES	<b>NO</b>	UNSURE
Artificial Wetland	YES	<b>NO</b>	UNSURE
Estuarine / Lagoonal wetland	YES	<b>NO</b>	UNSURE



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

Limosella Consulting (Pty) Ltd was appointed to do an aquatic compliance statement for the proposed PV plant. According to the statement reading *“Based on available desktop techniques and in-field recordings, no natural wetlands or watercourses were recorded on the study site or within 500 m.”* Therefore, it can be said with certainty that there is no wetland or watercourse within the proposed area.

However, the compliance statement also indicated that *“A water pipeline running from Kamfers Dam was broken by artisanal miners in approximately 2017. This fresh water flowed for a long enough period to create a wetland like area with dense reeds and some sedges. The pipe was fixed recently as confirmed during the site visit. This area is thus likely to gradually dry out and will likely return to terrestrial vegetation in time. This area is considered to have a low sensitivity”*

## 6. LAND USE CHARACTER OF SURROUNDING AREA

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

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

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

The Visual Impact assessment done by Jon Marshall with the title *Ekapa (Pty) Ltd. The Proposed 100 MW PV Plant and Associated Facilities at the Ekapa Mine in Kimberley Northern Cape Province. Landscape & Visual Impact Assessment Report* dated May 2023.

This report indicated that the railway line runs directly north of the proposed development. Outlook views from the passing train would be different from its current state. However, this route is likely used to transport coal and other mining material. Changes in views are therefore not likely to be of a concern for train drivers and workers.

Therefore, it can be concluded that the construction of the proposed PV plant will not have an effect on the existing railway line. No overhead lines will be constructed that will have an impact on the railway lines or infrastructure.

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:

No boxes marked with an "AN" have been marked. Therefore, Not Applicable.

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:

No boxes marked with an "H" have been marked. Therefore, Not Applicable.

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

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

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

## 7. CULTURAL/HISTORICAL FEATURES

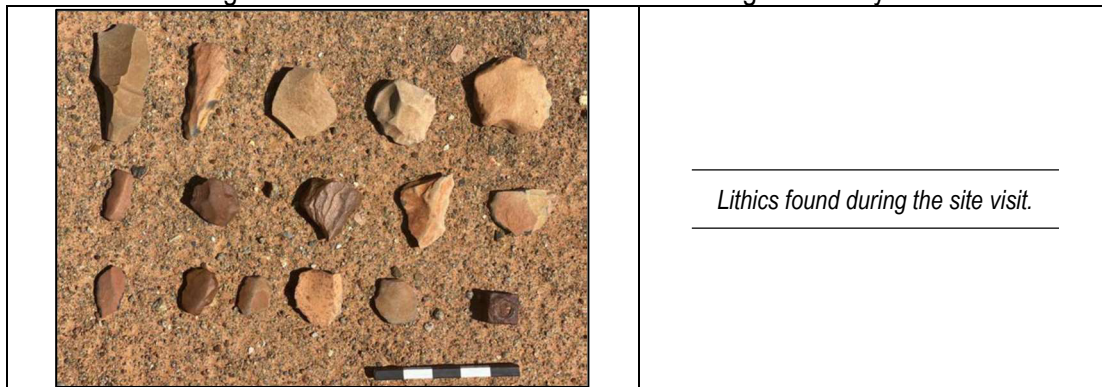
Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES	NO
Uncertain	

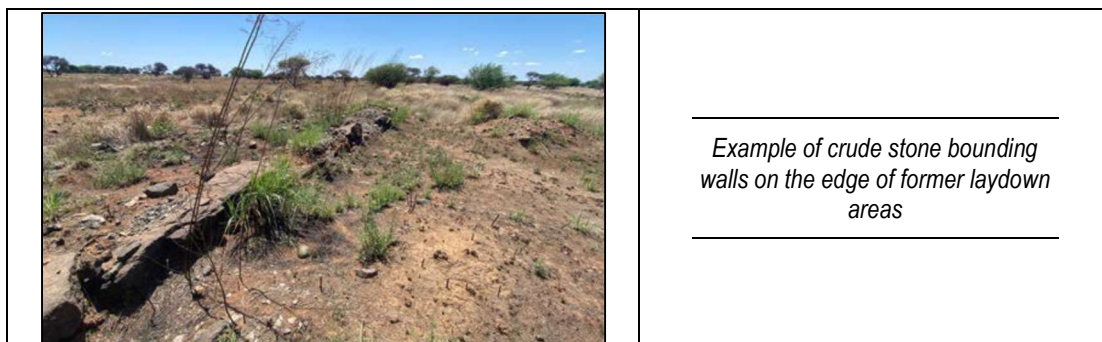
A review of the *Phase 1 Heritage Impact Assessment for the proposed Photo Voltic (PV) plant installation at Boshoff Floors for Ekapa Minerals (Pty) Ltd, Northern Cape* report compiled by Siegwalt U Kusel in February 2023 indicated that:

*Due to the continued and repeated disturbance of this landscape since the inception of mining in the 1870s to the present, very limited heritage resources are present on the site. Several domestic waste middens were recorded.*





Isolated lithics are present as background noise across much of the study area. Densities are very low at less than 1/10m<sup>2</sup> or 0.1/m<sup>2</sup>. The lithics noted in this locality are likely associated with the former surface prior to disturbance by mining activities. Several lithics elements are present in discard piles associated with informal mining activities and formal tools were noted during the survey.



During the earlier industrial processing of diamondiferous material, part of the fines material was placed in large laydown ponds or pans to dry before being collected and reprocessed. Although very little remains of the former mining area, the bounding walls of several of the former laydown ponds remain as crude stone walls.



Several historical domestic middens /waste dumps are present in the western part of the site. These sites comprised of mixed domestic material including ash, glass, ceramics, metal, and organic material such as bone. All of the recorded middens have been disturbed and opened. In some areas relatively small (wheelbarrow-size) dumps occur on the surface. The middens were likely opened by kids collecting marbles from the soda water bottles, and also by amateur bottle collectors in the past. More recently the dumps have been extensively disturbed by the informal mining sector prospecting for diamonds.

