

Environmental Impact Assessment Process: Proposed Photovoltaic Solar Energy Facility for the Venetia Diamond Mine

Plan of Study for Environmental Impact Assessment

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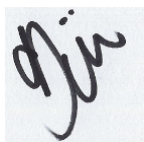

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Contents

1 Introduction	4
1.1 Summary of EIA Process	4
1.1.1 Application Phase	4
1.1.2 Screening Phase	4
1.1.3 Scoping	6
1.1.4 The EIR Phase	8
2 Content requirements of the Plan of Study for the EIA	9
3 Conclusion.....	23

Tables

Table 1: Details of the three proposed site alternatives.

Table 2: Specialist studies undertaken to date

Table 3: Environmental Impact Assessment Regulations (GN 982 of 2014) requirements for PoS for EIA.

Table 4 | Definition of Duration ratings

Table 5 | Definition of Intensity ratings

1 Introduction

This section provides a brief overview of the Plan of Study (PoS) for Environmental Impact Assessment (EIA) and its purpose, and a summary of the proposed EIA process for the proposed project.

This Plan of Study (PoS) for Environmental Impact Assessment (EIA) has been compiled in terms of the content requirements listed in Appendix 2 to the EIA Regulations of 2014 (Government Notice No. R 982 of 2014) under the National Environmental Management Act (Act No. 107 of 1998) (NEMA).

The scoping process for the proposed 100 Megawatt (MW) alternating current (MW_{ac}) Photovoltaic (PV) solar energy facility (hereafter referred to as the project) has been documented in the Scoping Report (SR) for the project. The SR identifies the preferred site for the project and assesses various potential environmental impacts that require detailed investigation in the EIA phase.

This Annexure must be read alongside the SR for this project and forms an appendix to it.

1.1 Summary of EIA Process

As described in Section 1.1 of the SR, the EIA process followed for the proposed project comprises four phases. The details of these phases are described in the sections to follow.

1.1.1 Application Phase

The Application Phase entails the submission of a signed EIA Application Form to notify the Competent Authority (CA) of the proposed PV facility. The Application Form was submitted to the Limpopo Department of Economic Development, Environment and Tourism (LEDET) prior to the required public participation comment period for the SR.

1.1.2 Screening Phase

A Screening Phase was conducted for the proposed project in order to determine feasible sites for the proposed facility. This considered technical (including financial), biophysical and social considerations. This phase involved a site selection process, which included high level screening (refer to Section 3.7.1 of the SR) of two alternative sites for the proposed PV facility by the project team, including specialists. This screening process aimed to determine the preferred site on which to base the conceptual design and detailed assessments for inclusion in the Scoping and EIA Phases.

The Screening Phase consisted of the following components:

- ▶ Desktop review of the biophysical and social characteristics of the area;
- ▶ Various site visits were undertaken to determine the preferred site. The initial site visit was undertaken on 18 May 2021 assess Site 1 (Drumsheugh) and Site 2 (Regina); and
- ▶ A further site visit to Drumsheugh and Regina took place on 4 August 2021 at the start of the scoping phase.

The two sites proposed for the PV facility vary in size and are located on different farm portions. The details of these sites are presented in Table 1 below.

Table 1: Details of the two proposed site alternatives.

Property details	Size
Site 1 (preferred site) Farm Drumsheugh 99 MS (southern location).	Approximately 348ha
Site 2 Farm Regina 68 MS (northern location)	Approximately 1122 ha

Based on a summary of environmental and social suitability (refer to Section 3.7.1 of the SR), the following observations have been made:

- ▶ The findings by the heritage and biodiversity specialists that participated in the environmental screening (the same specialists as those participating in the Scoping Report) concluded that neither of the two sites contained significant biophysical and heritage constraints, nor do any of the sites have any sensitivities that could be regarded as fatal flaws.
- ▶ The Koloape river runs close to both the preferred and alternative sites. Both sites include regulated areas of a wetland (within 500m). There are also drainage lines present on both sites. Drumsheugh is within the regulated 500m buffer of only one wetland, which is located across the road opposite to the site. Site 2 (Regina) affects four (4) small wetlands. Although the wetlands themselves do not take up significant space on the land parcel, their 500m regulated buffers cover most of site 2. The aquatic assessment to be conducted as part of the EIA phase of the project will provide more in-depth detail regarding the aquatic sensitivities.
- ▶ From a terrestrial perspective, neither of the two sites have any sensitivities that could be regarded as fatal flaws. However, the southern parcel (preferred site) falls entirely within a CBA 2 and borders on an ESA. Small portions of the northern parcel (alternative site 2) intersect a CBA 2 and CBA 1 on its western and northern boundaries respectively. The remainder of the parcel falls within an ESA. The Venetia Limpopo Nature Reserve management suggested avoiding most parts of the northern parcel, thereby only using the southwestern part of the parcel due to the importance of the water resource to the wildlife in the area. The terrestrial ecology for the northern parcel is similar to that of the southern parcel, with Baobab and Shepherd's tree found scattered on both sites.
- ▶ From a heritage perspective, the site falls within the Mapungubwe Cultural Landscape World Heritage Site (MCLWHS), on the southern-most boundary of this area and within the MCLWHS's buffer zone. However, no important cultural or heritage resources, archaeological materials or grave sites were identified. Although the sites occur within the private Venetia Limpopo Nature Reserve, both sites are close to Venetia Mine, which detracts from the sense of place of the MCLWHS. Hence, the impact of a development on either of the alternative sites on the historical and heritage value of the MCLWHS would be limited. The well-known and internationally renowned heritage sites that give the Mapungubwe National Park (MNP) and the MCLWHS its value are located in the MNP, more than 20km north of the site. Furthermore, the sites do not contain landscapes and riverine features such as the Limpopo River and flat-topped hills that give the MNP its distinctive character and visual appeal. The desktop studies identified the presence of an Iron Age site positioned on the southeast boundary of the Drumsheugh Farm (southern parcel) but this site is outside of the study area. The remains of a damaged concrete reservoir south of the Kaloape non-perennial stream has also been noted. This infrastructure represents the historical period (the 19th century). This infrastructure is older than sixty years and qualifies to be protected in terms of the National Heritage Resources Act 25 of 1999, and may not be (demolished, altered, renovated or removed) without the permit from South African Heritage resources Agency. The site could be avoided during micro-siting of the transmission line pylons.
- ▶ Social impacts are expected to be limited as the site is managed as a nature reserve. There are no known settlements on the site. Nearby game farmers may be impacted by the solar PV plant in a visual sense. The southern parcel (site 1) is therefore preferred due to its close proximity to the mine. Social benefits will be provided in the form of job opportunities to the surrounding local communities. Social impacts for both alternative sites are expected to be similar, however the visual impact on nearby game farmers may be higher in the northern parcel (site 2) as it is currently relatively undisturbed. Furthermore, the longer length of transmission lines required for Site 2 (due to its greater distance from the mine) has the potential for more extensive visual impacts than the transmission lines for Drumsheugh.

