

SITE VERIFICATION REPORT

December 2022

THE PROPOSED DROOGFONTEIN 5 SOLAR
AND BATTERY STORAGE ENERGY FACILITY,
NEAR KIMBERLEY, NORTHERN CAPE
PROVINCE



ENVIRONAMICS

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PROJECT DETAIL

DFFE Reference No's.	:	To be obtained
Project Title	:	The proposed Droogfontein 5 Solar and Battery Storage Energy Facility, near Kimberley, Northern Cape Province
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Client	:	FS Droogfontein (Pty) Ltd
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1 INTRODUCTION

This Site Verification Report is compiled in compliance with Government Notice No. 320, dated 20 March 2020, which includes the requirement for an Initial Site Sensitivity Verification Report to be produced for a development footprint. The outcome of the Initial Site Verification must be recorded in the form of a report that-

- a) Confirms or disputes the current use of the land and environmental sensitivity as identified by the national web based environmental screening tool;
- b) Contains a motivation and evidence of either the verified or different use of the land and environmental sensitivity;
- c) Is submitted together with the relevant reports prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.

FS Droogfontein (Pty) Ltd intends to develop a photovoltaic solar energy facility (SEF), inclusive of a Battery Energy Storage System (BESS) and associated infrastructure on the Remaining Extent and Portion 1 of the Farm Droogfontein No. 62, located near Kimberley in the Northern Cape. The solar facility will have a generating capacity of up to 200MW (direct current) with up to 180MW alternating current. The town of Kimberley is located approximately 20 km south of the proposed development (which is the largest town in the area) and the small town of Riverton is located directly to the north of the affected properties.

Five development area alternatives have been identified and assessed for the placement of the development footprint of the facility and associated infrastructure. These areas are referred to as Options A, B, C, D and E.

Through a consultative process between the Applicant and the relevant independent specialists, it was confirmed that Options A and B are not suitable for the placement of the development footprint infrastructure considering ecological and avifaunal sensitivities present. Therefore, Options C, D and E have been considered more acceptable and is fully assessed as par of the Basic Assessment process and is therefore discussed in this site verification report.

1.1 Specialist Assessments identified by the Screening Report

The DFFE Screening Tool Reports (Appendix B of the Basic Assessment Report) for the five development area alternatives identified the following specialist assessment to be included in the assessment:

1. Agricultural Impact Assessment
2. Landscape/Visual Impact Assessment

3. Archaeological and Cultural Heritage Impact Assessment
4. Paleontology Impact Assessment
5. Terrestrial Biodiversity Impact Assessment
6. Aquatic Biodiversity Impact Assessment
7. Civil Aviation Assessment
8. Defense Assessment
9. RFI Assessment
10. Geotechnical Assessment
11. Socio-economic Assessment
12. Plant Species Assessment
13. Animal Species Assessment

The table included below provides an indication of the specialist studies identified by the DFFE Screening Tool Report, as well as an indication of whether the studies were undertaken or not and a motivation or confirmation of the studies being included or not. This table is also included under section

Table 1.1: Specialist studies identified by the DFFE Screening tool and specialist studies conducted

Study identified in the DFFE Screening Tool and sensitivity	Study included?	Confirmation / motivation
Agricultural Impact Assessment Sensitivity: Medium	Yes	An Agricultural Compliance Statement is included in Appendix D4. The site sensitivity is confirmed in the report as low and moderate.
Landscape / Visual Impact Assessment Sensitivity: Very High	Yes	A Visual Impact Assessment is included in Appendix D3.
Archaeological and Cultural Heritage Impact Assessment Sensitivity: High and Low	Yes	A Heritage Impact Assessment is included in Appendix D5.
Palaeontological Impact Assessment Sensitivity: Medium	Yes	A desktop Palaeontological Impact Assessment is included in Appendix D6.