	<hr/> <p><i>Champagne top with the Royal Warrant of the Queen. Several champagne makers carried a royal warrant at the time</i></p> <hr/>	
	<hr/> <p><i>Example of several clay pipe fragments from the midden</i></p> <hr/>	
	<hr/> <p><i>Middens heap found</i></p> <hr/>	
	<hr/> <p><i>Example of an Eno's Fruit Salt bottle.</i></p> <hr/>	



Several bottles and ceramics noted on site. The presence of the numerous Shillings bottles dates the middens to the period after 1876 when the Shillings factory opened in Kimberley

Due to the continued and repeated disturbance of this landscape since the inception of mining in the 1870s to the present, very limited heritage resources are present on the site. Although limited heritage resources were found on the proposed area, the areas comprising of these middens will be fenced and preserved, no further disturbance will occur around the areas where these middens were observed.

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:

N/A

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

YES	NO
-----	----

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

YES	NO
-----	----

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

## 8. SOCIO-ECONOMIC CHARACTER

### a) Local Municipality

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

Level of unemployment:

According to the Sol Plaatje Municipality: Integrated Development Plan (2017 – 2022) “the current official unemployment rate of the economically active people in the municipality 31.9% and 41.7%. of the economically active youth (15-34) in the area is unemployed”.

Economic profile of local municipality:

According to the City of Kimberley Sol Plaatje Local Municipality – Investment Promotion Profile 2019, Kimberley is the administrative centre of the Francis Baard District Municipality (“FBDM”) and the seat of the Northern Cape Provincial Administration.

The economic activities consist of retailers, farming, manufacturing industries supporting farming as well as a limited degree of mining. It accommodates approximately 247 000 people and is also a major contributor to the economy of the province and accounted for 28.9% of total provincial Gross Domestic Product (GDP) in 2009. It contributed 82.1% to the GDP of FBDM. It is the largest LM in the Frances Baard District Municipality (Global Insight: 2011).

The economic state of Sol Plaatje Local Municipality is put in perspective by comparing it on a spatial level with its neighbouring locals, Frances Baard District Municipality, Northern Cape Province and South Africa.

By way of an example, what follows underneath is a snapshot of the economic contribution of Kimberley and surrounds (in 2016); this in the context of both the Provincial and National economy.

Table 1: Gross Value added by the broad economic sector – Sol Plaatje Local Municipality 2016

	Sol Plaatje	Frances Baard	Northern Cape	National Total	Sol Plaatje as % of district municipality	Sol Plaatje as % of province	Sol Plaatje as % of national
Agriculture	0.3	0.8	6.6	94.4	34.8%	4.3%	0.30%
Mining	1.3	1.8	16.2	304.4	73.2%	8.2%	0.44%
Manufacturing	0.6	1.1	2.9	517.4	55.3%	21.9%	0.12%
Electricity	0.7	1.2	3.6	144.1	56.0%	18.2%	0.46%
Construction	0.6	0.8	2.4	154.3	77.6%	24.4%	0.38%
Trade	3.0	3.8	10.4	589.7	78.6%	28.6%	0.51%
Transport	3.8	4.5	10.7	389.2	85.3%	35.5%	0.98%
Finance	4.0	4.7	11.5	781.7	84.5%	34.4%	0.51%
Community services	5.7	6.9	18.1	894.2	82.6%	31.5%	0.64%
<b>Total Industries</b>	<b>19.9</b>	<b>25.5</b>	<b>82.4</b>	<b>3,869.5</b>	<b>78.1%</b>	<b>24.2%</b>	<b>0.52%</b>

Source: IHS Markit Regional eXplorer version 1070

Level of education:

According to the Sol Plaatje Municipality: Integrated Development Plan (2017 – 2022), the population of 20 years and older, 30% have matric and higher education, while 11% indicate no schooling, 7% have completed primary, 36% have some secondary schooling, and the remaining 16% have some primary schooling education, see Figure 2.

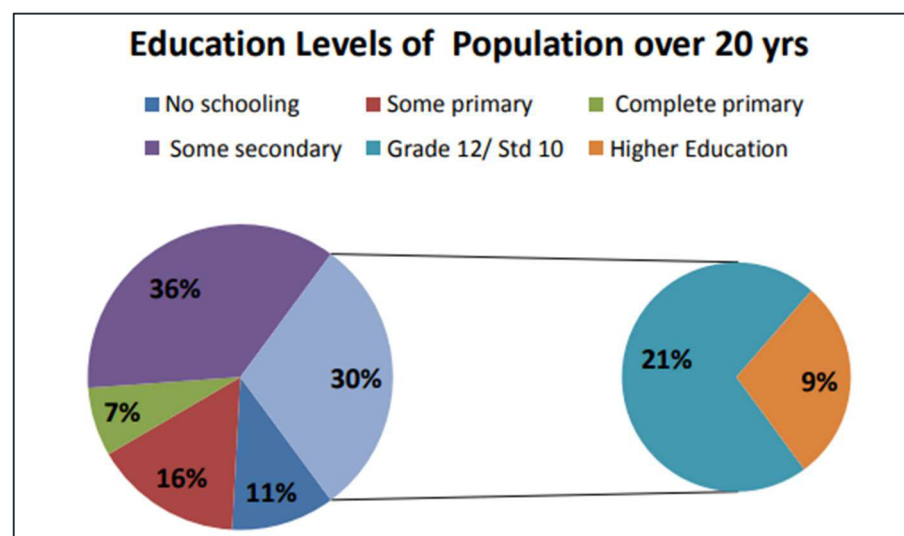


Figure 2: Level of education for persons over 20 years old in the Sol Plaatje Municipality

From this it is evident that the level of education in the Sol Plaatje Municipality poses problems for the future trajectory as skills need to be built to suit the economic path and in the short-term skills will have to be brought in from skilled areas.

**b) Socio-economic value of the activity**

What is the expected capital value of the activity on completion?	+- R 400M	
What is the expected yearly income that will be generated by or as a result of the activity?	Between R 150M and R 200M	
Will the activity contribute to service infrastructure?	YES	NO
Is the activity a public amenity?	YES	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Between 50 and 100 for the construction period (6 to 8 Months).	
What is the expected value of the employment opportunities during the development and construction phase?	Between R 7M and R 15M	
What percentage of this will accrue to previously disadvantaged individuals?	+- 75%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	Between 5 and 10	
What is the expected current value of the employment opportunities during the first 10 years?	Between R 10M and R 20M	
What percentage of this will accrue to previously disadvantaged individuals?	+- 75%	

**9. BIODIVERSITY**

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgjis.sanbi.org> or [BGIShelp@sanbi.org](mailto: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.