- ▶ Transmission lines: The longer the distance of transmission, the greater the transmission losses. Longer power lines also lead to substantially higher costs to construct the powerline together with an increased footprint of disturbance. The southern parcel (site 1) has the shortest proposed transmission line length as it is situated closest to the mine. From a biophysical perspective, site 1 transmission line corridor is also preferred as it has a lower potential for impacting on water resources.

Based on the above summary, it is concluded that, although neither of the two alternative sites contain any fatal flaws in terms of environmental impacts, the southern parcel should be taken forward to the EIA phase as the preferred site alternative. This is mainly due to the aquatic screening and the distance from the Venetia Diamond Mine.

1.1.3 Scoping

Scoping in the EIA process is the procedure used for determining the extent of, and approach to, the EIA Phase and involves the following key tasks:

- ▶ Further identification and involvement of relevant authorities and Interested and Affected Parties (I&APs) in order to elicit their interest in the project;
- ▶ Identification and selection of feasible alternatives to be taken through to the EIA phase;
- ▶ Identification of significant issues/ impacts associated with each alternative to be examined in the Environmental Impact Report (EIR), and mitigation measures that can be applied; and
- ▶ Determination of specific Terms of Reference (ToR) for any additional specialist studies required in the EIR Phase (i.e. the PoS for the EIR).

With the promulgation of the EIA Regulations in 2014, new timeframes associated with the submission of an EIR to the Competent Authority (CA) have been implemented and need to be adhered to. The direct result of these new (shorter) timeframes is that that majority of the specialist impact assessments are required to take place upfront, prior to the submission of the Scoping Report to the CA. In addition, the content requirements of the Scoping Report in terms of the 2014 EIA Regulations require the Environmental Assessment Practitioner (EAP) to assess the impacts of the proposed development, including the nature, extent, significance, duration and possible mitigation measures in the Scoping Report.

Various methods and sources were utilised to identify the potential social and environmental aspects associated with the proposed project and to develop the ToR for the specialist studies. The sources of information for the preparation of the SR include, amongst others, the following:

- ▶ Collection of information regarding the project, as provided by the Applicant:
 - Project description;
 - Methodology for construction of the various project components;
 - Methodology during operations;
 - Expected timetable for project development;
 - Maps and figures, outlining the proposed facilities; and
 - Technical information relating to design.
- ▶ Other relevant EIRs;
- ▶ Environmental baseline surveys for this site and surrounding areas;
- ▶ Consultation with the project team; and
- ▶ Consultation with I&APs, including authorities.

During the screening process, the following potential impacts on the biophysical and socio-economic environment were identified and assessed:

- ▶ Impact on terrestrial biodiversity, including animals (birds and bats) and plants;
- ▶ Impact on aquatic biodiversity;
- ▶ Impact on climate change;
- ▶ Impact on heritage resources, including archaeological and palaeontological (fossil) resources;
- ▶ Impact on the social environment, including expectations for local employment and procurement and socio-economic development;
- ▶ Air quality (dust) impacts during construction;
- ▶ Traffic impacts during construction;

- ▶ Noise impacts during construction; and
- ▶ Visual impacts during construction and operation.

Specialist scoping assessments have been undertaken for these impacts and the findings thereof are presented in detail in Section 4 of the SR.

All of the abovementioned impacts could potentially occur throughout the construction, operational and decommissioning phases of the project (excluding the impact on heritage resources which would be limited to the construction phase) and have been detailed in the SR.

Table 2 below lists the impact assessment and specialist details of the studies undertaken to date. These specialists assessments will be continued into the next phase of the EIA process and detailed impact assessments conducted for each of the identified impacts.

Table 2: Specialist studies undertaken to date

Potential Impact	Assessment	Specialist
Impact on fauna (including avifauna), bats, flora, and aquatic systems	Faunal Impact Assessment	Greenthorn Consulting
Impact on heritage resources	Heritage Impact Assessment	Millennium Heritage Group
Social impacts	Qualitative Social Impact Assessment in Scoping Report	Equispectives Research and Consulting Services
Storage of hazardous substances on site	Qualitative Contamination Impact Assessment in Scoping Report	Zutari - EAP
Noise pollution	Qualitative Noise Assessment in Scoping Report	DB Acoustic Consulting
Visual / Landscape	Visual Impact Assessment	Create landscape architecture

In addition to the abovementioned specialist studies and qualitative assessments, additional studies may be required as a result of comments received on the Scoping Report SR and PoS for EIA, from I&APs, commenting authorities of the LEDET. Any additional studies will be undertaken during the EIA Phase and included in the EIR.