Terrestrial Biodiversity Impact Assessment Sensitivity: Very High and Low	Yes	<p>A Terrestrial Ecology Impact Assessment is included in Appendix D1.</p> <p>This assessment has been undertaken in terms of the Protocols of GNR320 – refer to the content of the report.</p>
Aquatic Biodiversity Impact Assessment Sensitivity: Low	Yes	<p>A Wetland Impact and Risk Assessment is included in Appendix D8.</p> <p>This assessment has been undertaken in terms of the Protocols of GNR320 – refer to the content of the report.</p>
Civil Aviation Assessment Sensitivity: Low and Medium	Yes – site verification	<p>The allocation of medium sensitivity is based on the location of the development within 8km of other civil aviation aerodromes. However, the land use of the site is confirmed as being used for grazing purposes and the generation of renewable energy through the solar resource. It must be noted that the allocation of medium is only related to development area Option C (which has not been identified as the preferred development area for the placement of the development footprint).</p> <p>The Civil Aviation Authority has been consulted regarding the development of the project since the commencement of the BA Process. No specific negative impacts or issues have been raised to date by the CAA regarding the project and therefore no Civil</p>

		Aviation Assessment has been undertaken. The project is also not located within an area considered to be of a high sensitivity.
Defense Assessment Sensitivity: Low	Yes – site verification	The sensitivity for the entire extent of the site is low and therefore no assessment has been included.
RFI Assessment Sensitivity: Low	Yes – site verification	<p>The RFI theme sensitivity is low for the entire extent of the project.</p> <p>The South African Radio Astronomy Observatory (SARAO) has been consulted regarding the development of the project since the commencement of the BA Process. No specific negative impacts or issues have been raised to date by the SARAO regarding the project. The project is also not located within an area considered to be of a medium or high sensitivity.</p>
Geotechnical Assessment Sensitivity: Not indicated	No	<p>The Geotechnical Assessment will be undertaken by the Applicant as part of the micro-siting process for the development.</p> <p>Geotechnical considerations are considered to be technical aspect which needs to be considered and not an environmental aspect.</p>
Socio-Economic Assessment Sensitivity: Not indicated	Yes	A Social Impact Assessment is included in Appendix D7.
Plant species Assessment Sensitivity: Medium	Yes	Refer to Appendix D1. The Terrestrial Ecology Impact Assessment also includes the relevant Plant Species Assessment.

		This assessment has been undertaken in terms of the Protocols of GNR320 – refer to the content of the report.
Animal Species Assessment Sensitivity: High	Yes	Refer to Appendix D1. The Terrestrial Ecology Impact Assessment also includes the relevant Animal Species Assessment. This assessment has been undertaken in terms of the Protocols of GNR320 – refer to the content of the report.

1.2 Sensitivities of the studies not conducted

This report has been produced specifically to consider the Civil Aviation, Defence and RFI theme and addresses the content requirements of (a) and (b) above.

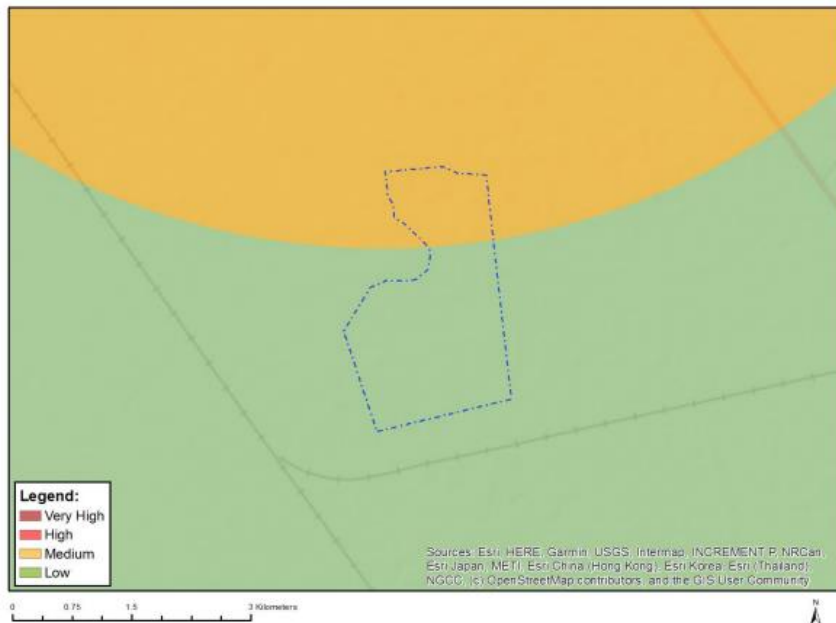
The remaining required specialist studies have been undertaken as part of the Environmental Impact Assessment process as listed in the DFFE Screening Tool Reports. The only study not considered as relevant is the Geotechnical Assessment which will only be undertaken before construction begins as part of the micro-siting of the facility layout. The consideration of geotechnical aspects are considered to be of a technical concern rather than an environmental concern.