For the Proposed PV plant Project the following reports regarding Biodiversity was compiled:

- *Terrestria Vegetation Compliance report -Proposed PV Plant at Ekapa Minerals (Pty) Ltd, Boshoff Floors in Kimberley, Northern Cape Province Terrestrial Vegetation Compliance Report and Plant Specie Compliance Report* Date: October 2022 and compiled by Dimela Eco Consulting
- *Ekapa Minerals Boshoff Floors Solar PV Project: Northern Cape Province Terrestrial Fauna Compliance Statement* Dated October 2022 and compiled by Barbara Kasl
- *Boshoff Floors Proposed Pv Solar Farm, Ekapa Mine, Kimberely Avifaunal Specialist Report* Date: February 2023 and compiled by David G. Allan

- 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 entire site falls within "Other Natural Areas". Such areas have not been identified as a priority for conservation in the current systematic biodiversity plan but retain most of their natural character and perform a range of biodiversity and ecological infrastructural functions.

- 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)	2%	The vegetation for the area retains a functional role as open spaces, habitat, and groundwater recharge zones.
Degraded (includes areas heavily invaded by alien plants)	88%	The site verification found that the entire site comprised vegetation that was modified from the reference state of Kimberley Thornveld. The vegetation was degraded or secondary in nature, dominated by the invasive tree <i>Prosopis glandulosa</i> (honey mesquite), and of little conservation importance.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	10%	The proposed area for the PV plant has historically been modified with presence of quarries. Due to fact that this area was a mining area in the past, the illegal and artisanal miners commenced activities in the area and further contributed to the transformation of this area.

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

Terrestrial Ecosystems		Aquatic Ecosystems		
Ecosystem threat status as per the National	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats,	Estuary	Coastline
	Endangered			



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Terrestrial Ecosystems		Aquatic Ecosystems								
<b>Environmental Management: Biodiversity Act (Act No. 10 of 2004)</b>	Vulnerable	seeps pans, and artificial wetlands)								
	Least Threatened									

- 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 type

The site verification found that the entire site comprised vegetation that was modified from the reference state of Kimberley Thornveld. The vegetation was degraded or secondary in nature, dominated by the invasive tree *Prosopis glandulosa* (honey mesquite), and of little conservation importance.

The vegetation on the site comprised a dominant grass layer, dotted by trees. The invasive tree *Prosopis glandulosa* (honey mesquite) dominated the tree layer and was denser around roads. The indigenous tree *Vachellia tortilis* (umbrella thorn) was also common. The only other indigenous tree and tall shrub noted was *Vachellia karroo* (sweet thorn) and *Lycium hirsutum* (river honey-thorn).

The grass layer was dominated by pioneer species such as grasses *Eragrostis rigidior*, *Urochloa mosambicensis*, *Fingerhuthia africana* and *Eragrostis echinochloidea*. Other grasses recorded included *Cynodon dactylon*, *Themeda triandra*, *Heteropogon contortus* (spear grass) and *Eragrostis lehmanniana*.

Several small forbs were recorded: *Felicia muricata*, *Gazania krebsiana*, *Arctotis venusta*, *Heliotropium nelsonii* (string of stars), *Jamesbrittenia aurantiaca* (Cape saffron), *Hermannia comosa* (doll's rose), and *Tripteris aghillana* var *aghillana*. The small shrub *Pentzia globosa* was common.

Most shrubs recorded were invasive species such as the Category 1b invasives *Flaveria bidentis* (smeltersbush), *Opuntia humifisa* (large flowered prickly pear), *Argemone ochroleua* (Mexican poppy) *Salsola kalli* (Russian tumbleweed), and *Malvastrum coromandelianum* (prickly malvastrum). Other common weeds, particularly in compacted areas, included *Erigeron (Conyza) albida* (tall fleabane), *Chenopodium album* (white goosefoot), and *Solanum panduriforme* (poison apple).

Secondary vegetation has undergone modification and a fundamental shift from its original state (in this case Kimberley Thornveld). Once disturbances cease (e.g., surface mining and soil disturbances), natural vegetation recolonise the disturbed area. The initial vegetation comprises a pioneer state in which hardy and usually weedy species establish in the disturbed soils. In favourable conditions, and in the absence of alien invasive plant species, the pioneer state progress to a secondary state and ultimately a primary (original) state (succession).

The soil on the site was severely degraded and compacted by historic activities, while the some of the topsoil is being remined. This continuous disturbance and the lack of soil rehabilitation inhibits succession and the vegetation observed remained in a pioneer to secondary state. The vegetation provides some ecological function (e.g., soil stabilisation), however, species composition and vegetation structure have been compromised. In absence of rehabilitation, the vegetation on site will remain in a secondary site and in a poor ecological condition.

#### Aquatic ecosystem

There are no aquatic ecosystems present on the proposed site for the PV plant.

## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT AND NOTICE

<b>Publication name</b>	DFA Newspaper	
<b>Date published</b>	12 May 2023	
<b>Site notice position</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Rooifontein main entrance gate</b>	28°45'33.59"S	24°49'35.89"E
<b>Boshoff floors entrance gate</b>	28°44'22.37"S	24°49'2.17"E
<b>Ekapa Minerals Mine access gate (1)</b>	28°45'44.92"S	24°47'31.86"E
<b>Ekapa Minerals Mine access gate (2)</b>	28°45'27.06"S	24°47'39.02"E
<b>Date placed</b>	12 May 2023	