1.1.4 The EIR Phase

The Scoping Phase is followed by the EIR Phase, which is informed by the specialist investigations. This phase culminates in a comprehensive EIR that documents the outcome of the impact assessments.

In addition to the above, all mitigation measures identified in the Scoping and EIA Phases will be included in an Environmental Management Programme (EMPr). The EMPr will be used to enforce the mitigation measures recommended and ensure that the impacts of all phases of the proposed project are properly managed and addressed. The EMPr will meet all the requirements stipulated in Appendix 3 of the 2014 EIA Regulations.

The EIR will provide the authorities with sufficient information to make an informed decision on whether or not the proposed development should be authorised.

2 Content requirements of the Plan of Study for the EIA

This section provides a brief overview of the content requirements for the Plan of Study (PoS) for Environmental Impact Assessment (EIA).

Table 3 below provides a summary of the information required for the PoS for EIA in terms of Section 2(i) of Appendix 2 of the 2014 EIA Regulations (GNR 982 of 2014).

Table 3: Environmental Impact Assessment Regulations (GN 982 of 2014) requirements for PoS for EIA.

Appendix 2	Content as required by NEMA	Section of the FSR /Annexure
A plan of study for undertaking the environmental impact assessment process to be undertaken, including:		
2 (i)	<p>(i) A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;</p> <p>The following alternatives have been identified and will be considered in the EIA Phase:</p> <ul style="list-style-type: none"> ▶ Location alternatives: <p>Two location alternatives were considered during a site selection process in the Screening Phase (as per Table 1 above). Both of the sites are considered to be feasible and reasonable alternatives but the southern parcel has been selected as the preferred site based on the comparison in Section 3.7.1 of the SR as well as its proximity to the mine (with resultant limited potential for transmission losses).</p> ▶ Technology alternatives: Type of PV Module alternatives: <p>The objective of the proposed development is to generate electricity to contribute to the national grid or for direct use by the Venetia Mine operations and as such, only relevant energy generation technologies were considered:</p> <ul style="list-style-type: none"> • Type of PV modules <ol style="list-style-type: none"> 1. Silicon Crystalline: Monocrystalline; 2. Silicon Crystalline: Polycrystalline; and 3. Thin Film. • Mounting Alternatives <p>Energy yields from PV cells are directly proportional to exposure to sunlight. The energy yield is higher when the module faces towards the sun, and lower when it is not. Solar panels can be mounted in various ways to ensure maximum exposure of the PV panels to sunlight. In order to optimise the energy produced by the PV modules versus the cost of the infrastructure, it is proposed to install either fixed axis or tracking systems (both single axis tracking and dual axis tracking).</p> ▶ Routing alternatives for powerlines within corridors: <p>Two 132 kV transmission lines are required to transmit the generated power from the solar PV plant to the mine. Two transmission line corridors for each alternative were identified within a 200m wide assessment corridor. Each corridor has been given a 200m width to ensure that the approved corridor is sufficient for the final micro-siting of pylons to navigate topography and identified sensitivities. These</p> 	Section 3.7 of SR

Appendix 2	Content as required by NEMA	Section of the FSR /Annexure
A plan of study for undertaking the environmental impact assessment process to be undertaken, including:		
	<p>corridors will also be informed by the specialist assessment findings during the EIA phase. Therefore, it is currently requested that a 200m wide corridor be approved together with the preferred site.</p> <p>The 200m width will allow the corridors to have alternatives within them, which may include several overhead transmission line options with voltages ranging from 33kV and 132kV to evacuate the power from the proposed PV facility.</p> <p>Discussions are taking place between Eskom and Venetia Mine with regards to the proposed routing alternatives and connection options. Hence, all potential alternatives require approval at this stage.</p> <p>► No-Go alternative versus the preferred “go” option:</p> <p>“No-Go” alternative is the option of not constructing the proposed 100 MW_{ac} PV facility. Should this alternative be selected the site would more than likely remain as it is and continue to be used for agricultural purposes. If a renewable energy facility is not established on this site the positive socio economic (security of electricity supply for the country) and environmental (reduced carbon emissions and reduced contribution to the greenhouse effect due to use of a renewable resource) benefits of this proposed facility would not be realised. However, the No-Go alternative would result in the continued agricultural practices such as farming of maize at the site. This would continue to assist with food security of the economy.</p>	
(ii) A description of the aspects to be assessed as part of the environmental impact assessment process;		
	<p>During the screening process various potential impacts on the biophysical and socio-economic environment were identified by various specialists and the EAP. Therefore, specialist assessments have already been undertaken as part of the Scoping Phase. These included:</p> <ul style="list-style-type: none"> ► Impact on terrestrial biodiversity, including animals (birds and bats) and plants; ► Impact on aquatic biodiversity; ► Impact on climate change; ► Impact on heritage resources, including archaeological and palaeontological (fossil) resources; ► Impact on the social environment, including expectations for local employment and procurement and socio-economic development; ► Air quality (dust) impacts during construction; ► Traffic impacts during construction; ► Noise impacts during construction; and ► Visual impacts during construction and operation. <p>Refer to Table 2 above for the specialists’ details.</p>	Section 4 of the SR
(iii) Aspects to be assessed by specialists;		
	The Heritage, Ecological, Noise, Visual and Ecological specialists (listed in Table 1) were requested to:	Section 4 of the SR