The sensitivities for the Civil Aviation, Defence and RFI themes associated with Droogfontein 5 Solar and Battery Storage Energy Facility are as follows:

1.2.1 Civil Aviation Theme

The site sensitivity is classified as low for Options D and E, with the norther section of Option C located within a medium sensitivity area based on the location within 8km of an other civil aviation aerodrome. Refer to Figures 1.1 -1.3.

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	No major or other types of civil aviation aerodromes
Medium	Within 8 km of an other civil aviation aerodrome

Figure 1.1: Civil aviation sensitivity as indicated by the DFFE Screening Tool Report for development area Option C

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY

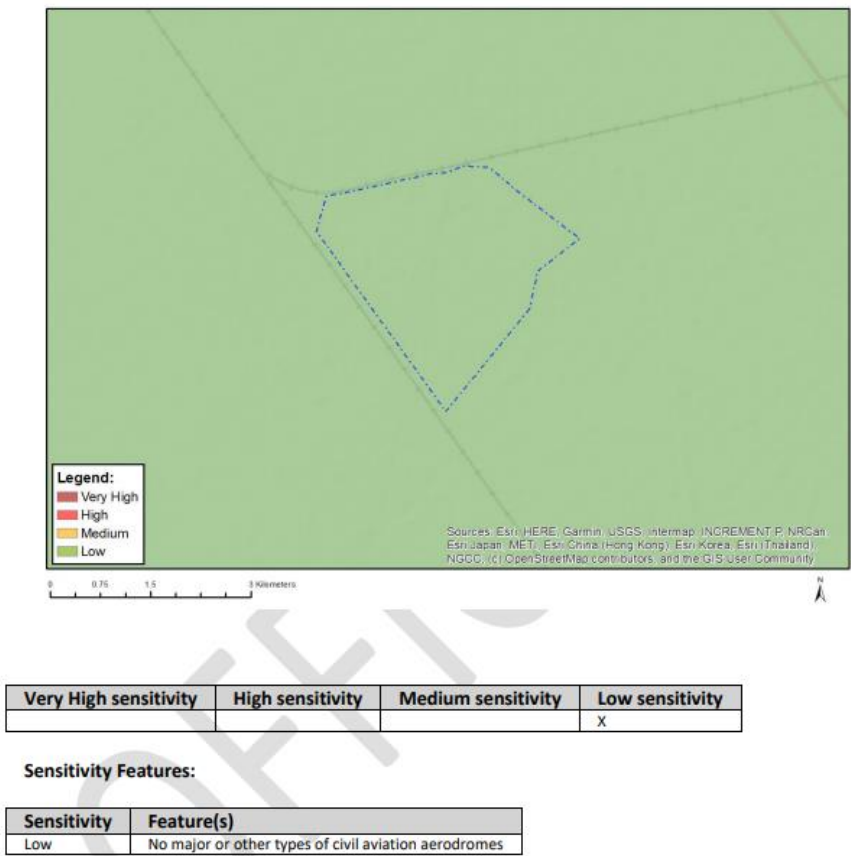
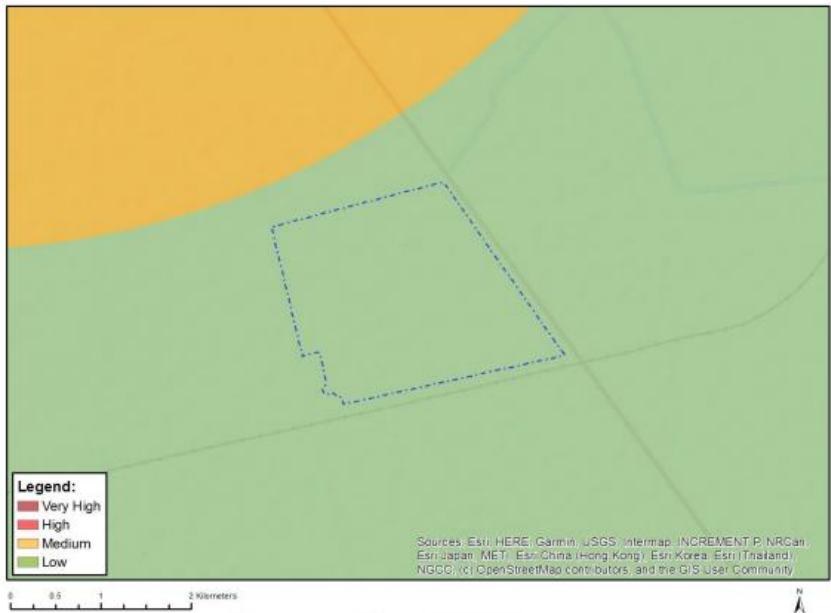