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

### 2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

<b>Title, Name and Surname</b>	<b>Affiliation/ key stakeholder status</b>	<b>Contact details (tel number or e-mail address)</b>
Freda Keyser (owner)	Gumtree Lodge	gumtreelodge@telkomsa.net 053 832 8577
Stefan Muller	Kimberley Clay Target Club	info@tkctc.co.za 082 447 3559
Fanie Brunette	Dorstfontein Alpha Alfa	info@alphaalfa.co.za charl.vanniekerk@alphaalfa.co.za 082 921 8508
Julie Meier Katharine Marsden	Kimberley equestrian centre	equestrian@vodamail.co.za 072 761 8830 marsden.katharine@gmail.com 072 116-4159
Christo du Toit	Gun Club	
Joey van Niekerk	Sol Plaatje Local Municipality IDP	jvanniekerk@solplaatje.org.za 053 830 6724
Keith Williams	Environmental Health	kwilliams@solplaatje.org.za
Monique Philander (PA)	Sol Plaatje Ward 21	<a href="mailto:info@horseshoeinn.co.za">info@horseshoeinn.co.za</a> 053 831 2377
Kimberley Country club	Kimberley Country club	

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Bianca Smith	Eskom Blakenberg Vlei	vzylbi@eskom.co.za 082 413 0235
Melissa Groenewald	Kimberley Airport	Melissa.Groenewald@airports.co.za 0836666094
Themba G. Mlonyeni	Resident	greg.mlonyeni@gmail.com 27 813 483 909
Nimrod Shushu	Resident	nimrod2402@gmail.com
David Nunez	Resident	David Nunez 071 175 0862
Christopher Jones	Airports Company South Africa	Christopher.Jones@airports.co.za 0820428192
Mzwandile Raymond Mene	Resident	maxed2day@yahoo.com 0614556533
Ivan Steenkamp	Greenfields developer	Ivan Steenkamp 0828904759
David Selebogo	Greenside resident	selebogodavid@gmail.com 0762 888 460
Puleng Makhetha	Airports Company South Africa	Puleng.Makhetha@airports.co.za 0746 579 905
Moloki kolo	Resident	klerkma51@gmail.com 27 698 873 507

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

Summary of main issues raised by I&APs	Summary of response from EAP
Refer to appendix E for all the Public Participation process documentation, correspondence and I&AP's registration.	
Mr Themba Mlonyeni (Public meeting – 18 May 2023)  “My concerns are largely around two risk factors; they are: 1) a sudden rush, to the doorstep of the project, by hundreds of members of the surrounding communities. This group may include bona fide unemployed people, zama zama's who haven't found any diamonds lately and/or people who may just be looking for a quick opportunity to grab something of value from the plant and its surrounds. What is of immediate concern is that when people find out that a	The concerns were noted during the public meeting, and it was further explained that the Environmental Management Programme addresses the influx of traffic during the construction phase by implementing a traffic management plan during the construction phase, further Ekapa will also ensure strict security at the entrance of the property to manage an influx of jobseekers.

<p>Solar Plant is going to be built, everyone (incorrectly) thinks that there "will be thousands of jobs available". I see these categories of people who act as individuals and largely on the spur of the moment. I also see them as a risk that is fairly manageable; however, if no risk management plan for them is in place they may become a very serious problem in the long run. I can't help but think that a second squatter settlement (like the one to the north of the De Beers neighbourhood, along the Boshoff Road) closer to the solar plant may suddenly spring up; with a resultant spike in criminality and destruction of infrastructure.</p> <p>2) a concerted, but well-organised campaign, by groups of so-called business people who may want to force the Ekapa Group to hand them free business contracts linked to the construction of the Solar Plant. By contrast to the people mentioned in point "1" above, these groups are much more organised, sinister, and well-resourced. They may claim to be connected to certain politicians or may claim to be speaking on behalf of certain business sectors. Needless to say, these groups may be more difficult to manage and may likely start unnecessary fights which may lead to delays in the construction of the project. We have seen these Groups operate almost with impunity in areas like Cape Town, Gauteng and Durban"</p>	<p>The second concern were noted by the Ekapa team during the public meeting and will put in safety measures as far as possible to handle the groups that might starts fights and delay the project.</p> <p>Also refer to the public meeting minutes attached in Appendix E6</p>
<p>Puleng Makhetha (13 June 2023)</p> <p>a) It is stated in the BAR that the airport has 4 flight paths, however we would like to indicate that this is not the case. Although there are 2 runways, there are different flight paths for arrivals, departures and approach charts. As a result, we advise that ATNS and the SACAA be consulted on the matter- to ensure the accuracy of the information the development is based on. The relevant contact details are provided below.</p> <p>b) Glint and glare are discussed as having a potential impact on Kimberley Airport and as a result, we strongly suggest that comments and inputs be sought from ATNS and SACAA. They have the relevant expertise on assessing the possible impact of glint and glare on the airport, and the effectiveness of the mitigation measures outlined in the BAR.</p> <p>c) Lastly, we suggest that ATNS and SACAA be included as Interested and Affected parties, given the</p>	<p>Good day Puleng (13 June 2023)</p> <p>Thank you for your comments on the BA for the proposed PV plant at Ekapa. To address your concern regarding the flight paths, the glint and glare study refers to 4 <i>possible</i> flight paths calculating the worst-case scenario and all the possible risks, "The airport has two major runways consisting of four possible flight paths" this is, however, not stated in the BA report itself but in the glint and glare study. ATNS have been contacted as per the SACAA request and they are currently busy with the Communication, Navigation and Surveillance Impact and Obstacle Evaluation Assessment for the proposed Ekapa Solar Farm PV Facility. The glint and glare study has been submitted to ATNS and I haven't received any comments from them. If I receive any comments, it will be</p>

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<p>nature of the proposed development. Their contact details are as follows:</p> <p>ATNS- Name: Graham Mondzinger; Email: grahamm@atns.co.za</p> <p>SACAA- Name: Lizell Stroh; Email: strohl@caa.co.za</p>	<p>addressed accordingly and will be submitted to the department.</p> <p>Please also find attached the contract that ATNS is busy with the assessment.</p> <p>This report will also be submitted to the Department as soon as it has been finalised.</p> <p>Your comments are appreciated and have been noted.</p> <p>Please also note that today is the last day for comments as we are finalizing the BA for submission.</p>
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#### 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.

