DRAFT BASIC ASSESSMENT REPORT

The Proposed Installation of Solar Panels and Associated Infrastructure on Portion 10 of Farm 502, Stellenbosch

NOI Reference Number: 16/3/3/6/7/1/B4/45/1409/24
Reference Number: to be determined

November 2024

DOCUMENT NAME:
The Proposed Installation of Solar Panels and Associated Infrastructure on Portion 10 of Farm 502, Stellenbosch.

PROJECT NUMBER:
N/A

DATE:
November 2024

REPORT STATUS:
Draft

CARRIED OUT BY:
GroenbergEnviro (Pty) Ltd

COMMISSIONED BY:
Spier Farm Management (Pty) Ltd

CLIENT CONTACT DETAILS:
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Stellenbosch,
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AUTHOR(S):
Mische Molife

SYNOPSIS:
See Executive Summary

PREPARED BY:
GroenbergEnviro (Pty) Ltd

Revision Status

Rev No.	Issue Date	Author	Technical Review	Report Review
0	November 2024	M. Molife	P. Badenhorst and H. Badenhorst	P. Badenhorst and H. Badenhorst

Contact Information

Please contact the undermentioned should you require further information.

GroenbergEnviro PTY Ltd	
Address:	Wellington Klein Opperhorst PO Box 1058 Wellington 7654 Fax: +27 86 476 7139
Website	www.groenbergenviro.co.za
Contact Person	Misché Molife I have 11 years' experience in Environmental Impact Assessments (EIA), environmental management, report writing and project management. I have a BSc degree in Biodiversity and Conservation Biology from The University of the Western Cape. My focus in GroenbergEnviro is primarily on Environmental Impact Assessments and Water Use License Applications. EAPASA Registration Number: 2020/1410
Contact number	+27 79 111 7378
Cell number	+27 79 111 7378
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Email	mische@groenbergenviro.co.za

Disclaimer

The opinions expressed in this report have been based on the information supplied to GBE by the Applicant. GBE has exercised all due care in reviewing the supplied information, with conclusions from the review being reliant on the accuracy and completeness of the supplied data.

GBE does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them.

Professional environmental opinions presented in this report apply to the site conditions and features as they existed at the time of GBE's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which GBE had no prior knowledge nor had the opportunity to evaluate.

POPIA

Regulation 42 of the Environmental Impact Assessment Regulations, 2014, as amended (EIA Regulations) provides for the opening and maintenance of a register of interested and affected parties (I&APs), by the proponent or applicant, which must contain personal information (names, contact details and addresses). It is therefore the duty of the proponent or applicant to collect the information that must be contained in the register.

Regulation 42 further requires that these registers must be submitted to the Competent Authority (CA). There is no legal requirement in the EIA Regulations that such registers must be included in the reports that are published for public consultation purposes or be made publicly available as part of the EIA process. Since the information in the registers is personal/private information, it should not be included in or attached to reports and be made available in the public domain. CAs, applicants and environmental assessment practitioners (EAPs) should take note that, if this information was previously included in reports and shared in the public domain, this now requires reconsideration in accordance with the POPIA. The Department realises that EAPs may have included some personal information in these reports when they receive and compile them. Likewise, this information may reach CAs who also now need to be sensitive about the management of this information.

Section 11(1)(a) of POPIA provides further that personal information may only be processed if the data subject consents to the processing.

The requirements of Section 18.1 of POPIA requires that if personal information is collected, the responsible party must take reasonably practicable steps to ensure that the data subject is aware of, amongst other things, the information being collected, the name and address of the responsible party (in this case the EAP and applicant), the purpose for which the information is collected, whether or not the supply of the information by the data subject is voluntary or mandatory, the consequence of the failure to provide the required information, further information such as the recipient of the information, as well as the existence of the right to object to the processing of the personal information.

EAPs should obtain express consent from commenting parties to include their names with their comments in the reports. It is therefore recommended that the EAP, when requesting comment, should also request the persons who may comment to provide consent that their names may be included with their comments in the reports. Commenting parties should also be informed that they may opt to not have their names shared, as well as an indication of the consequences of such an option being exercised, in which case only the comments will be included. This will ensure that the requirements of Section 11(1)(a) of POPIA, which provides that personal information may only be processed if the data subject consents to the processing, is given effect to. Even when consent is obtained it is recommended that only the minimum details (the names) should be included in reports and the inclusion of unnecessary and excessive information should be avoided.

Table of Contents

Western Cape Government

Department of Environmental Affairs and Development Planning

BASIC ASSESSMENT REPORT

THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.

APRIL 2024

BASIC ASSESSMENT REPORT

THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.

APRIL 2024

(For official use only)	
Pre-application Reference Number (if applicable):	
EIA Application Reference Number:	
NEAS Reference Number:	
Exemption Reference Number (if applicable):	
Date BAR received by Department:	
Date BAR received by Directorate:	
Date BAR received by Case Officer:	

GENERAL PROJECT DESCRIPTION

(This must Include an overview of the project including the Farm name/Portion/Erf number)

Project Description:

The proposed development, situated on Portion 10 of Farm 502, is located south-west of Stellenbosch, within the Stellenbosch Municipal area (see **Figure 1**).

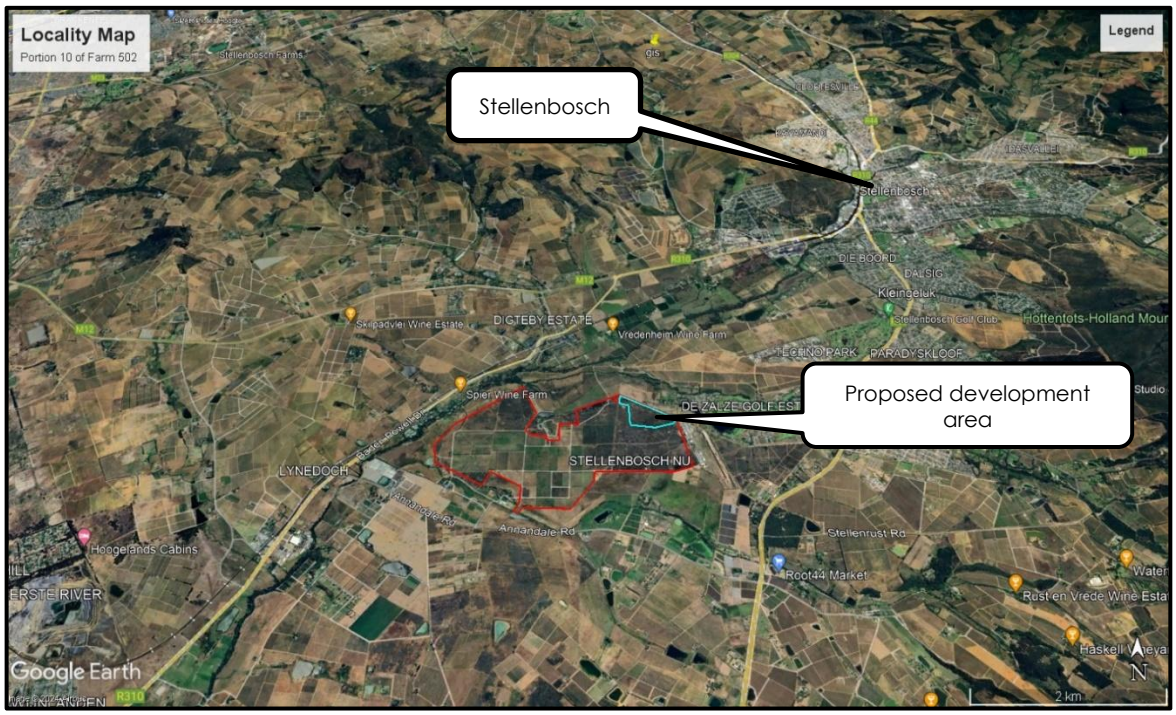

Figure 1: Proposed development location (indicated by the red polygon)

The proposed development requires the clearance of approximately 19ha of vegetation for the installation of solar panels and associated infrastructure, which covers an area of more than 1ha. **Figure 2** illustrates the development layout.

The proposed development will require the following:

- Ground Mounted Solar Panels and associated infrastructure.
  - The solar panels are fixed and do not move with the sun.
  - The panel frames are secured to the ground by drilling reinforced poles into the ground.
- A container for inverters will be installed. This will be a heavy-duty aluminium powder-coated container on stilts.
- Underground feeder cables from the inverter building to the areas where electricity is required.
- Security fence (e.g. Clearvu fencing) will be installed around the solar panel site perimeter.

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Phase 1	Fixed Tilt	Portrait (Vertical)	25°	0°	3.5 m	2x1	1,636	3,272	1.80 MW

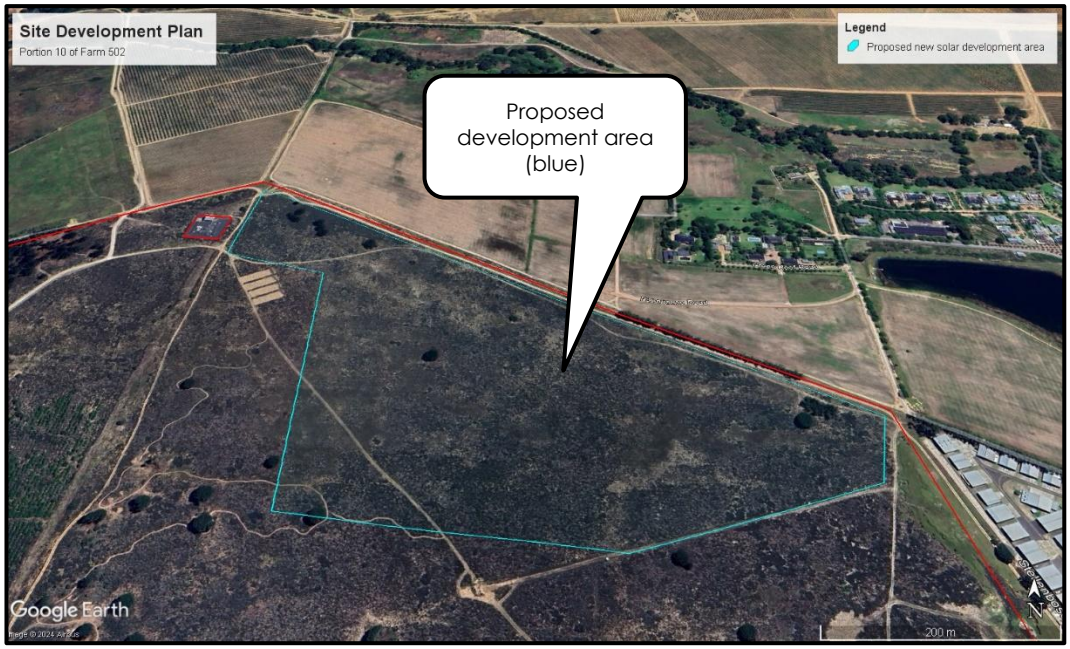

Figure 2: Proposed development layout

The proposed development will be conducted in 2 phases.

- Phase 1 – +/- 1.8MW for own consumption (+/- 2.5ha) (refer to **Figure 3**).
- Phase 2 – Up to 7MW for distribution/wheeling. (+/- 12ha).
- Phase 1 will be for Spier's own energy security needs.
- Phase 2 would be connected to the Eskom grid for purposes of wheeling electricity to other Eskom-connected customers.

Figure 3: Illustration of Phase 1

The applicant considered the need for the conservation of the natural environment on which the two phases of this proposed development will be constructed, by enhancing and incorporating other activities being conducted by Spier to achieve dual use of the land area.

The project will include an Agri-voltaic solution, meaning low soil and vegetation impact and the establishment of pollinators on and around the proposed development area. This makes use of low-impact mounting structures with no concrete bases, wider row spacing that reduces shading on vegetation between rows and higher mounting of panels to allow light under the panels for plant growth. Refer to **Figure 4** and **Figure 5** for an illustration of the proposed panels.

Figure 4: Illustration of the solar panels (1)

Figure 5: Illustration of the solar panels (2)

Shading is particularly important to consider for winter months in the Western Cape to allow plant growth to continue.

IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.

2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".