A plan of study for undertaking the environmental impact assessment process to be undertaken, including:

- ▶ Undertake a site investigation to determine the *status quo* and identify any sensitive features or No-Go areas;
- ▶ Provide shapefiles of all sensitive features;
- ▶ Assess all proposed site alternatives associated with the PV facility and associated infrastructure
- ▶ Make use of the Zutari Impact Assessment Methodology (explained in (iv) below) when assessing impacts for all alternatives and all phases of the proposed project, as well as cumulative impacts;
- ▶ Provide a detailed description of appropriate mitigation measures that can be adopted to reduce or avoid negative impacts and improve positive impacts for each phase of the project, where required, and the significance of impacts pre- and post-mitigation;
- ▶ Provide a summary of succinct and practical recommendations based on mitigation measures identified to form the basis of Environmental Authorisation requirements, if the development is authorised; and
- ▶ Comply with content requirements listed in Appendix 6 of the 2014 EIA Regulations (GNR 982 of 2014).

The ToR for the remaining specialist assessments in Table 1 is as follows:

- ▶ Undertake a desktop assessment to review available information such as relevant literature including auxiliary materials (e.g. maps, aerial photographs and satellite images) in order to determine the baseline characteristics of the project implementation area;
- ▶ Assess potential impacts using the Zutari assessment methodology;
- ▶ Provide a qualitative assessment of anticipated construction, operation and decommissioning impacts and disturbance (if any) as well as the impact on the sensitive receptors of the project surroundings; and
- ▶ Mitigation measures would be proposed to avoid or reduce these potential impacts.

In addition to the above, GNR No. 320 of 2020 prescribes procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a), (h) and 44 of the NEMA when applying for environmental authorisation. The sensitivity themes below each has a specific prescribed protocol, which has been adhered to by the applicable specialists for this project. These are:

- ▶ Aquatics;
- ▶ Avifauna;
- ▶ Biodiversity (fauna and flora);
- ▶ Noise;
- ▶ Social;
- ▶ Heritage and Palaeontological; and
- ▶ Landscape and Visual;

Certain themes do not have specific protocols yet (e.g. heritage) but need to comply with the requirements of Appendix 6 of the EIA Regulations. Prior to commencing with any specialist assessment type, all themes must be investigated by means of a site verification assessment (EAP or specialist to conduct) and must as a minimum, include the following:

Appendix 2	Content as required by NEMA	Section of the FSR /Annexure
A plan of study for undertaking the environmental impact assessment process to be undertaken, including:		
	<ul style="list-style-type: none"> a. A desktop analysis, using satellite imagery; b. A preliminary on-site inspection; and c. Any other available and relevant information. <p>The results of this verification process must be recorded in a report that:</p> <ul style="list-style-type: none"> a. Confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc; b. Contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and c. Is submitted together with the relevant assessment report prepared in accordance with the requirements of the EIA Regulations. <p>The findings of the specialist reports have been incorporated into the SR. Should any additional studies to those suggested in Table 1 above be identified during the SR Public Participation Period (PPP), these will be undertaken in consultation with the LEDET and incorporated into the EIR in the EIA Phase.</p>	
(iv) A description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists;		
	<p>The Zutari methodology used to assess the impacts during the Scoping Phase and EIA Phase by the specialists is summarised below. Please refer to Annexure F of the FSR for a detailed explanation of the methodology used.</p> <p><u>Zutari Impact Assessment Methodology:</u></p> <p>For each predicted impact, criteria are applied to establish the significance of the impact based on likelihood (probability) and consequence, without and with mitigation being applied and with the most effective mitigation measure(s) in place.</p> <p>The criteria that contribute to the consequence of the impact are intensity (the degree to which pre-development conditions are changed), which also includes the type of impact (being either a positive or negative impact); the duration (length of time that the impact will continue); and the extent (spatial scale) of the impact. The sensitivity of the receiving environment and/or sensitive receptors is incorporated into the consideration of consequence by appropriately adjusting the thresholds or scales of the intensity, duration and extent criteria, based on expert knowledge. For each impact, the specialist applies professional judgement to ascribe a numerical rating for each criterion according to the ratings provided. The consequence is then established using the formula:</p> <p>Consequence = type x (intensity + duration + extent)</p> <p>Depending on the numerical result, the impact's consequence would be defined as either extremely, highly, moderately or slightly detrimental; or neutral; or slightly, moderately, highly or extremely beneficial.</p> <p>To determine the significance of an impact, the probability (or likelihood) of that impact occurring is also taken into account. In assigning probability the specialist takes into account the likelihood of occurrence but also takes cognisance of uncertainty and</p>	Annexure F of the SR

A plan of study for undertaking the environmental impact assessment process to be undertaken, including:

detectability of the impact. The most suitable numerical rating for probability is applied with the consequence according to the following equation:

Significance = consequence x probability

When assigning **probability** to an impact, a distinction needs to be made between **frequency and confidence**, with which it is sometimes confused.

- ▶ **Probability** refers to the likelihood that an impact will occur;
- ▶ **Frequency** refers to the regularity with which an impact occurs. To illustrate the difference between frequency and probability, it must be considered that something that happens infrequently may still be a certainty (i.e. have a high probability). For instance, Halley's Comet only comes close to the sun every 75 to 76 years (i.e. it has a very low frequency), but it is still a certainty; and
- ▶ **Confidence** refers to the degree of certainty of a prediction. Confidence may be related to any of the impact assessment criteria (extent, intensity, duration or probability) and is not necessarily only related to probability. Confidence is influenced by any factors that introduce uncertainty into a prediction.