Figure 1.2: Civil aviation sensitivity as indicated by the DFFE Screening Tool Report for development area Option D

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	No major or other types of civil aviation aerodromes

Figure 1.3: Civil aviation sensitivity as indicated by the DFFE Screening Tool Report for development area Option E

1.2.2 Defence theme

The defence theme is classified as low for development area alternatives Options C, D and E. Refer to Figures 1.4-1.6 below.

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

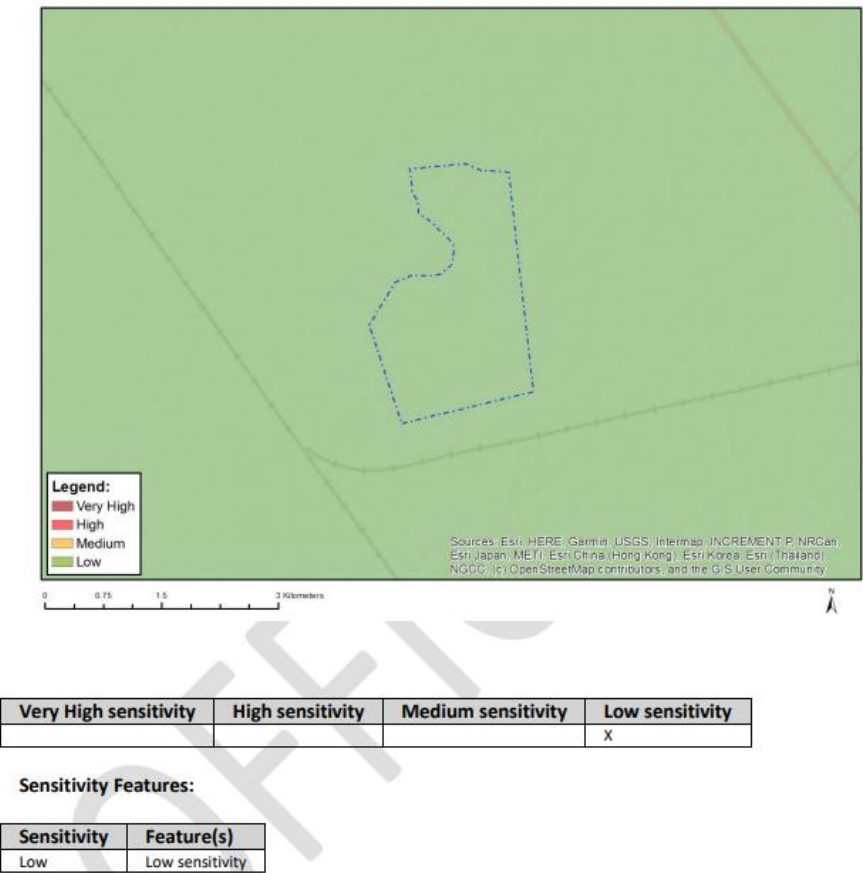
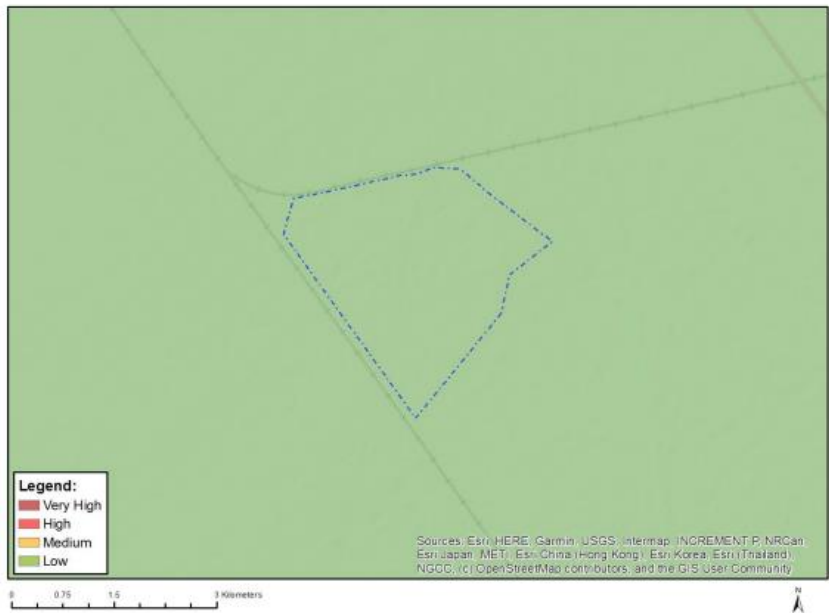


Figure 1.4: Defence theme sensitivity as indicated by the DFFE Screening Tool Report for development area Option C

MAP OF RELATIVE DEFENCE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

Figure 1.5: Defence theme sensitivity as indicated by the DFFE Screening Tool Report for development area Option D

MAP OF RELATIVE DEFENCE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

Figure 1.6: Defence theme sensitivity as indicated by the DFFE Screening Tool Report for development area Option E

1.2.3 RFI Theme

The sensitivity of the RFI theme for the development area alternatives Options C, D and E is low. Refer to Figure 1.7-1.9 below.