3. *Submission of documentation, reports and other correspondence:*

   The Department has adopted a digital format for corresponding with proponents/applicants or the general public. If there is a conflict between this approach and any provision in the legislation, then the provisions in the legislation prevail. If there is any uncertainty about the requirements or arrangements, the relevant Competent Authority must be consulted.

   The Directorate: Development Management has created generic e-mail addresses for the respective Regions, to centralise their administration. Please make use of the relevant general administration e-mail address below when submitting documents:

   DEADPEIAAdmin@westerncape.gov.za
   Directorate: Development Management (Region 1):
   City of Cape Town; West Coast District Municipal area;
   Cape Winelands District Municipal area and Overberg District Municipal area.

   DEADPEIAAdmin.George@westerncape.gov.za
   Directorate: Development Management (Region 3):
   Garden Route District Municipal area and Central Karoo District Municipal area

   General queries must be submitted via the general administration e-mail for EIA related queries. Where a case-officer of DEA&DP has been assigned, correspondence may be directed to such official and copied to the relevant general administration e-mail for record purposes.

   All correspondence, comments, requests and decisions in terms of applications, will be issued to either the applicant/requester in a digital format via email, with digital signatures, and copied to the Environmental Assessment Practitioner ("EAP") (where applicable).

4. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.

5. All applicable sections of this BAR must be completed.

6. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.

7. This BAR is current as of **April 2024**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at http://www.westerncape.gov.za to check for the latest version of this BAR.

8. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA

Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.

9. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.

10. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.

11. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.

12. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.

13. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.

14. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link https://screening.environment.gov.za/screeningtool to generate the Screening Tool Report. The screening tool report must be attached to this BAR.

15. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ('NEM:AQA"), the submission of the Report must also be made as follows, for-
Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS	
CAPE TOWN OFFICE: **DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 1)** (City of Cape Town, West Coast District, Cape Winelands District & Overberg District)	**GEORGE REGIONAL OFFICE:** **DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 3)** (Central Karoo District & Garden Route District)
The completed Form must be sent via electronic mail to: DEADPEIAAdmin@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 1) at: E-mail: DEADPEIAAdmin@westerncape.gov.za Tel: (021) 483-5829 Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1) Private Bag X 9086 Cape Town, 8000	The completed Form must be sent via electronic mail to: DEADPEIAAdmin.George@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 3) at: E-mail: DEADPEIAAdmin.George@westerncape.gov.za Tel: (044) 814-2006 Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	The scale of the locality map must be at least 1:50 000. For linear activities or development proposals 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; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken. Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and Public Works) that will be affected by the proposed development must be included in the Report.
Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following: • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development **must** be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): o Watercourses / Rivers / Wetlands o Flood lines (*i.e.*, 1:100 year, 1:50 year and 1:10 year where applicable);

	○ Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"): ○ Ridges; ○ Cultural and historical features/landscapes; ○ Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.
Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as **Appendix C**. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as **Appendix D**.
Linear activities or development and multiple properties	GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as **Appendix A3**.

ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Treatment
BAR	Basic Assessment Report
CARA	Conservation of Agricultural Resources Act
CBA	Critical Biodiversity Area
CFM	CapeFarmMapper
DFFE	Department of Forestry, Fisheries and the Environment
DEA& DP	Department of Environmental Affairs and Development Planning
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association of South Africa
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
EN	Endangered
ESA	Ecological Support Area
GA	General Authorisation
GDP	Gross Domestic Product
GDPR	Gross Domestic Product Rank
GPS	Global Positioning System
HIV	Human Immunodeficiency Virus
HWC	Heritage Western Cape
IAIAsa	International Association for Impact Assessment South Africa
IDP	Integrated Development Plan
MTEF	Medium-Term Expenditure Framework
MW	Megawatt
NBA	National Biodiversity Assessment
NID	Notice of Intent to Develop
NDP	National Development Plan
NEMA	National Environmental Management Act

NEM:AQA	National Environmental Management: Air Quality Act
NEM:BA	National Environmental Management: Biodiversity Act
NEM:PAA	National Environmental Management: Protected Areas Act
NEM:WA	National Environmental Management: Waste Act
NHRA	National Heritage Resources Act
NOI	Notice of Intent
NWA	National Water Act
ONA	Other Natural Area
PA	Protected Area
PPP	Public Participation Process
PSDF	Provincial Spatial Development Framework
(Pty) Ltd	Proprietary Limited
PV	Photovoltaic
SACNASP	South African Council for Natural Scientific Professions
SANBI	South African National Biodiversity Institute
SANLC	South African National Land Cover
SDF	Spatial Development Framework
SDP	Site Development Plan
STI	Sexually Transmitted Infections
TB	Tuberculosis
TOR	Terms of Reference
UBPL	Upper Bound Poverty Line
VegMap	Vegetation Map
WCBSP	Western Cape Biodiversity Spatial Plan
WULA	Water Use License Application

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ **(**tick) or a **x** (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A1:	**Locality Map**	✓
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	N/A
	Appendix A3:	**Map with the GPS co-ordinates for linear activities**	✓
Appendix B:	**Appendix B1:**	**Site development plan(s)**	✓
	Appendix B2	**A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;**	✓
Appendix C:	**Photographs**		✓
Appendix D:	**Biodiversity overlay map**		✓
Appendix E:	**Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.**		
	Appendix E1:	**Final comment/ROD from HWC**	✓
	Appendix E2:	**Copy of comment from Cape Nature**	to be included in fBAR
	Appendix E3:	**Final Comment from the DWS**	to be included in fBAR
	Appendix E4:	**Comment from the DEA: Oceans and Coast**	N/A
	Appendix E5:	**Comment from the DAFF**	N/A
	Appendix E6:	**Comment from WCG: Transport and Public Works**	to be included in fBAR
	Appendix E7:	**Comment from WCG: DoA**	to be included in fBAR
	Appendix E8:	**Comment from WCG: DHS**	N/A
	Appendix E9:	**Comment from WCG: DoH**	N/A

	Appendix E10:	**Comment from DEA&DP: Pollution Management**	N/A
	Appendix E11:	**Comment from DEA&DP: Waste Management**	N/A
	Appendix E12:	**Comment from DEA&DP: Biodiversity**	N/A
	Appendix E13:	**Comment from DEA&DP: Air Quality**	N/A
	Appendix E14:	**Comment from DEA&DP: Coastal Management**	N/A
	Appendix E15:	**Comment from the local authority**	to be included in fBAR
	Appendix E16:	**Confirmation of all services (water, electricity, sewage, solid waste management)**	N/A
	Appendix E17:	**Comment from the District Municipality**	to be included in fBAR
	Appendix E18:	**Copy of an exemption notice**	N/A
	Appendix E19	**Pre-approval for the reclamation of land**	N/A
	Appendix E20:	**Proof of agreement/TOR of the specialist studies conducted.**	✓
	Appendix E21:	**Proof of land use rights**	N/A
	Appendix E22:	**Proof of public participation agreement for linear activities**	N/A
Appendix F:	**Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.**		Will be included in the fBAR.
Appendix G:	**Specialist Report(s)**		✓
Appendix H:	**EMPr**		✓
Appendix I:	**Screening tool report**		✓
Appendix J:	**The impact and risk assessment for each alternative**		✓
Appendix K:	**Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline**		✓
Appendix…..	**Any other attachments must be included as subsequent appendices**		✓

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	**CAPE TOWN OFFICE:**		GEORGE OFFICE:
	~~REGION 1 (City of Cape Town, West Coast District)~~	**REGION 2 (Cape Winelands District & Overberg District)**	REGION 3 (Central Karoo District & Garden Route District)

Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	Spier Farm Management (Pty) Ltd	
Name of contact person for Applicant/Proponent (if other):	Heidi Newton-King	
Company/ Trading name/State Department/Organ of State:		
Company Registration Number:	1970/009121/07	
Postal address:	P. O. Box 99, Stellenbosch	
		Postal code: 7603
Telephone:		Cell: +27(0) 824499912
E-mail:	HeidiNK@spier.co.za	Fax:
Company of EAP:	GroenbergEnviro (Pty) Ltd	
EAP name:	Mische Molife	
Postal address:	P.O. Box 1058	
	Wellington	Postal code: 7654
Telephone:	( )	Cell: 079 111 7378
E-mail:	mische@groenbergenviro.co.za	Fax: 086 476 7134
Qualifications:	Mische Molife: BSc in Biodiversity and Conservation Biology, 11 years' experience in EIA, environmental management, report writing and project management.	
EAPASA registration no:	Mische Molife: IAIAsa, EAPASA (2020/1410)	
Duplicate this section where there is more than one landowner Name of landowner:	Same as landowner	
Name of contact person for landowner (if other):		
Postal address:		
		Postal code:
Telephone:	( )	Cell:
E-mail:		Fax:
Name of Person in control of the land:	Same as landowner	
Name of contact person for person in control of the land:		
Postal address:		
		Postal code:
Telephone:	( )	Cell:
E-mail:		Fax: ( )

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	Stellenbosch Local Municipality	
Contact person:	Anthony Barnes	
Postal address:	PO. Box 17, Stellenbosch	
		Postal code: 7600
Telephone	+27(0) 21 808 8491	Cell: +27(0)
E-mail:	Anthony.Barnes@stellenbosch.gov.za	Fax:

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INLCUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	**New**	**X**	~~Expansion~~	
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
The proposed development area is located within a greenfield site. The area consists of natural vegetation and has not been disturbed/transformed in the past 10 years.					
3.	**For Linear activities or developments**				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
Portion 10 of Farm 502 and Farm 1404.					
3.2.	Development footprint of the proposed development for all alternatives.				2 750m^2
The proposed development will require the installation of underground electrical feeder cables along existing farm roads. The feeder cables will connect the central Photovoltaic (PV) system to the Spier Hotel and from there to the Spier Cellar and back to the PV system to form a ring for redundancy. The feeder cables will be 5500m in length x 0.5m = 2 750m^2					
3.3.	Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.				
The proposed development will require the installation of underground electrical feeder cables along existing farm roads. The feeder cables will connect the central PV system to the Spier Hotel and from there to the Spier Cellar and back to the PV system to form a ring for redundancy. The feeder cables will be 5500m in length. Refer to **Figure 6**.					

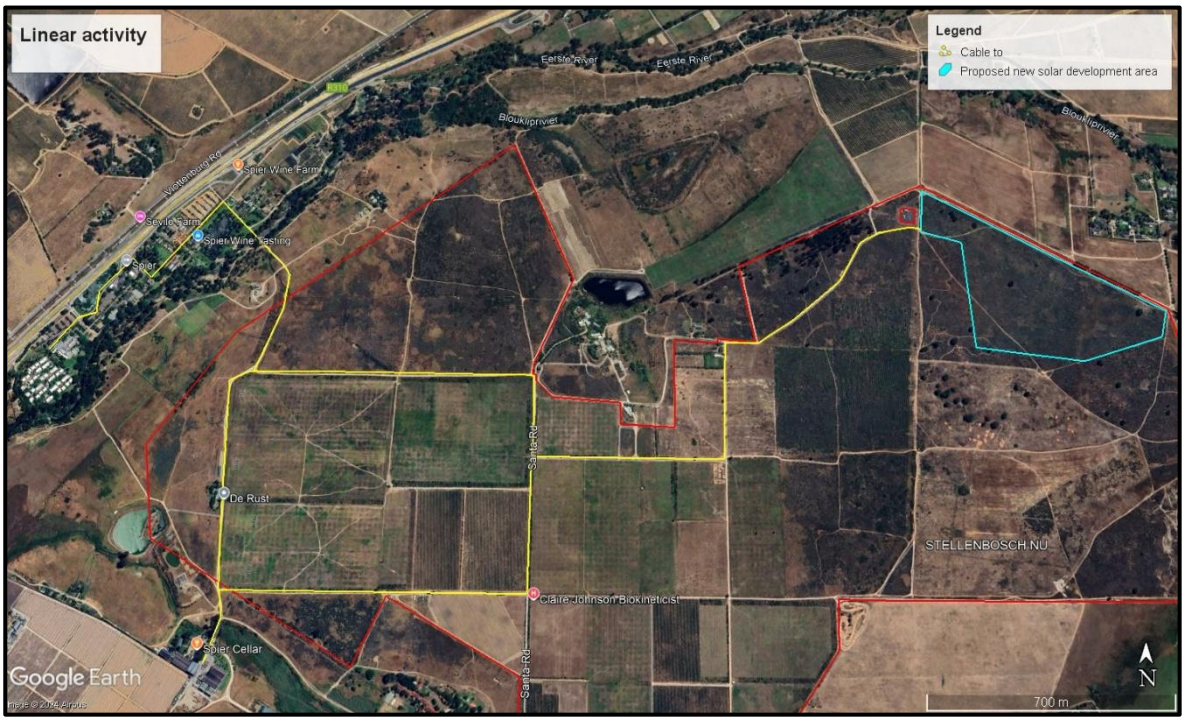

Figure 6: Underground feeder cables

3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.				
Access will be obtained from the existing farm road off Annandale Road.					
3.5.	SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives	C06700000000502000l0			
3.6.	**Starting point co-ordinates for all alternatives**				

Starting point co-ordinates for all alternatives				
Latitude (S)	**33°**	**58'**	**21.72"**
Longitude (E)	**18°**	**48'**	**34.06"**
Middle point co-ordinates for all alternatives			
Latitude (S)	**33°**	**58'**	**44.89"**
Longitude (E)	**18°**	**47'**	**46.90"**

End point co-ordinates for all alternatives – Spier cellar				
Latitude (S)	**33°**	**59'**	**3.91"**
Longitude (E)	**18°**	**47'**	**10.25"**
End point co-ordinates for all alternatives – Spier hotel			
Latitude (S)	**33°**	**58'**	**33.89"**
Longitude (E)	**18°**	**46'**	**48.28"**

Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.