Depending on the numerical result of this calculation, the impact would fall into a significance category of one of the following:

- ▶ Negligible;
- ▶ Minor;
- ▶ Moderate; or
- ▶ Major.

(v) A description of the proposed method of assessing duration and significance;

Duration and significance for all identified impacts were assessed using the Zutari methodology described in (iv) above. In addition, Table 4 and Table 5 below show the scales used to define each of the rating categories for significance and duration.

Table 4 | Definition of Duration ratings

Rating	Criteria
7	Permanent: The impact will remain indefinitely.
6	Beyond project life: The impact will remain for some time after the life of the project.
5	Project life: The impact will cease after the operational life span of the project
4	Long-term: The impact will continue for 6-15 years.
3	Medium-term: The impact will continue for 2-5 years.
2	Short-term: The impact will continue for between 1 month and 2 years.
1	Immediate: The impact will continue for less than 1 month.

Table 5 | Definition of Intensity ratings

Annexure F of the
SR

A plan of study for undertaking the environmental impact assessment process to be undertaken, including:

Rating	Criteria	
	Negative impacts (Type of impact = -1)	Positive impacts (Type of impact = +1)
7	Complete destruction (irreversible and irreplaceable loss) of natural or social systems, resources (e.g. species) and human health. No chance of these processes or resources ever being restored to their pre-impact condition.	Noticeable, sustainable benefits that improve the quality and extent of natural or social system or resources, including formal protection.
6	Very high degree of damage to natural or social systems or resources. These processes or resources may restore to their pre-project condition over very long periods of time (more than a typical human life time).	Great improvement to ecosystem or social processes and services or resources.
5	Serious damage to components of natural or social systems or resources and the contravention of legislated standards.	On-going and widespread benefits to natural or social systems or resources.
4	High degree damage to natural or social system components, species or resources.	Average to intense positive benefits for natural or social systems or resources.
3	Moderate damage to natural or social system components, species or resources.	Average, on-going positive benefits for natural or social systems or resources.
2	Minor damage to natural or social system components, species or resources. Likely to recover over time. Ecosystems and valuable social processes not affected.	Low positive impacts on natural or social systems or resources.
1	Negligible damage to individual components of natural or social systems or resources, such that it is hardly noticeable.	Limited low-level benefits to natural or social systems or resources.

(vi) An indication of the stages at which the competent authority will be consulted;

Consultation with Competent Authority:

► Pre-Application Meeting:

A legal opinion was obtained by De Beers indicating that LEDET was the Competent Authority. The application will be submitted on 12 November 2021 and acknowledgement awaited.

► Comment on SR:

Other government departments like the Department of Forestry, Fisheries and Environment Fisheries (DFFE) and parastatals have been requested to provide comments on the SR in terms of Regulation 7(5) of GN R982 of 2014, when the SR was made available for public comment. This is to ensure that the SR contains sufficient information for the LEDET to make an informed decision and to ensure these reports satisfy the content requirements listed in the 2014 EIA Regulations. In

n.a.

A plan of study for undertaking the environmental impact assessment process to be undertaken, including:

terms of these regulations, the DFFE is required to submit comments within 30 days of the request for comment.

Once the PPP period for the SR has been completed, a Comment and Response Report (CRR) will be compiled. This will incorporate all comments received and responses thereto. The SR will take cognisance of all comments documented in the CRR. The SR, including the CRR, will be submitted to the LEDET for review. This CRR will be continuously updated throughout the project, until the EIR has been provided for comment.

► Comment and decision on SR:

In terms of Regulation 22 of GN R 982, the CA (LEDET) must, within 43 days of receipt of the SR, consider it, and in writing –

- (a) Accept the report and advise the EAP to proceed with the tasks contemplated in the PoS for EIA;
- (b) Refuse Environmental Authorisation if
 - (i) The proposed activity is in conflict with a prohibition contained in legislation, or
 - (ii) If the Scoping Report does not substantially comply with the objectives and content requirements for scoping reports in terms of the 2014 EIA Regulations and the applicant cannot ensure compliance with these regulations within the prescribed timeframe.

► Comment on EIR:

Should the SR and PoS for EIA be accepted, the EIR will be compiled. Please note that Zutari has only been appointed for the Scoping Phase thus far.

The DEFF and other government departments and parastatals will be requested to provide comments on the Draft EIR in terms of Regulation 7(5) of GN R982 of 2014 when it is made available for public comment. This is to ensure that the Final EIR contains sufficient information for the LEDET to make an informed decision and to ensure these reports satisfy the content requirements listed in the 2014 EIA Regulations. These parties will be required to submit comments within 30 days of the request for comment.

► Comment and decision on the EIR:

In terms of Regulation 24 of GN R982, the LEDET must within 107 days of receipt of the EIR and EMPr, in writing –

- (a) Grant environmental authorisation in respect of all or part of the activity applied for; or
- (b) Refuse environmental authorisation.

The above consultation opportunities with the LEDET are based on the requirements of the EIA Regulations. However, additional consultation with the LEDET may be required, depending on the outcome of the Public Participation Process and specialist assessments.