#### 5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail	Postal address
Northern Cape Dept. of Agriculture, Land Reform and Rural Development	Ms Gail Letimela	087 630 0387	gaidenc@gmail.com	Private Bag X5018, Kimberley, 8300
	Ms. Dineo Moleko	087 630 0387	dmoleko@ncpg.gov.za	
So Plaatje Local Municipality	Thapelo Matlala	053 8306100	bmatlala@solplaatje.org.za	Private Bag X5030, Kimberley, 8300
	Joey van Niekerk	053 8306724	jvanniekerk@solplaatje.org.za	
	George Mosimane	053 8306301	gmosimane@solplaatje.org.za	
Frances Baard District Municipality	Ms Bulelwa Skwet	053 838 0920	bulelwa.skwet@fbdm.co.za	Private Bag X6088, Kimberley, 8300
	Karin Rheeder	053 838 0927	karin.rheeder@fbdm.co.za	
	Mr Lesego Ngwira	053 838 0939	lesego.ngwira@fbdm.co.za	
	Ms Mamikie Bogatsu,	053 838 0911	natasha.april@fbdm.co.za	
Northern Cape Department of Water and Sanitation	Dawn Le Fleur	053 830 8800/67600	LeFleurD@dws.gov.za	Private Bag X6101 Kimberley 8300
Northern Cape Department of Co-Operative	Mr B S Lenkoe	053 838 2600	bslenkoe@ncpg.gov.za	Larry Moleko Louw Building

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Governance, Human Settlements & Traditional Affairs (CoGHSTA)				9 Cecil Sussman Road Private Bag x5005 KIMBERLEY 8300
SAHRIS		021 462 4502	info@sahra.org.za	PO Box 4637 Cape Town, 8000

Include proof that the Authorities and Organs of State received written notification of the proposed activities as 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 must be 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, 2014 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.

Refer to Appendix F for the Impact Rating Methodology used during this impact assessment.

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

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

Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
<b>Alternative LA1 (preferred alternative)</b>				
<b>Planning and Design Phase</b>				
<b>General</b>	The construction team should have sufficient knowledge and understanding of the potential impacts of construction or the requirements of the EMPr.	Low	Direct	Compliance with the requirements of the EMPr will form part of the construction contract.
<b>Planning</b>	The planning team should have sufficient knowledge about the impact studies that were done, to know what	Low	Direct and Indirect	Ensure that all environmental legal requirements are considered in the planning phase for the proposed activity in terms of section A part 2 of the BAR report: Applicable Legislation, Policy, and Guidelines.



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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
	areas to avoid, while planning the layout of the area.			
<b>Fauna and Flora</b>	The planning team should have sufficient knowledge about the impact studies that were done, to know what areas to avoid, while planning the layout of the area.	Low	Direct	All activity, infrastructure, construction camps and storage areas must be planned for areas that have already been cleared of bushveld habitat.
<b>Stormwater</b>	Incorrect stormwater management on site.	Medium	Direct/ indirect	Tie into the existing stormwater management implemented at Ekapa's mining site to separate clean and affected water.
<b>Hydrology</b>	The sources of this impact include the compaction of soil, the removal of vegetation, surface water redirection, changes to watercourse morphology or input of high energy surface water which could occur during construction and operation of the residential development.	Medium	Direct	During the detailed design phase, the footprint and design of structures should aim to have the least impact on habitat quality and hydrology of the watercourse.
				Design should take into account soil properties, slopes and runoff energy.
<b>Visual</b>	<ul style="list-style-type: none"> <li>The proposed development could change the character of a relatively natural area surrounding the proposed site (Landscape Change)</li> <li>The proposed development could change the character of the</li> </ul>	Low	Direct	Plan levels to minimise earthworks to ensure that levels are not elevated;
				Plan to maintain the height of structures as low as possible;
				Minimise disturbance of the surrounding landscape and maintain existing vegetation around the development.

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
	<p>landscape as seen from the main roads</p> <ul style="list-style-type: none"> <li>• The proposed development could change the character of the landscape as seen from local minor unsurfaced roads.</li> <li>• The proposed development could change the character of the landscape as seen from local Smallholdings.</li> <li>• The proposed development could change the character of the landscape as seen from the local settlement.</li> <li>• The potential visual impact of operational, safety and security lighting of the facility at night on observers.</li> </ul>			<p>Retain natural buffer areas adjacent to the adjacent un-surfaced road</p> <p>Undertake screen planting or construct an opaque fence;</p> <p>Maintain and augment existing vegetation between the road and the project.</p> <p>Ensure that existing vegetation is maintained and augmented to screen / soften views of the development.</p> <p>Minimise disturbance of the land surrounding the development to ensure that associated infrastructure is sited in such a way that it minimises visual impact.</p> <p>Ensure that non reflective finishes are used on the PV arrays.</p> <p>Plan levels to minimise earthworks to ensure that levels are not elevated.</p> <p>Minimise disturbance of the surrounding landscape and maintain existing vegetation around the development.</p> <p>Careful design of security and operational lighting;</p> <p>Ensure that operational lighting is only activated when necessary, the splitting of circuits and use of movement sensors should be considered.</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
				<p>Ensure that security lighting is only activated when necessary, the use of movement sensors and / or infra-red systems should be considered.</p> <p>No high mast lighting should be used.</p> <p>Ensure that lighting is focused on the development with no light spillage outside the site.</p>
<b>Construction and Operational</b>				
<b>Geology</b>	The proposed activities associated with the solar plant and road upgrade are not anticipated to have an impact on Geology of the project area.			
<b>Topography</b>	Construction of the PV plant	Low	Direct	The disturbance area for the construction will be kept at a minimum and in the designated areas as per the approved layout plans.
<b>Soil</b>	Soil can become contaminated due to Indiscriminate disposal of construction and general waste.	Low	Direct	The construction and general waste need to be removed from site and dispose of at a registered landfill site or by a registered contractor.
	Accidental spillage of chemicals such as hydrocarbon-based fuels and oils or lubricants spilled from construction vehicles and other chemicals from construction activities	Low	Direct	<p>Prevent chemical spills as far as possible by using drip-trays when vehicles are not operational.</p> <p>All hazardous substances, chemicals and lubricants need to be stored within a sufficient bunded area.</p> <p>No mixing of cement/concrete is allowed on bare soil.</p>
	Loss of topsoil and damage to soil characteristics, and soil erosion through vegetation clearance.	Low	Direct	Maintain areas of physical disturbance as small as possible to limit the area of disturbance.