4.	**Other developments**	
4.1.	Property size(s) of all proposed site(s):	360.85ha
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):	N/A
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:	19ha
4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).	

Project Description:

The proposed development, situated on Portion 10 of Farm 502, is located south-west of Stellenbosch, within the Stellenbosch Municipal area (see **Figure 7**).

Figure 7: Proposed development location (indicated by the red polygon)

The proposed development requires the clearance of approximately 19ha of vegetation for the installation of solar panels and associated infrastructure, which covers an area of more than 1ha. **Figure 8** illustrates the development layout.

The proposed development will require the following:

- Ground Mounted Solar Panels and associated infrastructure.
  - The solar panels are fixed and do not move with the sun.
  - The panel frames are secured to the ground by drilling reinforced poles into the ground.
- A container for inverters will be installed. This will be a heavy-duty aluminium powder-coated container on stilts.
- Underground feeder cables from the inverter building to the areas where electricity is required.
- Security fence (e.g. Clearvu fencing) will be installed around the solar panel site perimeter.

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Phase 1	Fixed Tilt	Portrait (Vertical)	25°	0°	3.5 m	2x1	1,636	3,272	1.80 MW

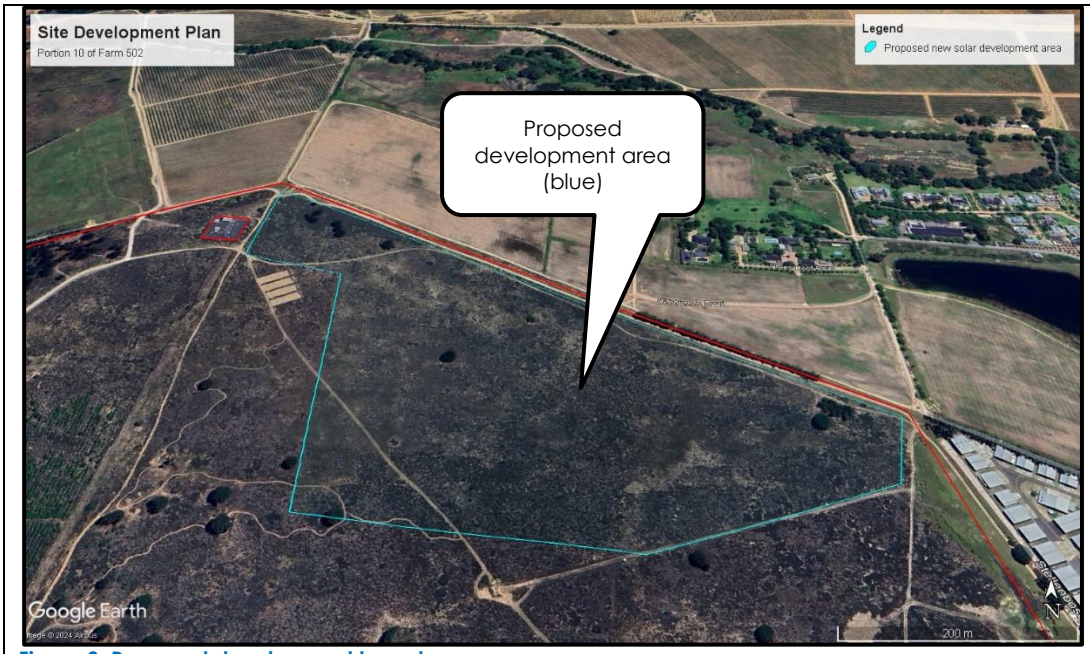

Figure 8: Proposed development layout

The proposed development will be conducted in 2 phases.

- Phase 1 – +/- 1.8MW for own consumption (+/- 2.5ha) (refer to **Figure 9**).
- Phase 2 – Up to 7MW for distribution/wheeling. (+/- 12ha).
- Phase 1 will be for Spier's own energy security needs.
- Phase 2 would be connected to the Eskom grid for purposes of wheeling electricity to other Eskom-connected customers.

Figure 9: Illustration of Phase 1

The applicant considered the need for the conservation of the natural environment on which the two phases of this proposed development will be constructed, by enhancing and incorporating other activities being conducted by Spier to achieve dual use of the land area.

The project will include an Agri-voltaic solution, meaning low soil and vegetation impact and the establishment of pollinators on and around the proposed development area. This makes use of low-impact mounting structures with no concrete bases, wider row spacing that reduces shading on vegetation between rows and higher mounting of panels to allow light under the panels for plant growth. Refer to **Figure 10** and **Figure 11** for an illustration of the proposed panels.

Figure 10: Illustration of the solar panels (1)

Figure 11: Illustration of the solar panels (2)

Shading is particularly important to consider for winter months in the Western Cape to allow plant growth to continue.

4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.	
Access will be obtained from the existing farm road off Annandale Road.		
4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C06700000000502000l0

4.7. Coordinates of the proposed site(s) for all alternatives:

Preferred Alternative			
Latitude (S)	**33°**	**58'**	**28.50"**
Longitude (E)	**18°**	**48'**	**46.77"**
Alternative 2			
Latitude (S)	**33°**	**58'**	**43.33"**
Longitude (E)	**18°**	**47'**	**20.20"**

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. Exemption applied for in terms of the NEMA and the NEMA EIA Regulations

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations? If yes, include a copy of the exemption notice in Appendix E18.	YES	**NO**

2. Is the following legislation applicable to the proposed activity or development.

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES	**NO**
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA"). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1.	**YES**	NO
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3.	~~YES~~	**NO**
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	**NO**
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	**NO**
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES	**NO**
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	**NO**
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	**NO**

3. Other legislation

List any other legislation that is applicable to the proposed activity or development.	
NEMA	The activity was designed to have minimal impact on the environment and to maximize potential positive impacts.
Heritage Resources Act	The activity was designed to have minimal impact on the national heritage resources.
NWA	The activity was designed to have minimal impact.

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
As no policies were applicable, none were considered.

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.	
Guideline for involving Biodiversity Specialists in the EIA Process (June 2005)	A botanical statement was completed for the proposed development.
Guideline for Environmental Management Plans (March 2013)	Design of the EMPr.
Guideline on Public Participation (March 2013)	The public participation process was conducted utilising the guidelines.
Guideline on Alternatives (March 2013)	Alternatives were assessed with guidance from the guidelines.
Guideline on Need and Desirability (March 2013)	The need and desirability were assessed with the guidelines as guidance.
Clarity regarding POPIA applicability to the EIA Regulations	Guidance from DAFF regarding POPIA applicability and how to implement it in the EIA Regulations

6. Protocols

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form
As required, the Screening Report (**Error! Reference source not found.**), inclusive of photos of the property and reasons for i ncluding or excluding specialist reports, has been included in the NOI. Only the Botanical and Biodiversity Assessment and Agricultural Compliance Statement as requested in the Screening report was obtained. Protocols were used for the assessment. The Terms of Reference (ToR) are available in **Error! Reference source not found.** page **Error! Bookmark not defined.**.

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant **Basic Assessment Activities** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
1. The development of facilities or infrastructure for the generation of electricity from a renewable resource where- i) ~~the electricity output is more than 10 megawatts but less than 20 megawatts; or~~ ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare; ~~excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs-~~ ~~(a) within an urban area; or~~ (b) ~~on existing infrastructure.~~		1. ii) **is triggered** because the electricity output is less than 10 megawatts but the facility covers an area in excess of 1ha.
11. The development of facilities or infrastructure for the transmission and distribution of electricity- ~~(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; 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.~~		11. is **not triggered** because the infrastructure for the transmission and distribution of electricity located outside an urban area or industrial complex has a capacity of less than 33 kilovolts.
27. The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.		27. is **triggered** because the proposed development requires the clearance of an area of 1ha or more of indigenous vegetation. Small holes will be drilled to install the panels.
Activity No(s):	Provide the relevant **Basic Assessment Activities** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
12. The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. i. Western Cape i. ~~Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;~~ ii. ~~Within critical biodiversity areas identified in bioregional plans;~~ iii. ~~Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;~~		12. (i) is **not triggered** because the vegetation observed by the specialist within the proposed development area is not endangered or critically endangered.

iv. ~~On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or~~ v. ~~On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.~~		
Activity No(s):	Provide the relevant **Scoping and EIR Activities** as set out in **Listing Notice 2**	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A		N/A

Note:

- Only those activities listed which will be applied for shall be considered for authorisation. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. Environmental Authorisation must be obtained prior to commencement with each applicable listed activity. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted.

- The Minister responsible for mineral resources is the Competent Authority to deal with all applications where the listed or specified activity is directly related to-

  (a) prospecting or exploration of a mineral or petroleum resource; or
  (b) extraction and primary processing of a mineral or petroleum resource.

List the applicable waste management listed activities in terms of the NEM:WA

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Category A**	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A	**N/A**	**N/A**

List the applicable listed activities in terms of the NEM:AQA

Activity No(s):	Provide the relevant **Listed Activity(ies)**	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A	**N/A**	**N/A**

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.

Preferred Alternative
Alternative 1 (Preferred Alternative)

The proposed development requires the clearance of approximately 19ha of vegetation for the installation of solar panels and associated infrastructure, which covers an area of more than 1ha. **Figure 2** illustrates the development layout.

The proposed development will require the following:

- Ground Mounted Solar Panels and associated infrastructure.
  - The solar panels are fixed and do not move with the sun.
  - The panel frames are secured to the ground by drilling reinforced poles into the ground.
- A container for inverters will be installed. This will be a heavy-duty aluminium powder-coated container on stilts.
- Underground feeder cables from the inverter building to the areas where electricity is required.
- Security fence (e.g. Clearvu fencing) will be installed around the solar panel site perimeter.