Appendix 2	Content as required by NEMA	Section of the FSR /Annexure
A plan of study for undertaking the environmental impact assessment process to be undertaken, including:		
	Section 5 of the SR provides further details regarding the national, provincial, local and parastatal organisations and departments which are to be consulted.	
(vii) Particulars of the public participation process that will be conducted during the environmental impact assessment process; and		
	<p>In total two opportunities for public participation during the EIA process will be provided, namely:</p> <ul style="list-style-type: none"> ▶ Scoping Phase comment period (30 days): The SR and Plan of Study for EIA were released for comment from 12 November 2021 to 12 December 2022. During this period, public and focus group meetings will be held between 24 and 26 November 2021 in Musina and Blouberg. ▶ EIA Phase comment period (30 days): Similar to the SR, the EIR will be subjected to a 30-day public comment period, during which all I&APs will be offered an opportunity to comment on the proposed project. <p>Throughout the EIA process, I&APs have the opportunity to contact the EAP to discuss the project and raise any issues or concerns they might have. Focus group meetings (subject to Covid-19 lockdown restrictions) will also be held with specific stakeholders to discuss issues that could be potential red flags for the proposed development.</p>	n.a.
(viii) A description of the tasks that will be undertaken as part of the environmental impact assessment process;		
	<p>The following tasks are proposed to be undertaken during the EIA Process:</p> <ul style="list-style-type: none"> ▶ Appointment of additional specialists, if required: Should additional specialist studies be required as a result of comments and information received from I&APs, organs of state, commenting authorities and/or the CA, the relevant specialists will be appointed to undertake these studies. ▶ Compilation of EIR: The compilation of the EIR will take cognisance of any comments received from I&APs, organs of state, commenting authorities, and/or the CA during the Scoping Phase. The EIR will incorporate these comments and the necessary changes will be made to the report, where applicable. The EIR will also incorporate the findings from any additional specialist assessments undertaken. <p>All comments received during public comment period on the EIR will be compiled into a CRR. Responses to comments received will also be included.</p> <p>An EMPr will incorporate mitigation measures identified and obtained during the Scoping and EIA Phases, with the proviso that non-feasible mitigation measures suggested by specialists will be discussed but will be clearly identified as being non-feasible. The EMPr will be used to enforce the mitigation measures and ensure that the impacts of all phases of the proposed project are properly managed and addressed. The EMPr will meet all the requirements of Appendix 4 of GNR 982 of 2014.</p> <ul style="list-style-type: none"> ▶ 30 day PPP on the EIR: 	n.a.

Appendix 2	Content as required by NEMA	Section of the FSR /Annexure
A plan of study for undertaking the environmental impact assessment process to be undertaken, including:		
	<p>As mentioned in (viii) above, the EIR will be subjected to a 30-day public comment period, during which all registered I&APs will be offered an opportunity to comment on the proposed project.</p> <p>► Compilation of EIR for submission:</p> <p>The compilation of the EIR after public review will take cognisance of any comments received from interested and affected parties, organs of state, commenting authorities, and/or the Competent Authority. The EIR will incorporate these comments and the necessary changes (if any) will be made to the report. All comments received will be compiled into a CRR.</p> <p>The EMPr will be finalised to include any comments received during the PPP and submitted to the Competent Authority for consideration and decision.</p>	
(ix) Identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.		
	<p>All specialists are required to identify suitable mitigation measures that can be adopted to reduce or avoid negative impacts and improve positive impacts for each phase of the project. These mitigation measures have been included in the SR and will be incorporated into the EMPr during the EIA Phase.</p> <p>Based on the specialists' assessments undertaken to date (scoping phase), the following measures are proposed to avoid, reverse, mitigate or manage impacts. Additional mitigation measures will be proposed and added as a result of specialist assessments undertaken during the EIA Phase.</p> <p>Impact on Terrestrial Biodiversity</p> <p><u>Construction Phase mitigation measures</u></p> <ul style="list-style-type: none"> ► It must be ensured that, as far as possible, all proposed infrastructure is placed outside of sensitive habitat areas. Where this is not possible, suitable mitigation measures, as outlined in this report, must be implemented; ► The construction footprint shall be kept as small as possible to minimise the impact on the surrounding habitat; ► The construction footprint shall be demarcated to ensure that all construction activities remain within this footprint; ► Areas of increased ecological importance and sensitivity, including wetland and ridge areas, shall be considered during all phases of the development planning and construction. Highly sensitive areas outside the development footprint shall be demarcated as No-Go areas; ► Disturbance to important avifaunal habitat, such as wetlands, shall be minimised by ensuring that, as far as possible, all development infrastructure is placed outside of sensitive areas; ► Planning of temporary roads and access routes should take the site sensitivity plan into consideration. As far as possible pre-existing roads are to be used, whilst new roads must avoid any wetland and water systems; 	Section 4 of the FSR

A plan of study for undertaking the environmental impact assessment process to be undertaken, including:

- ▶ Restrict vehicles to travelling only on designated roadways to limit the disturbance footprint of the proposed PV facility;
- ▶ Manage edge effects to ensure further loss of faunal habitat does not occur in the surrounding areas;
- ▶ Proliferation of alien and invasive species is expected within any disturbed areas. These species shall be eradicated and controlled to prevent their spread beyond the development area;
- ▶ Starting fires in the vicinity of development area shall be prohibited;
- ▶ No trapping or hunting of fauna shall be allowed to take place;
- ▶ It must be ensured that storm water is managed on site in a suitable manner, as per the stormwater management plan and EMPr (to be provided in the EIR);
- ▶ Fence footprint areas to ensure that all activities are contained within the demarcated areas and that no-go areas are clearly identified;
- ▶ Avoid disturbance of moderately-high sensitivity habitat units as far as possible. Where this is not possible, a rescue and relocation plan must be implemented prior to construction activities commence. It must also be ensured that the disturbance footprint must be minimised and any disturbed areas must be rehabilitated;
- ▶ Demarcate the construction footprint, and ensure that all construction activities remain within this footprint;
- ▶ Demarcate no-go areas clearly;
- ▶ Ensure that the proposed development footprint area remain as small as possible;
- ▶ Restrict vehicles to travelling only on designated roadways to limit the ecological footprint of the proposed development activities;
- ▶ Prohibit the collection of plant material for firewood or for medicinal purposes;
- ▶ Prohibit the collection of plant material for medicinal purposes;
- ▶ Proliferation of alien and invasive species is expected within any disturbed areas. These species should be eradicated and controlled immediately to prevent their spread beyond the construction activity area;
- ▶ All soils compacted as a result of construction activities falling outside of the footprint area should be ripped and profiled;
- ▶ Powerline crossings and tower footprints should not encroach upon any wetland temporary zone boundaries and associated buffers; and
- ▶ Should any Species of Conservation Concern (SCC) or other protected plant species be encountered within the subject property in the future, the following should be ensured:
 - ▶ If any threatened species will be disturbed, ensure effective relocation of individuals to suitable offset areas (of similar habitat in close proximity to where species were removed from, but outside the disturbance footprint); and
 - ▶ All rescue and relocation plans should be overseen by a suitably qualified specialist.