MAP OF RELATIVE RFI THEME SENSITIVITY

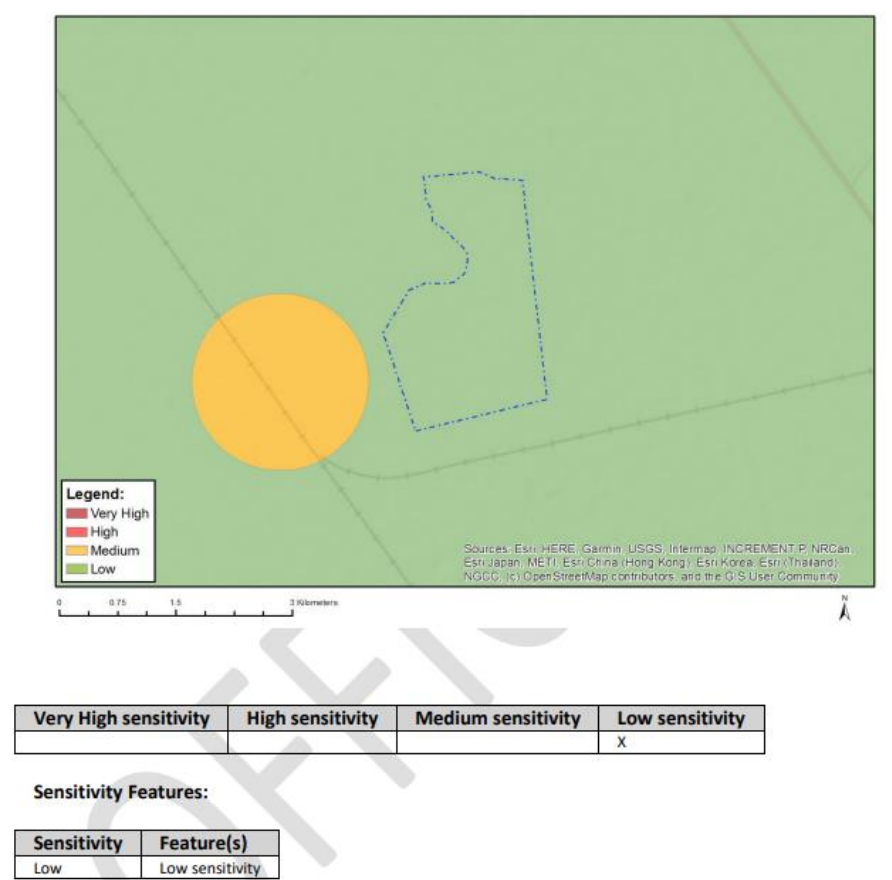


Figure 1.7: RFI theme sensitivity as indicated by the DFFE Screening Tool Report for development area Option C

MAP OF RELATIVE RFI THEME SENSITIVITY

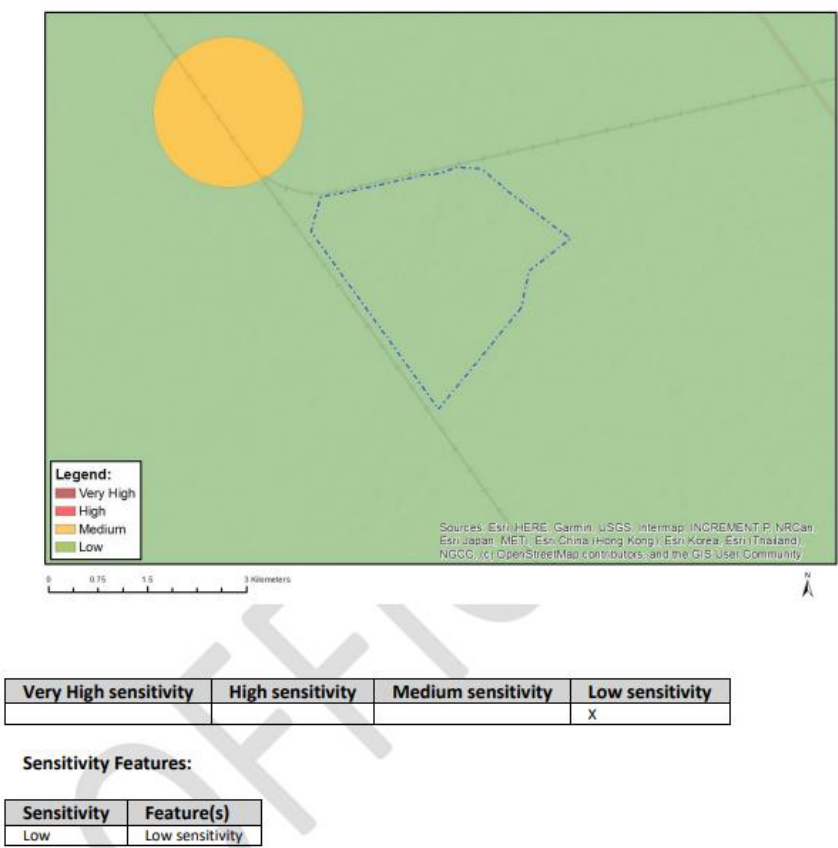


Figure 1.8: RFI theme sensitivity as indicated by the DFFE Screening Tool Report for development area Option D

MAP OF RELATIVE RFI THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

Figure 1.9: RFI theme sensitivity as indicated by the DFFE Screening Tool Report for development area Option E

1.3 Current/ Verified Land Use

The site is located in a rural area to the north of Kimberley and is bordered by farms where mainly agricultural activities are undertaken. The municipal area is known for mining activities, with mining considered as the primary sector.