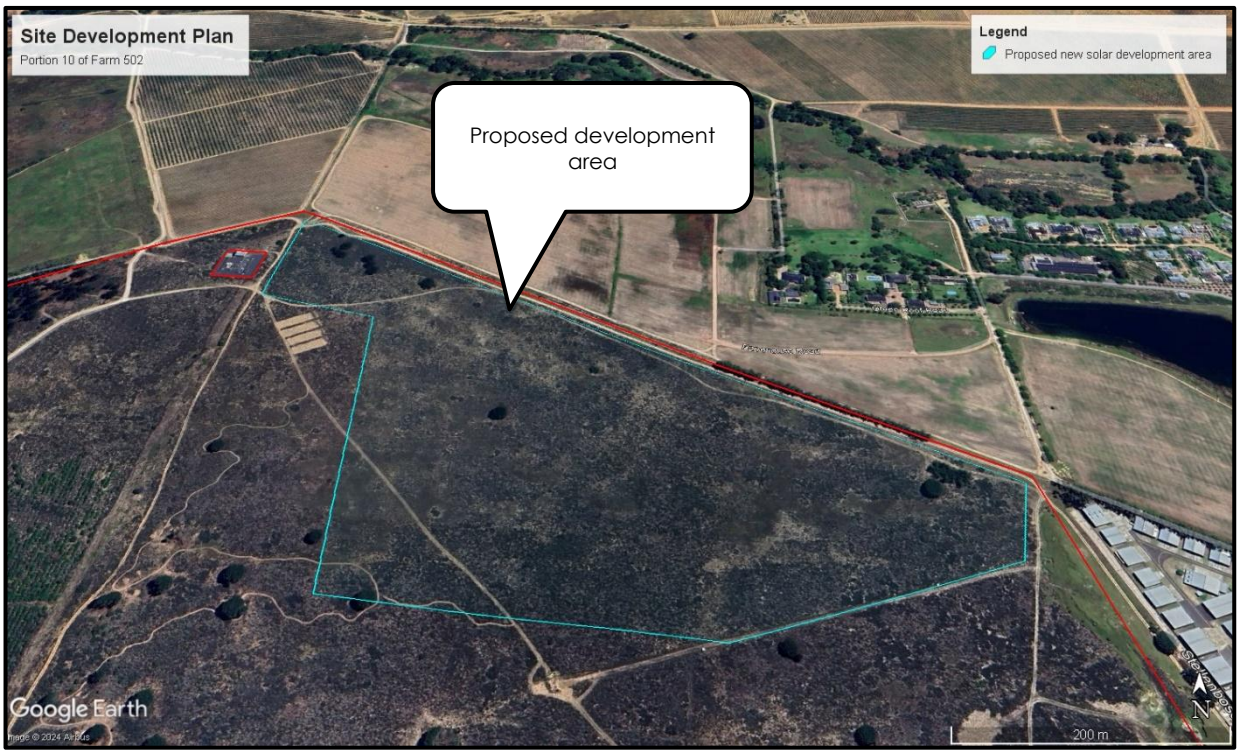

Figure 12: Proposed development layout

2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.

The property is zoned agriculture and rural zone. Renewable energy structure is a consent use for the zoning, however, an application for consent use must be submitted to the municipality. Refer to **Figure 13**.

Primary Uses	Additional Uses (not exceeding threshold in this chapter and subject to technical approval)	Consent Uses (Application required)
• Agricultural building (ч2000m²) • Agriculture • Dwelling house • Forestry • Natural environment • Occasional use (one event/year) • Private road • Polytunnel (ч2000m²) • Second dwelling • Employee housing (one unit)	• Agricultural building (>2000m²) • Agricultural industry (<2000m²) • Bed and breakfast establishment • Employee housing (exceeding one unit) • Guest house • Home day care Centre • Home occupation practice • Polytunnel (ш2001m² and ч5000m²) • Rooftop base telecommunication station • Tourist dwelling units • Tourist facility (existing buildings)	• Abattoir • Additional dwelling units (max 4) • Airfield • Airstrip • Agricultural industry (ш2000m²) • Camping site • Day care Centre • Freestanding base telecommunication station • Helicopter landing pad • Intensive feed farming • Kennel • Market • Occasional use (> one event/year) • Plant nursery • Polytunnel (>5000m²) • Renewable energy structure • Service trade • Tourist accommodation establishment • Tourist facility (new buildings or exceeding threshold) • Any additional use exceeding the threshold set out in this chapter

Figure 13: Zoning and consent uses

3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.
No conflict is expected. Renewable energy structure is a consent use for the zoning. An application for consent use will be submitted to the municipality.	
4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework.
The Provincial Spatial Development Framework ("PSDF"), (2014) sets out broad principles to guide future developments in the Western Cape. The proposed development can be regarded as being in line with the principles of the PSDF as it speaks to sustainability, can be regarded as spatially efficient, as well as economically viable due to the creation of short-term employment opportunities.	
4.2	The Integrated Development Plan of the local municipality.
The proposed development will not compromise the integrity of the Municipal IDP, since renewable energy structure is a consent use for the zoning. An application for consent use will be submitted to the municipality.	
4.3.	The Spatial Development Framework of the local municipality.
The proposed development will not compromise the integrity of the Municipal SDF, since renewable energy structure is a consent use for the zoning. An application for consent use will be submitted to the municipality.	
4.4.	The Environmental Management Framework applicable to the area.
The proposed development will not compromise the Environmental Management Framework (EMF) of the area, as the development will occur on private land.	
5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.
The proposed development area was selected since the applicant owns the land and would like to install solar panels. The proposed development layout was carefully selected by the applicant in consultation with the relevant specialists and is not located within close proximity of watercourses.	
6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.
CapeFarmMapper was used and relevant layers were activated for the CBA and ESA map. As can be seen from **Figure 14** a section of the proposed development area consists of a CBA: Terrestrial.	

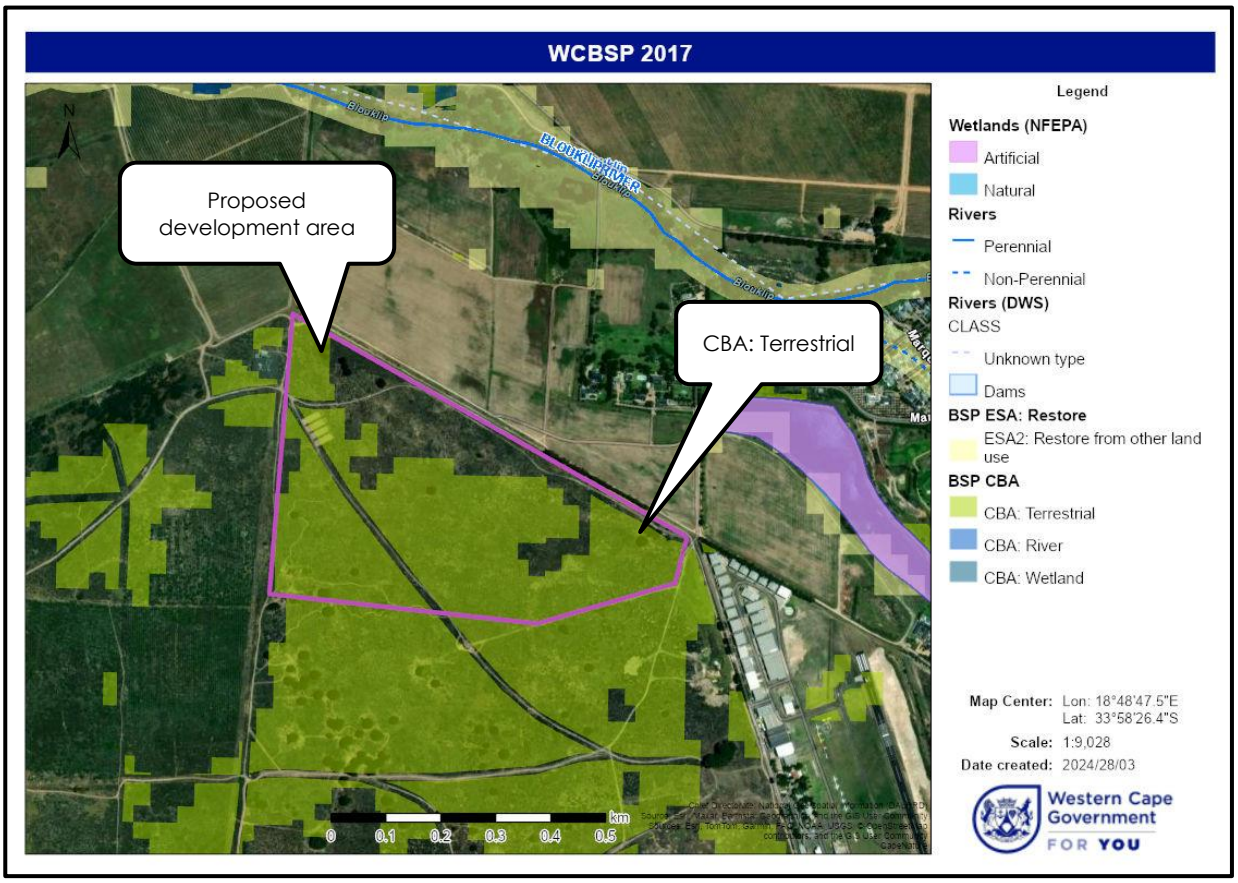

Figure 14: CapeFarmMapper ESA and CBA map

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.
N/A	
8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.
The screening report has not changed from the one submitted together with the application form.	
9.	Explain how the proposed development will optimise vacant land available within an urban area.
The property is not within an urban area; however, it will optimise the use of the property.	
10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.
The proposed development area does not have existing services.	
11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).
N/A	
12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.
PLEASE SEE APPENDIX K.	

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

N/A.

2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

Please see Error! Reference source not found..

3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

Departments to be consulted are as follows:

Department	Contact	Number	Email
Stellenbosch Municipality	A. Barnes		Anthony.Barnes@stellenbosch.gov.za
Department Agriculture	C. van der Walt		Cor.VanderWalt@westerncape.gov.za Brandon.Layman@westerncape.gov.za
Cape Nature	I. Adams		iadams@capenature.co.za
Heritage Western Cape	S. Barnardt		Stephanie.Barnardt@westerncape.gov.za
Department of Infrastructure	V. Stoffels		Vanessa.Stoffels@westerncape.gov.za
Department of Water and Sanitation	N. Ndobeni		NdobeniN2@dws.gov.za
Cape Winelands District Municipality	Q. Balie		quinton@capewinelands.gov.za

4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

The applicable State Departments will be contacted.

5. if any of the State Departments and Organs of State did not respond, indicate which.

To be completed in fBAR.

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

To be completed in fBAR.

Note:

A register of all the I&APs notified, including the Organs of State, and all the registered I&APs must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&APs that all information submitted by I&APs becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that *"Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority."*

All the comments received from I&APs on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:

- if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
- if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
- if a facsimile was sent, a copy of the facsimile Report;
- if an electronic mail was sent, a copy of the electronic mail sent; and
- if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and

- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	~~YES~~	**NO**
1.2.	Provide the name and or company who conducted the specialist study.		
N/A, no groundwater sensitivities were identified by the screening report or the WCBSP.			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
The project is for the proposed installation of solar panels which will not have an impact on ground water.			
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		

The following is taken from CapeFarmMapper:

Depth to Groundwater Depth (mbgl): 7.88
Aquifer Type and Yield Classification: Intergranular and fractured 0.1 - 0.5 l/s
Aquifer Classification Classification: Minor
Aquifer Susceptibility Susceptibility: Medium-high
Aquifer Vulnerability Vulnerability: Moderate
Groundwater Recharge Recharge (mm/a): 57.99
Groundwater Quality EC (mS/m): 0-70

The proposed development is for a solar facility and will implement mitigation measures and prevention measures in order not to impact the groundwater during the construction phase. The facility itself has not water requirements, will have no impact to groundwater features.

2. Surface water

2.1.	Was a specialist study conducted?	~~YES~~	**NO**
2.2.	Provide the name and/or company who conducted the specialist study.		
N/A			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
According to CapeFarmMapper, the proposed development is not within 32m of any freshwater feature. Please see **Figure 15** below.			