Operational Phase mitigation measures

A plan of study for undertaking the environmental impact assessment process to be undertaken, including:

- ▶ All disturbed areas must be suitably rehabilitated with locally indigenous plant species or as required by a rehabilitation specialist;
- ▶ Operational related activities shall be restricted to the development footprint;
- ▶ An alien and invasive vegetation control plan should be developed and implemented throughout the operational phase of the proposed PV facility;
- ▶ Vehicles shall be restricted to travelling only on designated roadways to limit the disturbance footprint of the proposed PV facility;
- ▶ No dumping or waste disposal shall occur within the study area; and
- ▶ Avifaunal species utilising wetland areas and especially waterbodies may be affected negatively by the solar panels as the reflection from the panels may be mistaken as water and avifaunal species may collide with the solar panels. White strips must be placed on the edges of the solar panels to make them more visible for avifaunal species

Impact on Freshwater Environments

Construction Phase mitigation measures

- ▶ The development footprint area shall be limited to what is absolutely essential in order to minimise environmental damage. Construction vehicles must use existing roads where possible;
- ▶ During construction the storage of all building materials shall be kept out of the wetlands;
- ▶ All waste and remaining building materials shall be removed from site on completion of the project and not dumped in the wetlands;
- ▶ No vehicles shall be allowed to indiscriminately drive through wetlands.;
- ▶ The duration in which soils are exposed during construction activities shall be kept as short as possible to prevent erosion or dust which can cause sedimentation of neighbouring wetlands;
- ▶ Concurrent rehabilitation is to take place as far as possible;
- ▶ As far as possible, all construction activities should occur in the low flow season, during the drier winter months; and
- ▶ Should sediment be deposited in the wetlands or aquatic systems, the following intervention could be considered or a site-specific erosion management plan shall be developed by a suitably qualified specialist:
- ▶ Straw barriers shall be installed in drainage paths to act as a check dam, i.e. to reduce velocity, and as a sediment trap during construction. These erosion barriers shall be placed at intervals of 25-50m apart in the drainage paths to intercept suspended solids from entering the natural drainage paths.

Operational Phase mitigation measures

- ▶ Any area where active erosion is observed must be immediately rehabilitated in such a way as to ensure that the hydrology of the area is re-instated to conditions which are as natural as possible; and
- ▶ If necessary, an erosion management plan should be developed by a suitably qualified specialist for implementation throughout the operational lifespan of the proposed PV facility.

Impact on Heritage Resources

Proposed mitigation measures will be dependent on the findings of the field assessments to be conducted. However, should any sites of significance be observed, the following measures may be required to be implemented:

- ▶ All identified heritage resources sites must be recorded with a geospatial location point. These sites should be considered during the more detailed design phase to avoid the sites and their buffer zones as far as possible.
- ▶ Where these sites can be avoided, they must be fenced off as a no-go area to avoid any disturbance during construction.

A chance find protocol should also be included in the EMP to instruct the contractor on measures to be followed should a heritage artifact be found during construction.

Additionally, the following mitigation measures must be undertaken for all these sites:

- ▶ Any structures and site layouts from each site must be recorded using standard survey methods. The end result would be site layout plans for all these sites;
- ▶ A mitigation report must be compiled for these sites within which all the mitigation measures and its findings will be outlined. The recorded drawings from the previous item must also be included in this mitigation report; and
- ▶ The completed mitigation report must be submitted to the relevant heritage authorities.

Social Impacts

Construction Phase and Decommissioning Phase mitigation measures

- ▶ Adopt a local procurement policy to maximise the benefit to the local community.
- ▶ The proponent should liaise with the Local Economic Development section of the relevant municipalities, local leaders and NGO's about their recruitment policy to ensure it is in line with the local practices and tap into existing knowledge. The recruitment policy must set reasonable targets for the employment of local people and women. The proponent and the municipalities should identify these targets before recruitment commences. The definition of "local" must be clarified with the affected stakeholders.
- ▶ Mitigation measures from the specialist studies dealing with the biophysical aspects of the impacts should give guidance on dealings with the impacts, but it should be considered that at times merely adhering to legal requirements may not be sufficient.
- ▶ The proponent should work with existing community groups to put security protocols in place or to fit in with existing protocols. Ensure sufficient safety measures for construction material and infrastructure.
- ▶ The proponent needs to have a stakeholder engagement strategy in place with clear communication, and where relevant guidelines, around these issues.
- ▶ The proponent must ensure that baseline measurements are taken and water availability is monitored on a regular base.

Operation Phase mitigation measures

- ▶ Local labour should be considered for employment opportunities.