Further to the above the actual affected properties have already been transformed by the development of two solar energy facilities. The existing Droogfontein 1 Solar Power Plant is located within the Remaining Extent of the Farm Droogfontein No. 62. The Droogfontein 1 Solar Power Plant is owned and operation by Globeleq South Africa Management Services (Pty) Ltd.

Furthermore, the proposed Droogfontein 4 Solar and Battery Storage Energy Facility project is also proposed on the Remaining Extent of the Farm Droogfontein No. 62. The Basic Assessment process for this development is also being undertaken by Environamics.

The existing Droogfontein 2 Solar PV Park (also known as Matla A Bokone Solar Power Plant) is located on Portion 1 of the Farm Droogfontein No. 62. This development is owned and operated by African Infrastructure Investment Managers (AIIM) (Pty) Ltd.

Further to the above, the affected properties also contain existing high voltage Eskom grid connection infrastructure, specifically power lines.

Refer to Figures 1.10 – 1.15 for photographs of the development area alternatives Options C, D and E.



Figure 1.10: General conditions and land use of development area alternative Option C – taken from the centre of the area



Figure 1.11: General conditions and land use of development area alternative Option C – taken from the centre of the area



Figure 1.12: General conditions and land use of development area alternative Option D – taken from the centre of the area



Figure 1.13: General conditions and land use of development area alternative Option D – taken from the centre of the area



Figure 1.14: General conditions and land use of development area alternative Option E – taken from the centre of the area



Figure 1.15: General conditions and land use of development area alternative Option E – taken from the centre of the area

2 SITE VERIFICATION

This section will evaluate and verify the sensitivity ratings provided by the DFFE Screening Tool Report and provide feedback from the EAP.

2.1 Civil Aviation Theme

The site sensitivity is classified as low for Options D and E with no civil aviation infrastructure located in proximity to the proposed areas that will be affected. The sensitivity for Option C is classified as medium

Table 2.1: Verification of DFFE Screening Report Sensitivity Ratings for the Civil Aviation Theme – Options D and E

Identified Sensitivity		Comment
<u>DFFE Screening Report</u>	<u>EAP Feedback</u>	
Low	Low	
As no specific assessment protocol has been prescribed, the required level of assessment must be based on the findings of the Initial Site Sensitivity Verification and must comply with Appendix 6 of the Environmental Impact Assessment Regulations promulgated under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (The Act), where a specialist assessment is required.		<p>The identification of the sites as low sensitivity considering civil aviation is agreed to by the EAP. This is based on the current land use of the site being used for agricultural purposes.</p> <p>The Civil Aviation Authority (CAA) has been identified as an I&AP, and has received the Draft Basic Assessment report for review and commenting. No comments from the CAA have been received as part of the public participation process.</p>

Table 2.2: Verification of DFFE Screening Report Sensitivity Ratings for the Civil Aviation Theme – Option C

Identified Sensitivity		Comment
DFFE Screening Report Medium Low potential for negative impacts on the civil aviation installation, and if there are impacts there is a high likelihood of mitigation. Further assessment of the potential impacts may not be required.	EAP Feedback Low	<p>No civil aviation installations have been identified for the area, with only the Kimberley Airport and the SAVO Aerodrome identified that are located in Kimberley 20km to the south of the area.</p> <p>The EAP disputes the medium sensitivity rating based on the location of existing aerodromes in relation to the area as well as the current land use of the site, which is grazing activities and solar energy generation. Furthermore, the proposed are is located adjacent to existing infrastructure such as regional and national roads and existing grid connection infrastructure.</p> <p>The Civil Aviation Authority will also consulted regarding the development of the project since the commencement of the BA Process.</p> <p>The project is also not located within an area considered to be of a high sensitivity.</p>

The proposed development will not have an unacceptable negative impact on civil aviation installations, if any of the three options are developed, based on the findings of the site visit and the lack of civil aviation infrastructure within the general area.