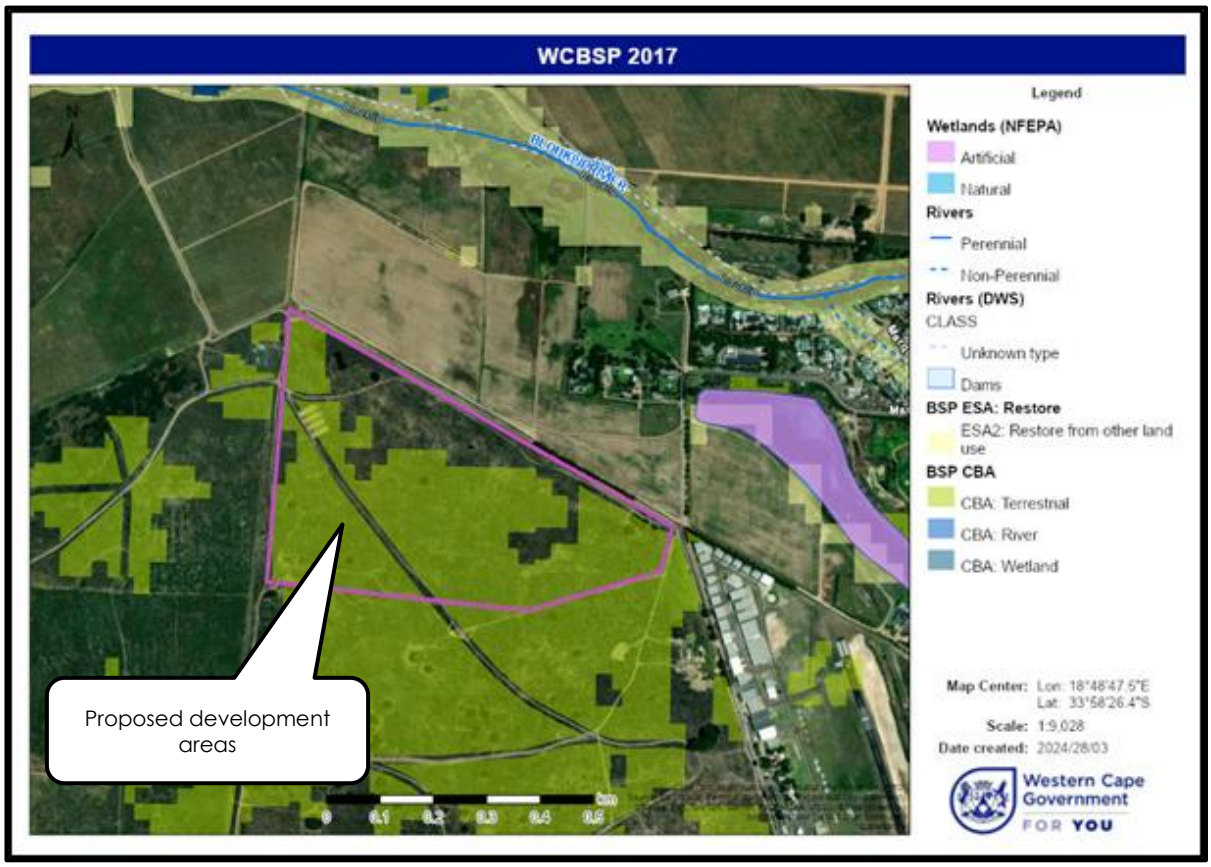

Figure 15: The proposed development is not situated within 32m of a water feature.

3. Coastal Environment

3.1.	Was a specialist study conducted?	~~YES~~	**NO**
3.2.	Provide the name and/or company who conducted the specialist study.		
N/A			
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
N/A, the property is not within 100m of the sea and is not on coastal public property.			
3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.		
N/A, the property is not adjacent to an estuary.			
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.		
N/A.			

4. Biodiversity

4.1.	Were specialist studies conducted?	**YES**	~~NO~~
4.2.	Provide the name and/or company who conducted the specialist studies.		
Biodiversity Africa			
4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.		
Vegetation The proposed development area consists of natural vegetation (refer to **Figure 16** and **Figure 17**). The vegetation located on the proposed development area is identified (by CapeFarmMapper) as Swartland Granite Renosterveld, which is classified as an endangered ecosystem in the Revised National List of Threatened Ecosystems (GN. 47526 of the NEM:BA, 2022). Refer to **Figure 18**. CapeFarmMapper's CBA and ESA map indicated that the proposed development area consists of a CBA: Terrestrial (refer to **Figure 19**).			

Figure 16: Vegetation within the proposed development area (1)

Figure 17: Vegetation within the proposed development area (2)

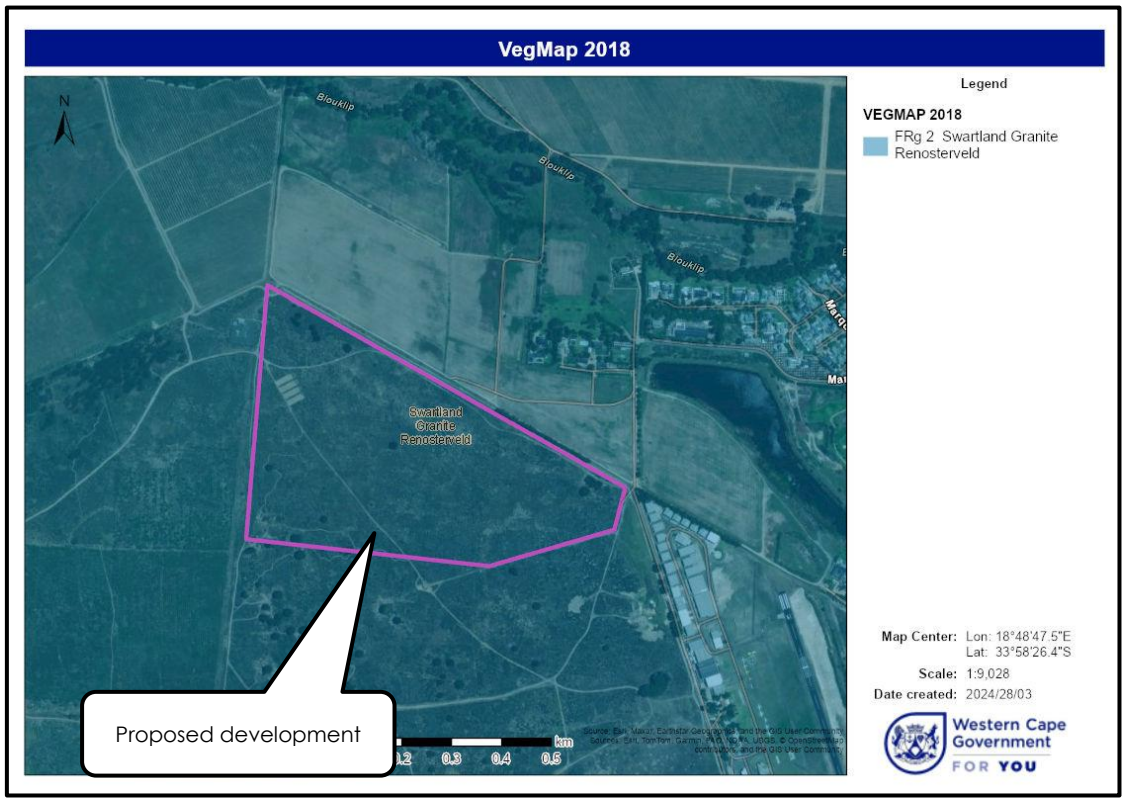

Figure 18: VegMap 2018

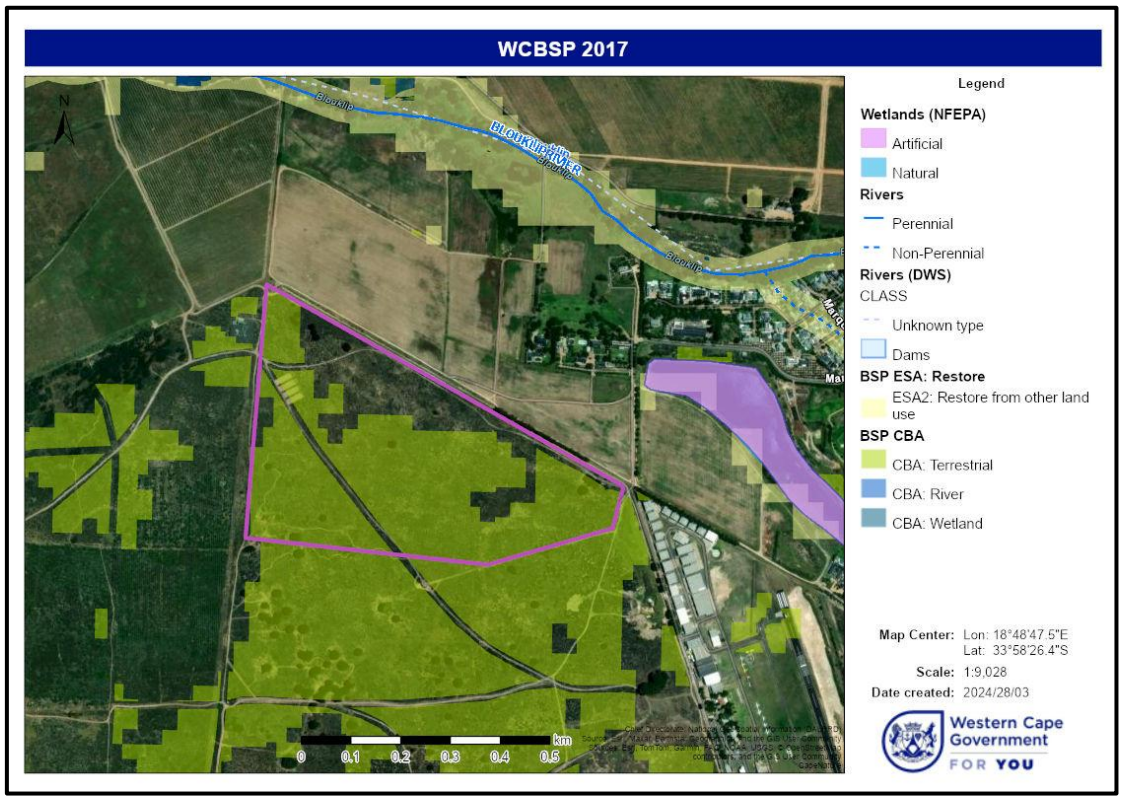

Figure 19: CBA identified within the proposed development area

The following is taken from the Botanical and Biodiversity Assessment Report (refer to Error! Reference source not found. **page** Error! Bookmark not defined.):

"The vegetation of the study area

The area proposed for the development of the Spier Solar Energy facility is part of a larger area of land that has been subject to agricultural practices since early colonial times (1652 onwards). Historically the study area would have supported

Swartland Granite Renosterveld, a species-rich shrubland formation. This vegetation was all removed and striations indicative of ploughing were noted around Waypoint SPE0004.

The vegetation that is now found on the site is indisputably secondary shrubland.

It is my strong view that the classification of the area as a CBA1 in the Western Cape Biodiversity Plan is highly exaggerated and it should, at the most, be classified as an Ecological Support Area."

4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.

The following is taken from the Botanical and Biodiversity Assessment (refer to Error! Reference source not found. **page** Error! Bookmark not defined.):

"*Western Cape Biodiversity Spatial Plan*

An overlay on Google Earth ™ imagery of the map from the Western Cape Biodiversity Spatial Plan (WCBSP) 2017 (Pence, 2014; 2017; Pool-Stanvliet et al., 2017) for the Stellenbosch Municipality is presented in Figure 24 (**Figure 20** of this report). *Only Critical Biodiversity Area 1 (CBA1) would be affected by the proposed solar energy development. There is no Protected Area in terms of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (NEMPAA) in the near vicinity of the site.*

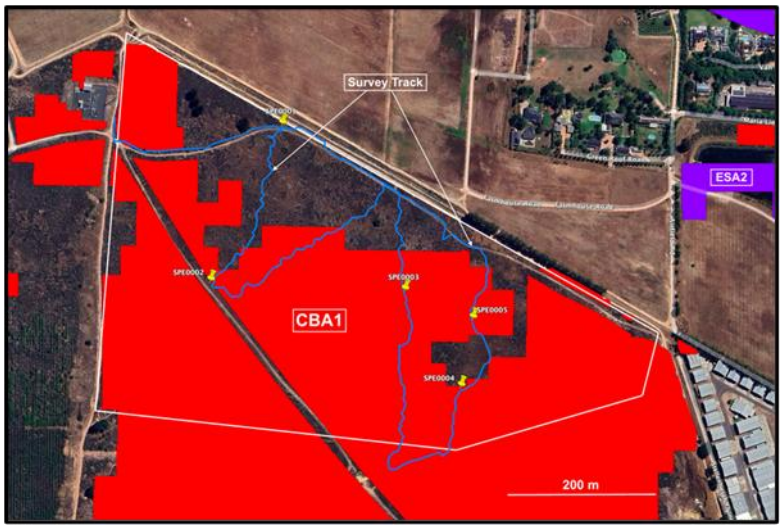

Figure 20: ***Figure 24. Aerial photo (Google Earth ™) with superimposed Critical Biodiversity Areas Map (Pence, 2017; Pool-Stanvliet et al. 2007). The scarlet red areas are Critical Biodiversity Areas 1 (CBA1). No other CBA categories were mapped for this area***

Table 3. Definitions of biodiversity spatial plan units and management objectives.