Landscape and Visual Impacts

Construction, Operation and Decommissioning Phase mitigation measures

- ▶ To reduce visual intrusion, fences must be of a robust mesh type. Shiny galvanized or white coloured fencing must be avoided for permanent security fencing around infrastructure areas. Where practically feasible, the security fence must be offset between any road and a 10m green buffer zone must be kept in place to shield receptors from the security fencing;

A plan of study for undertaking the environmental impact assessment process to be undertaken, including:

- ▶ Set the development back as far as practically possible from the Venetia Mine access road and plant a buffer strip of indigenous low growing shrubs between the road and the proposed development to minimise the effects of glint and glare;
- ▶ Install low level lighting or limit mounting heights of lighting fixtures by utilising footlight or bollard level lights. The use of high light masts and high pole top security lighting should be avoided along the security fence of infrastructure areas. Any high-level masts should be covered to reduce glow and light spillage;
- ▶ Use minimum lumen or wattage in light fixtures, where possible and practical;
- ▶ Up lighting of structures must be avoided where possible, with lighting installed downward angles that provide precisely directed illumination beyond the immediate surroundings of the infrastructure, thereby minimising the light spill and trespass;
- ▶ All buildings must have “full cut off” light fixtures that direct light only below the horizontal;
- ▶ Use low pressure sodium lamps, yellow Light Emitting Diode (LED) lighting, or equivalent to reduce sky glow. (Bluish white lighting is more likely to cause glare);
- ▶ Make use of motion detectors on security lighting at office and Operations and Maintenance Building;
- ▶ Building walls must be painted in darker colours such as khaki brown, grey brown or olive green;
- ▶ Steel roof sheets must be a dark colour such as khaki brown, grey brown or olive green;
- ▶ Reduce the visual contrast by avoiding bright and light colours like red, blue, and orange for ancillary infrastructure;
- ▶ Make use of existing access roads and dirt tracks so that it minimizes modification of the existing topography; and
- ▶ Solar facilities should be sited and designed to ensure that glint and glare do not have significant effects for users of the existing main road and air strip;
- ▶ Material stockpiles must not be higher than 3m;
- ▶ Construction signage should not be obtrusive and should not be seen against the skyline;
- ▶ Fences around construction camps should be black and of a robust mesh like material;
- ▶ Only the bigger tree species and/or individuals potentially causing problems with the transmission line/s should be removed. i.e., it is not necessary to clear/ fell the access route beneath the transmission line or the servitude;
- ▶ Vegetation clearance along the construction footprint of the servitude must be minimized by fencing off the work area and restricting vehicular access outside this area;
- ▶ Laydown areas must not be directly next to the Venetia mine access road (there should be a 10m vegetation buffer between any road and laydown area);
- ▶ After the construction phase, the areas disturbed that are not earmarked for operational purposes (part of infrastructure footprint) must be suitably rehabilitated;

Appendix 2	Content as required by NEMA	Section of the FSR /Annexure
A plan of study for undertaking the environmental impact assessment process to be undertaken, including:		
	<ul style="list-style-type: none"> ▶ Trees and shrubs must be planted in clumps, (mimicking natural vegetation openings) and not in rows or other geometric shapes; ▶ Construction activities should be restricted to daylight hours as far as possible, to limit the need to bright floodlighting and the potential for sky glow; ▶ Avoid the complete removal of vegetation beneath the solar collector arrays, if vegetation can safely be left beneath the array and does not interfere with facility construction, operation, or maintenance, colour contrasts associated with exposed or eroded soils can be reduced Where it is not feasible to leave existing vegetation due to construction, safety, or operational concerns, post-construction revegetation should be considered, consistent with facility operations and safety considerations; ▶ The Contractor shall not deface, paint, damage or mark any natural feature (e.g., rocks, etc.) situated on or around the site for survey or any other purposes unless agreed beforehand. ▶ Maintaining as much of the natural vegetation on the ground within the development footprint as practically feasible (vegetation under collector arrays may need periodic maintenance to maintain an acceptable height). <p>Impacts of Hazardous Substances</p> <p><u>Construction Phase mitigation measures</u></p> <ul style="list-style-type: none"> ▶ The management and protection of the environment would be achieved through the implementation of the EMPr, which, inter alia, specifies the storage details of hazardous compounds and the emergency procedures to follow in the event of a spillage; ▶ Typical mitigation measures include storage of the material in a bunded area, with a volume of 110% of the largest single storage container or 25% of the total storage containers whichever is greater, refuelling of vehicles in designated areas that have a protective surface covering and utilisation of drip trays for stationary plant. 	

3 Conclusion

This section briefly concludes the report and touches on a few key procedural aspects for the steps to follow.

This Annexure provides the necessary details of the proposed project and the EIA process to be undertaken as per the requirements of Appendix 2 of the 2014 EIA Regulations (GNR 982 of 2014).

After concluding the PPP comment period for the SR, the SR will be finalised and submitted to LEDET for review. The LEDET must, within 43 days of receipt of the SR, consider it, and in writing –

- (c) Accept the report and advise the EAP to proceed with the tasks contemplated in the PoS for EIA;
- (d) Refuse Environmental Authorisation if
 - (iii) The proposed activity is in conflict with a prohibition contained in legislation, or
 - (iv) If the Scoping Report does not substantially comply with the objectives and content requirements for scoping reports in terms of the 2014 EIA Regulations and the applicant cannot ensure compliance with these regulations within the prescribed timeframe.

Should the PoS for EIA be approved by LEDET, an EIA process will follow and be undertaken as per the requirements of Appendix 3 of the 2014 EIA Regulations (GNR 982 of 2014).

In diversity there is beauty and there is strength.

MAYA ANGELOU

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