Based on the above, the EAP agrees with the outcome and results for the Civil Aviation Theme for development are Options D and E, which is of low sensitivity. The EAP disputes the medium sensitivity of development area Option C based on the lack of evidence found in terms of aerodrome installations within the area, the sensitivity should rather be low.

This assessment is considered sufficient for the civil aviation theme. There is no reason for the development not to proceed based on the results of the assessment and no objections are made.

2.2 Defence Theme

Table 2.3: Verification of DFFE Screening Report Sensitivity Ratings for the Defence Theme – Options C, D and E

Identified Sensitivity		Comment
<u>DFFE Screening Report</u> Low As no specific assessment protocol has been prescribed, the required level of assessment must be based on the findings of the Initial Site Sensitivity Verification and must comply with Appendix 6 of the Environmental Impact Assessment Regulations promulgated under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (The Act), where a specialist assessment is required.	<u>EAP Feedback</u> Low	<p>The site verification report agrees with the allocation of a low sensitivity for the defence theme</p> <p>The affected property is confirmed to be used for agricultural purposes (grazing) and solar energy generation and therefore the development of will not have any impact on defence installations.</p> <p>The South African Department of Defence has been identified as an I&AP will notified of the developments since commencement of the BA process.</p>

The proposed development will not have an unacceptable negative impact on defence installations. Considering the sites under assessment and the surrounding defence aspects the sensitivity is confirmed as low.

This assessment is considered sufficient for the defence theme. There is no reason for the development not to proceed based on the results of the assessment and no objections are made.

2.3 Radio Frequency Interference (RFI) Theme

Table 2.4: Verification of the DFFE Screening Tool Report Sensitivity Ratings for the Radio Frequency Interference (RFI) Theme – Options C, D and E

Identified Sensitivity		Comment
<u>DFFE Screening Report</u> Low As no specific assessment protocol has been prescribed, the required level of assessment must be based on the findings of the Initial Site Sensitivity Verification and must comply with Appendix 6 of the Environmental Impact Assessment Regulations promulgated under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (The Act), where a specialist assessment is required.	<u>EAP Feedback</u> Low	<p>The site verification is inconclusive as no desktop information could be sought, however on-site evidence of the low sensitivity was available identified during the site inspection since no potential RFI could be identified.</p> <p>The South African Radio Astronomy Observatory (SARAO) have been consulted regarding the development of the project and the Basic has been circulated to SARAO for review and commenting. No comment has been received from SARAO to date.</p>

The EAP was not able to verify the findings of the Screening Tool. A desktop based assessment into telecommunications; Radio Astronomy Advantage Areas and Weather Radar installation areas was undertaken, however no information is readily available. The EAP could not confirm if any features are present in proximity to the proposed development.

However, as the theme is of a low sensitivity, no unacceptable impact is expected to occur. I&APs that may be impacted in this regard will be consulted during the process and all comments will be considered.

3 CONCLUSION

The DFFE Screening Tool Report identified thirteen (13) specialists' studies to be conducted, which includes Agricultural Impact Assessment, Landscape/Visual Impact Assessment, Archaeological and Cultural Heritage Impact Assessment, Palaeontology Impact Assessment, Terrestrial Biodiversity Impact Assessment, Aquatic Biodiversity Impact Assessment, Avian Impact Assessment, Civil Aviation Assessment, RFI Assessment, Geotechnical Assessment, Socio-Economic Impact Assessment, Plant Species Assessment and Animal Species Assessment.

The Low sensitivity ratings for the Civil Aviation, defence and RFI theme is confirmed by the site verification report. Therefore, the project will not have an unacceptable negative impact on Civil Aviation, Defence or RFI installations. The relevant stakeholders will be consulted as part of the Basic Assessment process to obtain comment on the proposed development.