Unit		***Definition***	***Management Objective***
CBA1		*Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.*	*Maintain in a natural or near-natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.*
CBA2		*Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.*	*Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land-uses are appropriate.*
ESA1		*Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services.*	*Maintain in a functional, near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised.*
ESA2		*Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services.*	*Restore and/or manage to minimize impact on ecological processes and ecological infrastructure functioning, especially soil and water-related services, and to allow for faunal movement.*

The assessment summary for Swartland Granite Renosterveld (Government Gazette, 2022) is as follows:

Observed rates of habitat loss between 1990 and 2018 indicate that by 2040 the geographic distribution of Swartland Granite Renosterveld will have declined by approximately 55%. National land cover and supplementary provincial and metropolitan land cover data show that Swartland Granite Renosterveld has experienced extensive spatial declines of approximately 83% since 1750. In addition, this ecosystem is narrowly distributed with high rates of habitat loss in the past 28 years (1990-2018) and evidence of ongoing biotic disruption from invasive species and overgrazing.

Although most of the area proposed for solar energy infrastructure development is within a CBA1 area, based on my field survey I have concluded that (a) this is old but secondary vegetation and is not undisturbed Swartland Granite Renosterveld; (b) NO threatened species occur; (c) the vegetation consists mainly of common species that are ruderals or common weedy

species of very low importance; the species-richness of the site is low to very low and (d) there is an insignificant presence of geophytes (virtually none) even though the survey was done at an optimal time in spring. There is also very low probability that the habitat would restore to renosterveld representative of the original type.

***My view is that the CBA classification is exaggerated and at best this area should be mapped as an Ecological Support Area 1 (ESA1) (see Table 3) since it has some ecological functionality but there is little justification for the CBA1 classification based on the plant communities now present on the site**."*

4.5.	Explain what impact the proposed development will have on the site specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.

The development has been placed to ensure the least impact on sensitive vegetation. It is not within 32m of any water feature.

Refer to point 4.4 above.

4.6.	If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.

N/A, the proposed area is not located in a protected area.

The following is taken from the Botanical and Biodiversity Assessment Report (refer to Error! Reference source not found. **page** Error! Bookmark not defined.):

"There is no Protected Area in terms of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (NEMPAA) in the near vicinity of the site."

4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

Should any animal life be encountered it must be carefully removed, and none must be harmed nor killed. It is expected that most animals will move away naturally to other areas within the farm.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.

Geographical aspects will not be impacted, as the proposed development will require drilling holes to install solar panels.

The following is taken from the Agricultural Compliance Statement (refer to Error! Reference source not found., **page** Error! Bookmark not defined.):
"The elevation of the proposed development area varies between 92 m amsl in the south to 70 m amsl in the northwestern corner. The terrain is gently sloping towards the north (northwest to northeast) at a slope gradient of generally less than 6% from south to north."

The following is taken from the document "Analyzing Glare Potential of Solar Photovoltaic Arrays" issued by the US Department of Navy (refer to Error! Reference source not found., **page** Error! Bookmark not defined.):
"Glint and Glare Basics
Glint is a momentary direct reflection of light, whereas glare is an indirect reflection of light that can be both larger and of longer duration. PV arrays typically do not cause glint, but glare can be a concern. Glare intensity from PV arrays is generally low compared to that of buildings or snow and ice because the panels are designed to absorb sunlight and have textured glass and/or antireflective coatings that reduce reflectivity."

The following is taken from a Glint and Glare Study conducted by Solink (dated July 2023) for a solar PV development (refer to Error! Reference source not found., **page** Error! Bookmark not defined.):
"The level of potential glare from solar PV panels is similar to that of water and much less than that of materials such as concrete and vegetation. Many common elements of the built environment, such as concrete, vegetation, roof sheeting and nearby water bodies, offer similar, if not higher levels of glare than that caused by solar PV systems."

Anti-reflective coating can be provided to the solar panels to minimise glare, if required.

The solar panels will be facing north and will not be tracking the sun. As a result of the abovementioned, it is deemed that the potential glint and glare impact on the aircraft is deemed low negative.

6. Heritage Resources

6.1.	Was a specialist study conducted?	~~YES~~	**NO**
6.2.	Provide the name and/or company who conducted the specialist study.		

A NID was submitted to HWC.

6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.

A Record of Decision (ROD) (refer to Error! Reference source not found., **page** Error! Bookmark not defined.) was obtained from Heritage Western Cape (HWC). The ROD (dated 07 August 2024) states the following:

"You are hereby notified that, since there is no reason to believe that the proposed installation of solar panels and associated infrastructure on Portion 10 of Farm 502, Annandale Road, Stellenbosch, will impact on heritage resources, no further action

under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC chance finds procedure to be included in the environmental authorization."

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.
A Record of Decision (ROD) (refer to Error! Reference source not found., **page** Error! Bookmark not defined.) was obtained from Heritage Western Cape (HWC). The ROD (dated 07 August 2024) states the following: *"You are hereby notified that, since there is no reason to believe that the proposed installation of solar panels and associated infrastructure on Portion 10 of Farm 502, Annandale Road, Stellenbosch, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC chance finds procedure to be included in the environmental authorization."*

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.

The following information is taken from the Western Cape Government: #KnowYourMunicipality: The 2023 Socio Economic Profile - Stellenbosch Municipality

"Labour Market Performance
In 2022, monetary intermediation emerged as the primary driver of formal employment in the Stellenbosch municipal area, employing 14 117 individuals. Beverage manufacturing, predominantly in the wine industry, followed closely, providing jobs for 7 142 people. The significant disparity in median monthly incomes between these sectors, with figures of R27 446 and R8 940 respectively, vividly illustrates the pervasive socioeconomic inequality within the municipality. This inequality not only poses challenges for the well-being of residents but also carries implications for municipal revenue generation. Disparities in income levels can impact local tax revenues, potentially affecting the municipality's capacity to fund essential services and infrastructure projects. Addressing this inequality is crucial not only for social equity but also for sustaining a stable and prosperous municipal economy.

Population
In 2022, the Stellenbosch municipal area, a prominent region within the Cape Winelands, accommodated 21 per cent of the area's population, totalling 175 411 individuals. Projections indicate a steady rise, estimating a population of 192 951 residents by 2027, marking an average annual growth rate of 2.0 per cent during this period. This growth rate surpasses the Cape Winelands District's average annual population growth rate of 1.7 per cent by 0.3 percentage points. The socio-economic implications of this demographic shift are multifaceted, impacting various sectors including housing, employment, and education within the region.

Furthermore, the consistent average household size of 2.9 individuals from 2022 to 2026 is indicative of several underlying socio-economic factors. Lower fertility rates, an aging population, increased divorce rates, and cultural norms related to intergenerational co-residence contribute to this stability. Additionally, socio-economic elements such as patterns in employment opportunities, educational access, and housing market dynamics shape this trend. This constancy in household size reflects the intricate interplay of social and economic forces, illuminating the evolving landscape of the Stellenbosch municipal area and its broader implications for the socio-economic fabric of the Cape Winelands District.

Education
The socio-economic impact of education within municipalities is profound and multifaceted, touching various aspects of community development and individual well-being. Quality education equips individuals with essential skills, knowledge, and critical thinking abilities, empowering them to participate meaningfully in the local economy. As the educational attainment level rises within a municipality, there is a corresponding increase in employment opportunities and higher earning potential for residents. Additionally, an educated workforce attracts investments and industries, fostering economic growth and stability. Education also plays a pivotal role in reducing poverty and promoting social equity by breaking the cycle of intergenerational poverty.

Learner enrolment
In 2020, the municipal area witnessed an enrolment of 28 033 learners, a number that experienced a notable surge, reaching 29 092 in 2022. This uptick reflects an increase of 1 059 learners compared to the figures observed in 2020. Such growth in educational enrolment indicates a positive socioeconomic trend within the region, showcasing an enhanced emphasis on education and potentially indicating improved access to educational facilities. This rise in enrolment suggests a burgeoning demand for education, which in turn could lead to increased investments in the education sector, positively impacting the local economy by fostering a skilled workforce for future economic endeavours.

Education infrastructure and facilities
In 2022, the Stellenbosch municipal area boasted a total of 42 schools. Over the Medium-Term Expenditure Framework (MTEF), a substantial budget has been allocated for vital upgrades, additions, and the construction of new facilities in specific schools. This allocation is slated for use in enhancing the infrastructure of key educational institutions, including Aviation, Elsenburg Agri School, New Klapmuts Primary and High Schools, and New Stellenbosch Primary School. Such investments signify a proactive approach to bolstering the educational landscape, fostering an environment conducive to quality learning.

Healthcare facilities

In 2022, the Stellenbosch municipal area boasted a network of 8 fixed primary healthcare facilities, encompassing 6 fixed clinics, 1 community day centre, and 6 mobile/satellite clinics. Complementing these primary healthcare facilities, the region also hosted one district hospital, 9 antiretroviral treatment (ART) sites, and 13 tuberculosis (TB) clinics. Impressively, Stellenbosch accounted for 14 out of the total 78 primary healthcare facilities in the Cape Winelands district, signifying its significant healthcare infrastructure within the region.

GDPR Per Capita

In terms of Gross Domestic Product per capita (GDPR), an increase is only witnessed when economic growth surpasses population growth. The Cape Winelands District had a real GDPR per capita of R93 873 in 2022, falling below the Western Cape's R113 327. Notably, Stellenbosch outperformed the District, with a per capita income of R110 723 marking the highest figure in the Cape Winelands District for 2022. Despite a moderate regression in the period 2016-2022, this highlights the municipality's robust economic potential, particularly noteworthy considering the recent economic challenges posed by the recession and the global COVID-19 pandemic, which impacted economic activities regionally and globally.

Income Inequality

Income inequality in South Africa, as measured by the Gini index, showcases significant disparities in income distribution, access to opportunities, and regional imbalances. The National Development Plan (NDP) aims to reduce the Gini coefficient from 0.7 in 2010 to 0.6 by 2030. In the Cape Winelands District, income inequality worsened to 0.69 in 2022, a trend expected to exacerbate due to the potential aftermath of the COVID-19 pandemic. Stellenbosch improved its income inequality, with inequality levels declining from 0.63 in 2021 to 0.61 in 2022, aligning below the District's trajectory.

Poverty Line

The Upper Bound Poverty Line (UBPL) head count ratio is the proportion of the population living below the UBPL i.e., that cannot afford to purchase adequate levels of food and non-food items. Additionally, poverty, indicated by the Upper Bound Poverty Line (UBPL), affects communities profoundly, leading to lower life expectancy, malnutrition, higher crime exposure, limited educational attainment, and subpar living conditions. In 2022, 66.7 per cent of Stellenbosch's population fell below the UBPL, a slight improvement from 2016 and 2019. Stellenbosch and Drakenstein had the highest poverty rates in the Cape Winelands District, with Stellenbosch's 66.7 per cent slightly below the District's 64.8 per cent in 2022. Addressing these socio-economic challenges is essential for ensuring sustainable growth and development within the municipality..

Housing and Household Services

Within the Stellenbosch municipal area, which comprises 59 629 households, 87.3 per cent had access to formal housing, lower than the Cape Winelands District average of 88.8 per cent. The area also exhibited a significantly higher proportion of informal dwellings, totalling 11.8 per cent, in contrast to the District's 10.3 per cent.

Regarding service access levels, the Stellenbosch municipal area outperformed formal housing access. Specifically, piped water access (86.4 per cent), flush or chemical toilet access (96.8 per cent), electricity access (including generators) for lighting (96.9 per cent), and regular refuse removal by local authorities (87.3 per cent) were considerably higher than District figures for sanitation and refuse removal services.