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
<p><b>Flora</b></p>	<p>Clearing of vegetation: the removal of vegetation for the purpose of construction, access roads, and related infrastructure. Edge effects due to heavy vehicles turning in adjacent vegetation. Storage of equipment within Natural vegetation.</p>	<p>Low</p>	<p>Direct</p>	<p>Keep the vegetation clearing as small as possible.</p>
	<p>Allow for naturally vegetated corridors through the development if feasible. Prevent vehicular access into natural areas beyond the demarcated area to be cleared. Formalise access roads and make use of existing roads and tracks where feasible, rather than creating new routes through naturally vegetated areas. After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to clearing. Prevent operational activities from impacting on adjacent vegetation.</p>			
	<p>Potential increase in Invasive vegetation: The seed of alien invasive plant species that occur on and in the vicinity of the areas to be cleared, could spread into the disturbed and stockpiled soil. Vehicles and equipment that will be used were likely used on various other sites and could introduce alien invasive plant seeds or indigenous</p>	<p>Low</p>	<p>Residual</p>	<p>Alien invasive species, in particular category 1b species that were identified within the study area, should be removed from the development footprint and immediate surrounds, prior to clearing or soil disturbances. By removing these species, the spread of seeds will be prevented into disturbed soils which could thus have a positive impact on the surrounding vegetation. Invasive species should be removed in accordance with an Alien and Invasive species management plan.</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
	<p>plants not belonging to this vegetation unit to the site. Areas disturbed by edge effects, could be infested by alien invasive plant species</p>			<p>All alien seedlings and saplings must be removed as they become evident for the duration of clearing.</p> <p>All vehicles and equipment that enters the site must be free of plant material. Therefore, all equipment and vehicles should be thoroughly cleaned prior to access on to the areas to be cleared.</p> <p>No alien and invasive plant species as listed on 18 September 2020 in the list of Alien Invasive Species published in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) (Government Gazette No 43726 of 2020) may be planted within the development.</p> <p>Only use indigenous species naturally occurring on the site for rehabilitation or landscaping.</p> <p>Continuously monitor the emergence of alien invasive plant species on the site and remove such species as soon as they become apparent.</p>
	<p>Pollution of the soil: Clearing of vegetation as well as the operational activities, may cause soil pollution which could degrade surrounding vegetation and influence rehabilitation</p>	<p align="center">Medium</p>	<p align="center">Direct</p>	<p>Prevent spillage of oils and other pollutants, contain, and treat any spillages immediately, strictly prohibit any pollution/littering during clearing.</p> <p>No vehicles may be washed within naturally vegetated areas, except in suitably designed and protected areas.</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
				No vehicles may be serviced or repaired within naturally vegetated areas unless it is an emergency in which case adequate spillage containment must be implemented.
				Contaminated soil will be disposed of as hazardous waste.
	Edge effects from the development could impact on the remaining natural vegetation, resulting in degradation. It could change the fire regime (if any) on the site, as well as the presence and activity of herbivores, small mammals, and pollinators within the vegetation.	Low	Indirect	Only clear the footprint needed for the development.
				Do not infringe into vegetated areas beyond the proposed development areas.
				Prevent the unnecessary removal and trampling of vegetation.
				No operational activities may veer from dedicated roads and demarcated areas.
				Limit the use of chemicals such as pesticides and herbicides as far as possible.
				Do not prevent the movement of small mammals and insects (pollinators).

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
<p><b>Fauna</b></p>	<p>Potential harm and blocking of walkway to animal during the construction of the PV plant area</p>	<p>Low</p>	<p>Direct</p>	<p>Environmental awareness training to staff and personnel must include:</p> <ul style="list-style-type: none"> <li>• Persons are to remain within designated activity areas only and no needless excursions into the neighbouring bushveld areas should be allowed.</li> <li>• No animals must be deliberately and needlessly harmed, killed, or hindered in movement.</li> <li>• Information on how to identify and report sightings of the possible threatened or protected (“TOP”) species.</li> </ul>
				<p>Generally, monitor any TOP and Species of Conservation Concern (“SCC”) that may enter the site. If observed, continue to monitor the species, and ensure species are not under threat from activities. Where necessary adaptive management measures must be considered to prevent harm to these species.</p>
				<p>All potentially contaminating material (fuel, chemicals, waste, oils and lubricants, sewage, etc.) will be stored and handled according to best practice and will never be needlessly exposed to the environment.</p>
				<p>Spills will be actively monitored and cleared immediately to prevent contamination of the downstream faunal habitats.</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
<p align="center"><b>Avifauna</b></p>	Potential loss of bird habitat	<p align="center">Low</p>	Direct	If possible, exclude least disturbed 14 ha of site from active development but fence this area into the broader development boundary to ensure it is not further degraded.
	Mortality through collisions and/or electrocutions		Direct	Design of pylon structures to remove electrocution risk and marking of lines to reduce collision risk.
<p align="center"><b>Surface water</b></p>	<p>There may be a decrease in surface water quality when any surface water run-off comes into contact with dust, eroded soil, or other pollutants generated during the construction phase. The sediment load within surface water runoff may increase if not prevented or mitigated if no vegetation re-establishes underneath the solar panels. Spillages of hazardous materials (i.e., oil, fuel, grease and / or cement) used during the construction of the proposed project may impact on the surrounding clean water environment.</p>	<p align="center">Low</p>	<p align="center">Direct</p>	Current surface water quality monitoring in the surrounding areas will continue to be implemented.
				Design and implement a site-specific construction stormwater management plan that aims to minimise sediment transport off site.
				Spill kits need to be readily available in the event of a spill.
				Limit the extent of hardened and compacted surfaces within the development footprint. Ideally short indigenous grass cover should be maintained in between the PV panels as far as possible.
				To prevent water quality deterioration, all potentially harmful substances used on site should be stored in bunded areas to prevent spills into the environment.
No construction and light delivery vehicles (“LDV”) may be serviced and washed on site.				