Please note temporary jobs will be created during the construction phase of the proposed development.

8.2.	Explain the socio-economic value/contribution of the proposed development.

Construction of the proposed development would result in direct job creation opportunities related to the construction of the development. The provision of employment opportunities during the construction of the proposed development would improve the income levels of the employees – thus, in turn, improving their standard of living.

As the individuals become more educated and informed their understanding of conditions such as HIV/AIDS, sexually transmitted infections ("STI") and Tuberculosis ("TB") improves as well thereby increasing chances of better management and preferably avoidance. With a well-educated community, it will be possible to limit the rate and amount of infection of the abovementioned conditions. The goal of completely eradicating the spread of these diseases in the area also becomes more realistic.

8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.

The proposed development itself will lead to social upliftment in the area by creating temporary jobs.

8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.

The development will not impact people's health or well-being, since noise impact will be of short duration during the construction phase and the development is located in a rural setting.

The proposed development will have a minimal negative impact during the construction phase and will be managed according to the Environmental Management Programme (EMPr). Construction will be restricted to normal daylight hours. Dust-minimising measures will be in place during construction. The EMPr will include mitigation measures for impacts associated with the construction phase and will incorporate any additional recommendations as per the DEA&DP specifications and conditions of the Environmental Authorisation.

The Environmental Control Officer (ECO) will ensure compliance with all mitigation measures as contained in the EMPr during the construction phase.

When new persons are appointed, preference will be given to those from local communities.

Sense of Place/Visual Character

The proposed development is located on a property surrounded by agricultural land and other land uses. Visual impact is deemed to be low.

Social Impacts

The development will create new temporary employment opportunities during the construction phase, resulting in a positive social impact.

Noise/Odour/Visual Impacts

Some minor noise impacts might be generated as a result of the proposed construction activities. However, these impacts are not expected to be significant, given the temporary nature of the construction activities. In addition, no significant impacts related to noise are expected to occur during the operational phase of the development proposal.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred property and site alternative.

Alternative 1 (Preferred Alternative)

The preferred alternative requires the installation of solar panels and associated infrastructure.

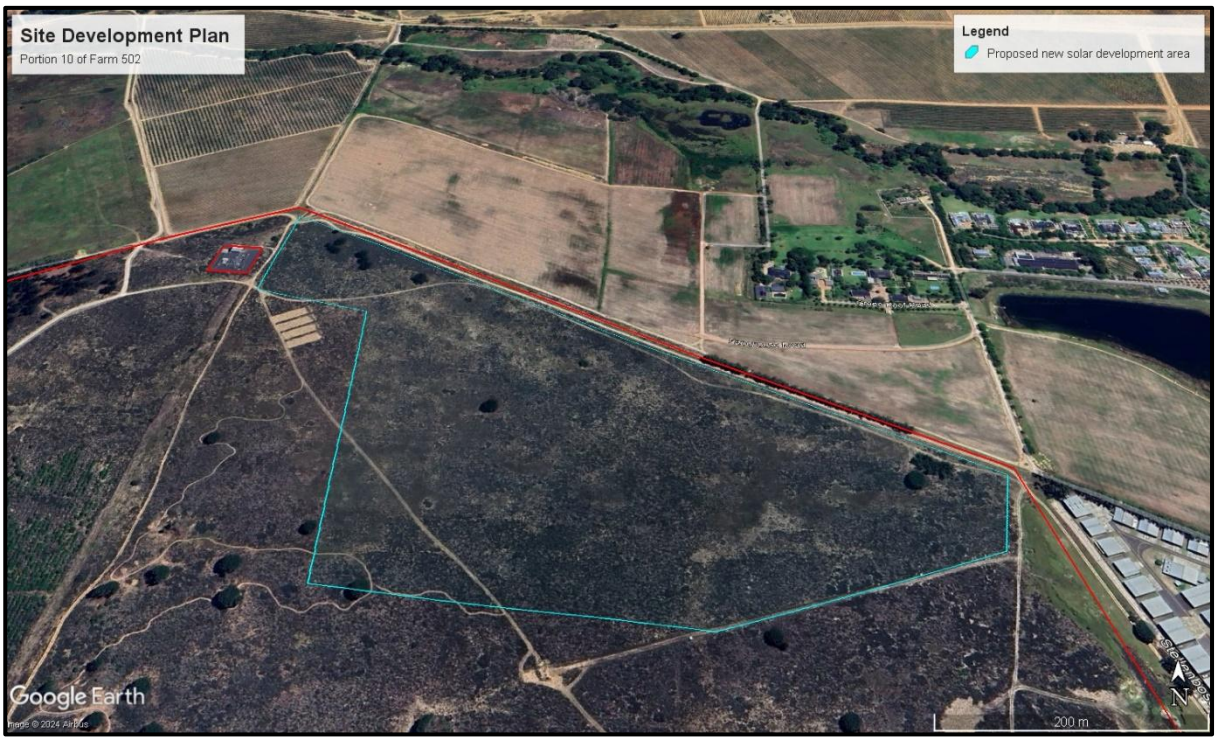

Figure 21: The preferred site alternative

Preferred Alternative 1

The preferred alternative is shown in **Figure 21**.

The preferred alternative will requires the clearance of approximately 19ha of vegetation for the installation of solar panels and associated infrastructure, which covers an area of more than 1ha.

The proposed development will require the following:

- Ground Mounted Solar Panels and associated infrastructure.
  - The solar panels are fixed and do not move with the sun.
  - The panel frames are secured to the ground by drilling reinforced poles into the ground.
- A container for inverters will be installed. This will be a heavy-duty aluminium powder-coated container on stilts.
- Underground feeder cables from the inverter building to the areas where electricity is required.
- Security fence (e.g. Clearvu fencing) will be installed around the solar panel site perimeter.

Alternative 1 is the Preferred Alternative for the following reasons:

- The proposed development will be accessible via Annandale Road and existing farm roads.
- The applicant owns the property.
- The proposed development will provide electricity to the Spier Cellar and Hotel.
- The HWC has stated "*You are hereby notified that, since there is no reason to believe that the proposed installation of solar panels and associated infrastructure on Portion 10 of Farm 502, Annandale Road, Stellenbosch, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC chance finds procedure to be included in the environmental authorization.*"
- The following is taken from the Botanical and Biodiversity Assessment: "*The vegetation in the proposed solar energy development area at Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, would originally have been Swartland Granite Renosterveld. No typical Swartland Granite Renosterveld remains and instead a uniform, secondary, species-poor plant community is now present. No plant species of conservation concern were recorded, and the vegetation is not deemed to be sensitive. It is my strong view that the classification of the area as a CBA1 in the Western Cape Biodiversity Plan is highly exaggerated and it should, at the most, be classified as an Ecological Support Area. This view is supported by field observation as well as the Red Listed Ecosystems classification that hardly includes the study area within endangered habitat. The proposed solar energy facility development is thus supported from both botanical and biodiversity perspectives.*"
- The proposed development will not be located within 32m of a watercourse.

- The following is taken from the Agricultural Statement: "

Provide a description of any other property and site alternatives investigated.

No property alternative was considered since the applicant owns the property. However, two site alternatives within the property boundary have been considered and investigated. Refer to **Figure 22** below.

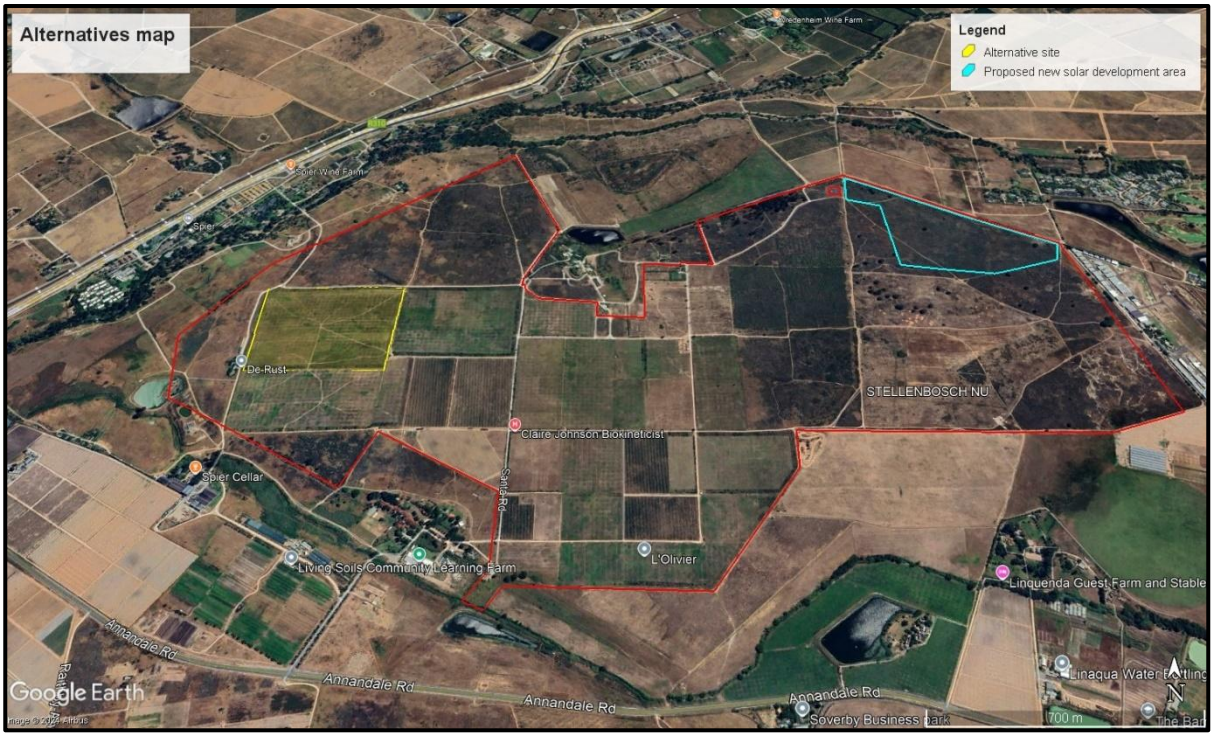

Figure 22: Site alternatives

Site alternative 1 (Preferred):
Requires the installation of solar panels towards the north-eastern boundary of the property.

This alternative is considered preferred for the following reasons:

- The proposed development is within an acceptable distance from the existing Eskom substation.
- The proposed development will be easily accessible via Annandale Road and the existing farm roads. The traffic impacts will be insignificant.
- Existing agricultural practices will not be impacted. The Agricultural Specialist states, *"The proposed solar development does not affect or restrict any of the existing or future irrigation areas. Furthermore, the soils of this portion of land have low suitability for irrigated cultivation."*
- The proposed development will provide temporary employment opportunities during the construction phase.
- The proposed development is not located within 32m of a watercourse.
- Botanical impacts will be low negative.
- The proposed development of the property will not result in any heritage impacts.

Site alternative 2:
Requires the installation of solar panels towards the western boundary of the property on agricultural land currently used for free-range egg production.

This alternative is not considered preferred for the following reasons:

- This alternative would impact the free-range egg-producing development.
- This alternative is not located near the existing Eskom substationn.
- This alternative would be highly visible from Annandale Road and the R310.

Provide a motivation for the preferred property and site alternative including the outcome of the site selection matrix.

Site alternative 1 (Preferred):
Requires the installation of solar panels towards the north-eastern boundary of the property.