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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
	Usage of water to clean solar plant	Low	Direct	Water will be used frugally, and within the authorised volumes. Volumes need to be measured and included in the existing water balance.
<b>Groundwater</b>	<p>The impacts on groundwater quality are primarily related to the management of materials, and spills from construction operations. Contamination of groundwater may also arise due to incorrect handling and disposing of solar collector materials and cement. Due to the short exposure and small scale of these possible spills, the impacts will be negligible during the construction phase</p>	Low	Direct	<p>Prevent or contain hazardous subsistence from spilling into the environment.</p> <p>Clean up spillages and disposal of contaminated soil / material as hazardous waste.</p> <p>Construction Management should ensure that any materials handling does not pose a material risk to soil, surface water and groundwater pollution.</p>
<b>Visual</b>	<ul style="list-style-type: none"> <li>The proposed development could change the character of a relatively natural area surrounding the proposed site (Landscape Change).</li> <li>The proposed development could change the character of the landscape as seen from the main roads.</li> <li>The proposed development could change the character of the</li> </ul>	Low	Direct	<p>Reinstate any areas of vegetation that have been disturbed during construction;</p> <p>Remove all temporary works;</p> <p>Monitor rehabilitated areas post-construction and implement remedial actions;</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
	<p>landscape as seen from local minor unsurfaced roads.</p> <ul style="list-style-type: none"> <li>• The proposed development could change the character of the landscape as seen from local Smallholdings.</li> <li>• The proposed development could change the character of the landscape as seen from the local settlement.</li> <li>• Glint and Glare affecting the roads, buildings, and Kimberley Airport.</li> <li>• The potential visual impact of operational, safety and security lighting of the facility at night on observers.</li> </ul>			<p>Minimise disturbance and maintain existing vegetation as far as is possible both within and surrounding the development area; and</p> <p>Maintain natural buffer area adjacent to the northern boundary</p> <p>Minimise disturbance and maintain existing vegetation as far as is possible both within and surrounding the development area particularly the development setback area from the local road.</p> <p>Ensure that the intention of the original lighting design is maintained throughout the operational phase.</p>
<b>Noise</b>	<p>Noise impacts from construction vehicles and other heavy-duty equipment used during the construction phases may pose a nuisance to surrounding land uses and neighbouring residents.</p>	Low	Direct	<p>Minimise excessive noise and vibration during the construction phase.</p> <p>Where possible construction needs to take place during the day.</p>
<b>Palaeontology</b>	<p>During the Impact Assessment, it was found that half of the study area is underlain by Jurassic dolerite which is an igneous rock and will not host</p>	Low	Direct	<p>If fossils are exposed by construction activities, a qualified palaeontologist must be contacted to assess the exposure for fossils before further development takes place so that the necessary rescue operations are implemented.</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
	<p>fossils. The rest is underlain by mudrocks of the Permian Prince Albert Formation of the Eccca Group and unconsolidated sand of the Plio-Pleistocene Gordonia Formation. These sedimentary rocks could potentially host fossils, but as the rocks of the Eccca group are overlain by young alluvial deposits and are not exposed it is unlikely that the construction a PV plant will damage fossils. Fossils are unlikely in the unconsolidated sands of the Gordonia Formation. It is thus extremely unlikely that fossils will be affected by the proposed PV developments</p>			<p>This will require routine collecting protocols involving descriptive, diagrammatic, and photographic recording of fossils and exposures. The fossils and appropriate contextual samples will be processed to create an archive collection</p> <p>Should a major in situ occurrence be exposed, excavation will immediately cease in that area so that the discovery is not disturbed or altered in any way until the appointed palaeontologist has investigated the find.</p>
<p><b>Heritage</b></p>	<p>Destruction of confirmed heritage resources including potentially unknown resources</p>	<p>Low</p>	<p>Direct</p>	<p>In the event that any sub-surface heritage resources or graves are unearthed all work has to be stopped until an assessment as to the significance of the site (or material) in question has been made by a professional archaeologist. Note that no archaeological material that has been uncovered may be removed.</p> <p>If any archaeological material is uncovered during the course of development, then work in the immediate area should cease. The find will need to be reported to the relevant heritage authority and may require investigation and possibly mitigation by a professional archaeologist.</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
				<p>If any area that contains stone artefacts in reasonable numbers (e.g. more than 10 within a few metres of one another) or in high concentrations is noted during the proposed developments this should be inspected by a professional archaeologist prior to any disturbance.</p> <p>If any engraved rocks or rock paintings are noted, the find should be reported.</p> <p>In the event that any graves or burial places are located during the development, the procedures and requirements pertaining to graves and burials will apply. If human remains are uncovered, or previously unknown graves are discovered, a professional archaeologist needs to be contacted and an evaluation of the finds made.</p>
<b>Air quality</b>	Excavation activities can have an impact on air quality as dust fallout will increase during the clearance of vegetation. There may be a chance that dust, and diesel fumes generated by machinery and vehicles could affect the air quality of the area.	Low	Direct / indirect	<p>Dust suppression along the gravel road, and other disturbed areas where possible during construction.</p> <p>Effective maintenance of diesel driven vehicles to manage the greenhouse gases.</p>
<b>Traffic and access</b>	Traffic flow to and from the construction site.	Low	Direct	<p>Ensure that a traffic management plan is in place during the construction phase.</p> <p>The trucks delivering the construction material must not be wider than the access road to ensure no further degradation of topsoil and vegetation.</p>
	Reckless driving during construction activities and operational phase.	Low	Indirect	Ensure safe speed limits on site are implemented.

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
<b>Socio-economic</b>	Local income and employment	Positive - Medium	Direct	Prioritise local labour in the recruitment process as part of the company's own recruitment policy or as part of the contractor management plan.
				Provide up-skilling opportunities for elementary and semi-skilled local workers during the construction phase.
				Incorporate the mitigation measures worker related management plans and employment contracts as well as contractor management plans.
	Population Influx during Construction	Negative - medium	Indirect	Prioritise local (municipal wide) labour in the recruitment process as part of the company's own recruitment policy or as part of the contractor management plan.
				Communicate clearly through municipal councillors and other local media that a local recruitment process will be followed.
				Support initiatives by the municipality and SAPS to resolve the situation with the Samaria settlement.
Impact of Nuisance factors during Construction	Negative - Low	Indirect	Establish communications with a representative landowner group to report issues dealing with the construction of the plant.	
			Problem areas that are brought under the attention of the contractor should be captured in a social issue register and rectified immediately. If the contractor is unable to so, this should be communicated to the landowners along with a plan on how and when the problem will be addressed. The landowner should be given regular feedback on the matter	

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
				<p>Samaria Road is used as main entrance during construction, consult with local road-users on the construction schedule before construction commences. This includes the Alpha-Alfa depot, Kimberley Equestrian centre and the Clay target and shoot club as well as other regular road users.</p>
				<p>If the entrance to the site is through Hull Street ensure adequate shoulder space for construction vehicles to slow down and turn without disrupting traffic from behind. There should be clear signs to warn traffic of construction site ahead.</p>
	Impact on Local Employment and Income during Operations	Positive – Low	Direct	<p>Prioritise local labour in the recruitment process as part of the company's own recruitment policy or as part of the contractor management plan.</p>
				<p>Incorporate the mitigation measures worker related management plans and employment contracts as well as contractor management plans.</p>
	Impact on Adjacent Socio-Economic Activities	Negative - Low	Indirect	<p>Communicate the project schedule clearly with the Batho Pele artisanal miners at least 6 months before the project commence. Develop an action plan with the Batho Pele community to ensure that no residual mining infrastructure remain on the premises when the project commences.</p>
				<p>Establish communications with a representative landowner group to report issues dealing with the operations of the plant. Problem areas that are brought under the attention of the contractor should be captured in a social issue register and rectified immediately. If the contractor is unable to so, this should be communicated to the landowners along with a plan on how and when the problem will be addressed. The landowner should be given regular feedback on the matter.</p>

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
				<p>Ensure a buffer zone of at least 100 m between the solar farm and any adjacent activity.</p> <p>If using Samaria Road as main entrance, make arrangements with the Clay target Club and the Equestrian club during special events (usually occur over week-ends) to ensure minimum disruption of traffic.</p> <p>If using Samaria Road, contribute to the maintenance of the gravel road during the operations period.</p> <p>If the entrance to the site is through Hull Street ensure adequate shoulder space for construction vehicles to slow down and turn without disrupting traffic from behind. There should be clear signs to warn traffic of the site ahead.</p>
	Impact on Community Safety	Negative – Low	Indirect	<p>Mitigation measures for population influx:</p> <ul style="list-style-type: none"> <li>○ Prioritise local (municipal wide) labour in the recruitment process as part of the company's own recruitment policy or as part of the contractor management plan.</li> <li>○ Communicate clearly through municipal councillors and other local media that a local recruitment process will be followed.</li> <li>○ Support initiatives by the municipality and SAPS to resolve the situation with the Samaria settlement.</li> </ul> <p>Ensure a fire management and prevention area of 10-20 m is maintained around the perimeter of the area.</p>

BASIC ASSESSMENT REPORT

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Nature of impact	Potential impact	Significance after Mitigation	Direct / Indirect / cumulative/ residual	Proposed mitigation
				Liaise with community safety groups to ensure an early warning system is established that include local communities around the plant.
<b>Alternative 2</b>				
The alternative site at Rooifontein was ruled out as Rooifontein is a nature reserve area and the 240 ha would have had an impact on the carry capacity of the reserve.				
<b>No-go option</b>				
No development will occur, therefore, there will be no environmental impacts nor mitigations needed. The positive socio economic impacts will also not materialise.				

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.



## 2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment 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.

### **Alternative LA1 (preferred alternative)**

This Basic Assessment Report has served to identify the potential impacts associated with the PV plant activities proposed on Portion 0 of the farm Dorsfontein 77. In accordance with the relevant environmental legislation, reasonable measures to mitigate the potential impacts arising from the proposed activities have been assessed and the significance of each of these impacts under both the pre- and post-mitigation scenarios identified and detailed. The methodology utilised to undertake the impact assessment has incorporated, amongst other skills, professional experience, relevant literature and local knowledge of the site and surrounding area. The risk assessment is included as Appendix F of this report.

It is the EAP's opinion that based on the process that has been followed and the findings of the impact assessment, in conjunction with the proposed mitigation measures, that no unmanageable adverse impacts are expected to occur, and some positive impacts are expected.

### **Alternative LA2 (Not Preferred)**

Alternative LA2 would have resulted in construction activities within the rehabilitated area within the Rooifontein Nature Reserve. This would have resulted in cutting 240 ha out of the reserve and making it smaller affecting the carrying capacity of the reserve.

### **Alternative 3**

N/A

### **No-go alternative (compulsory)**

If the project does not realise, the status quo environmental conditions of the project site will mostly remain as is.

**Physical and biophysical environment** – The PV plant development proposed on Portion 0 of the farm Dorsfontein 77 is expected to create a limited environmental impact of which include potential impacts on biodiversity, however, the proposed area has been historically disturbed and overall a low impact for the proposed PV plant. Should the project not continue, these impacts will not materialise.

**Economic** – Should the environmental authorisation not be granted, the economic benefits to be derived from this project will not materialise.

## 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)?

<b>YES</b>	<b>NO</b>
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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).

N/A
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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.

<p>Should the department grant authorisation for the residential development activities proposed on Portion 0 of the farm Dorsfontein 77, it should be subject to the following conditions:</p> <ul style="list-style-type: none"> <li>• That the EMPr be approved and implemented;</li> <li>• All recommendations made by the specialists and all mitigation measures proposed by the specialists, as incorporated in the EMPr be implemented and adhered to; and</li> <li>• All other conditions, monitoring and mitigation measures, as provided in the EMPr, be adhered to.</li> </ul>
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Is an EMPr attached?

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

BASIC ASSESSMENT REPORT


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Lee-Anne Fellowes

Lesley Keay

\_\_\_\_\_  
NAME OF EAP (Lead and Reviewer)

\_\_\_\_\_  
NAME OF CONSULTANT (Compiled  
Report under guidance of EAP)



\_\_\_\_\_  
SIGNATURE OF EAP



\_\_\_\_\_  
SIGNATURE OF CONSULTANT

13/06/2023

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DATE

13/06/2023

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DATE

## **SECTION F: APPENDIXES**

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment Methodology

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information