Alternative 1 is the Preferred Alternative for the following reasons:

- The proposed development will be accessible via Annandale Road and existing farm roads.
- The applicant owns the property.
- The proposed development will provide electricity to the Spier Cellar and Hotel.
- The HWC has stated *"You are hereby notified that, since there is no reason to believe that the proposed installation of solar panels and associated infrastructure on Portion 10 of Farm 502, Annandale Road, Stellenbosch, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC chance finds procedure to be included in the environmental authorization."*

- The following is taken from the Botanical and Biodiversity Assessment: "*The vegetation in the proposed solar energy development area at Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, would originally have been Swartland Granite Renosterveld. No typical Swartland Granite Renosterveld remains and instead a uniform, secondary, species-poor plant community is now present. No plant species of conservation concern were recorded, and the vegetation is not deemed to be sensitive. It is my strong view that the classification of the area as a CBA1 in the Western Cape Biodiversity Plan is highly exaggerated and it should, at the most, be classified as an Ecological Support Area. This view is supported by field observation as well as the Red Listed Ecosystems classification that hardly includes the study area within endangered habitat. The proposed solar energy facility development is thus supported from both botanical and biodiversity perspectives.*"
- The proposed development will not be located within 32m of a watercourse.
- Existing agricultural practices will not be impacted. The Agricultural Specialist states, "*The proposed solar development does not affect or restrict any of the existing or future irrigation areas. Furthermore, the soils of this portion of land have low suitability for irrigated cultivation.*"

Provide a full description of the process followed to reach the preferred alternative within the site.

The preferred alternative was identified by looking for the area which would have the least impact on the environment, the surrounding land uses and disturbance during construction, to minimise further disturbance to the surrounding environment.

For this reason, site alternative 1 is the preferred site alternative.

Provide a detailed motivation if no property and site alternatives were considered.

N/A

List the positive and negative impacts that the property and site alternatives will have on the environment.

Positive impacts:
- The proposed development will be accessible via Annandale Road.
- The proposed development will be near the existing Eskom substation.
- The proposed development will not be located within 32m of a watercourse.
- The proposed development will not impact any heritage resources.
- The proposed development will not impact existing agricultural developments.

Negative impacts:
The proposed development will impact secondary vegetation.

1.2.	Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred activity alternative.

The preferred activity is the solar panels.

Provide a description of any other activity alternatives investigated.

No other activity alternatives were considered as the applicant wishes to install solar panels.

Provide a motivation for the preferred activity alternative.

No other activity alternatives were considered as the applicant wishes to install solar panels.

Provide a detailed motivation if no activity alternatives exist.

No other activity alternatives were considered as the applicant wishes to install solar panels.

List the positive and negative impacts that the activity alternatives will have on the environment.

N/A because no alternative activity was considered.

1.3.	Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts

Provide a description of the preferred design or layout alternative.

No design or layout alternatives have been considered.

Provide a description of any other design or layout alternatives investigated.

N/A

Provide a motivation for the preferred design or layout alternative.

N/A

Provide a detailed motivation if no design or layout alternatives exist.

No other design or layout alternatives were considered as the development will include low-impact mounting structures with no concrete bases, wider row spacing that reduces shading on vegetation between rows and higher mounting of panels to allow light under the panels for plant growth.

List the positive and negative impacts that the design alternatives will have on the environment.

N/A

1.4.	Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred technology alternative:

No technology alternatives were investigated.

Provide a description of any other technology alternatives investigated.

N/A, no technology alternatives were investigated.

Provide a motivation for the preferred technology alternative.	
The proposed development is not located within close proximity of existing municipal services.	
Provide a detailed motivation if no alternatives exist.	
N/A, no other technology alternatives were investigated. The proposed development is not located within close proximity of existing municipal services.	
List the positive and negative impacts that the technology alternatives will have on the environment.	
N/A	
1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred operational alternative.	
N/A	
Provide a description of any other operational alternatives investigated.	
N/A	
Provide a motivation for the preferred operational alternative.	
N/A	
Provide a detailed motivation if no alternatives exist.	
N/A	
List the positive and negative impacts that the operational alternatives will have on the environment.	
N/A	
1.6.	The option of not implementing the activity (the 'No-Go' Option).
Provide an explanation as to why the 'No-Go' Option is not preferred.	
The requirement is to consider the No-Go or alternative of not installing the solar panels. This is not the preferred alternative for the following reasons: • This alternative would mean that the applicant would not be able to provide electricity to its facilities independently from Eskom. • Positive socio-economic benefits will not occur during the construction phase. • No new temporary jobs will be created during the construction phase, the unemployment rate in the area will remain, and no improvement in the quality of life will be experienced by the locals.	
1.7.	Provide and explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.
The reasonable and feasible alternatives have been identified in the sections above.	
1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.

Alternative 1 (Preferred Alternative)

The preferred alternative requires the installation of solar panels towards the north-eastern boundary of the property.

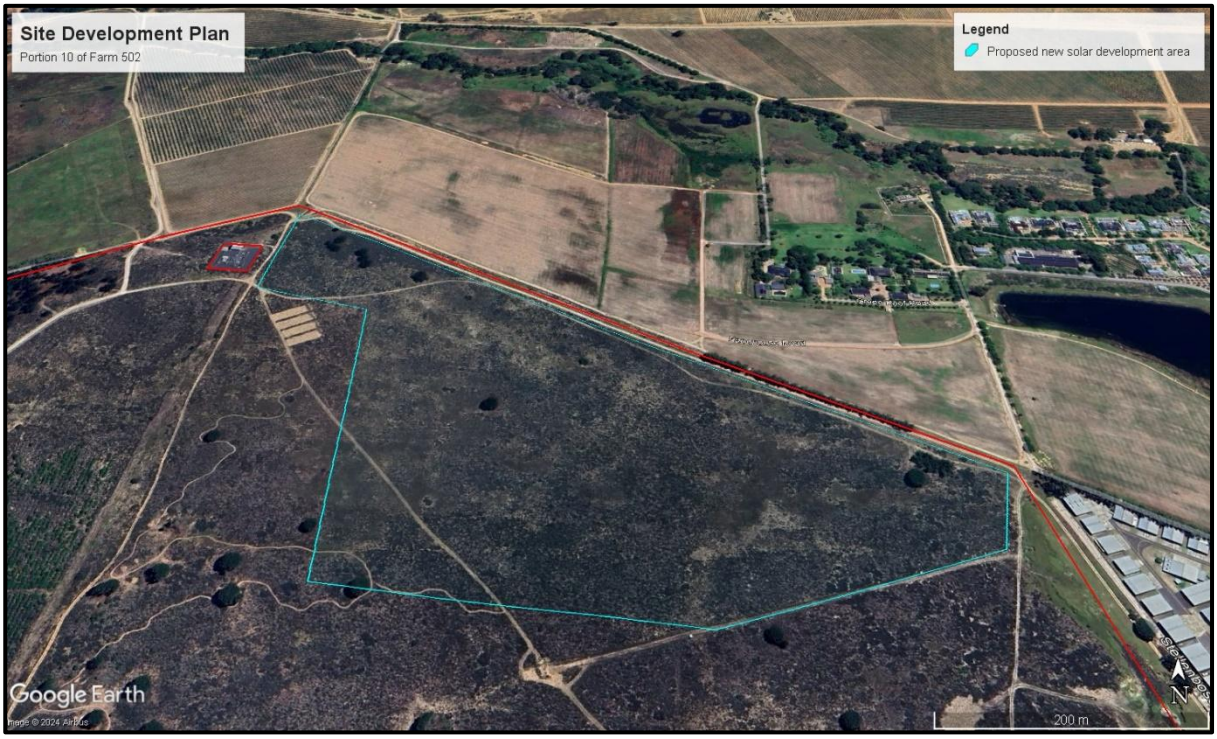

Figure 23: The preferred site alternative

Preferred Alternative 1

The preferred alternative is shown in **Figure 23**.

The preferred alternative will comprise the installation of solar panels and associated infrastructure.

The proposed development will require the following:

- Ground Mounted Solar Panels and associated infrastructure.
  - The solar panels are fixed and do not move with the sun.
  - The panel frames are secured to the ground by drilling reinforced poles into the ground.
- A container for inverters will be installed. This will be a heavy-duty aluminium powder-coated container on stilts.
- Underground feeder cables from the inverter building to the areas where electricity is require.
- Security fence (e.g. Clearvu fencing) will be installed around the solar panel site perimeter.

Alternative 1 is the Preferred Alternative for the following reasons:

- The proposed development is within an acceptable distance from the existing Eskom substation.
- The proposed development will be easily accessible via Annandale Road and the existing farm roads. The traffic impacts will be insignificant.
- Existing agricultural practices will not be impacted. The Agricultural Specialist states, *"The proposed solar development does not affect or restrict any of the existing or future irrigation areas. Furthermore, the soils of this portion of land have low suitability for irrigated cultivation."*
- The proposed development will provide temporary employment opportunities during the construction phase.
- The proposed development is not located within 32m of a watercourse.
- Botanical impacts will be low negative as the area has been transformed.
- The proposed development of the property will not result in any heritage impacts.

1. No-Go" areas

Explain what "no-go" area(s) have been identified during identification of the alternatives and provide the co-ordinates of the "no-go" area(s).
No no-go areas identified.

2. Methodology to determine the significance ratings of the potential environmental impacts and risks associated with the alternatives.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.
The Environmental Impact Assessment (EIA) 2014 Regulations promulgated in terms of Sections 24 (5), 24M and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) [as amended] (NEMA), requires that all identified potential impacts associated with the proposed project be assessed in terms of their overall potential significance on the natural, social and economic environments. The criteria identified in the EIA Regulations (2014) include the following: • Nature of the impact; • Extent of the impact; • Duration of the impact; • Probability of the impact occurring; • Degree to which impact can be reversed; • Degree to which impact may cause irreplaceable loss of resources; • Degree to which the impact can be mitigated; and • Cumulative impacts The criteria for the description and assessment of environmental impacts were taken from the National Environmental Management Act, 1998 (Act No.107 of 1998) as amended. The level of detail was somewhat fine-tuned by assigning specific values to each impact. In order to establish a coherent framework within which all impacts could be objectively assessed it is necessary to establish a rating system, which is consistent throughout all criteria. **Potential Impact or Nature of Impact** This is an appraisal of the type of effect the proposed activity would have on the affected environmental component. Its description should include what is being affected and how it is being affected. **Extent** The physical and spatial scale of the impact is classified as: • Local The impacted area extends only as far as the activity, e.g. a footprint. • Site The impact could affect the whole or a measurable portion of the site. • Regional The impact could affect the area including the neighbouring erven, the transport routes and the adjoining towns.

- National

The impact extends across national boundaries and may have national implications.

Duration

The lifetime of the impact, which is measured in relation to the lifetime of the proposed base?

- Temporary

The impact can be reversed when it is removed

- Short term

The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than any of the phases.

- Medium-term

The impact will last up to the end of the phases, where after it will be entirely negated.

- Long term

The impact will continue or last for the entire operational lifetime of the Development but will be mitigated by direct human action or by natural processes thereafter.

- Permanent

This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Consequence of impact or risk

Indicate what will happen if the impact occurs.

Intensity

The intensity of the impact is considered here by examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning, or slightly alters the environment itself. These are rated as:

- Low

The impact alters the affected environment in such a way that the natural processes or functions are not affected.

- Medium

The affected environment is altered, but functions and processes continue, albeit in a modified way.

- High

Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.
This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

Probability

This describes the likelihood of the impacts occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

- Improbable

The possibility of the impact occurring is none, due either to the circumstances, design or experience.

- Possible

The possibility of the impact occurring is very low, due either to the circumstances, design or experience.

- Likely

There is a possibility that the impact will occur to the extent that provisions must, therefore, be made.

- Highly Likely

It is most likely that the impacts will occur at some stage of the Development. Plans must be drawn up before carrying out the activity.

- Definite

The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on.

Irreplaceability

This reviews the extent to which an environmental resource is replaceable or irreplaceable. For example, if the proposed project will be undertaken on land that is already transformed and degraded, this will yield a low irreplaceability score; however, should a proposed development destroy unique wetland systems, for example, these may be considered irreplaceable and thus be described as high. The assessment of the degree to which the impact causes irreplaceable loss of resources is based on the following terms:

- High irreplaceability of resources (this is the least favourable assessment for the environment);
- Moderate irreplaceability of resources;
- Low irreplaceability of resources; or
- Resources are replaceable (this is the most favourable assessment for the environment).

Reversibility –

This considers the degree to which the adverse environmental impacts are reversible or irreversible. For example, an impact will be described as low should the impact have little chance of being rectified to correct environmental impacts. On the other hand, an impact such as the nuisance factor caused by noise impacts from wind turbines can be considered to be highly reversible at the end of the project lifespan. The assessment of the reversibility of potential impacts is based on the following terms:

- High

Impacts on the environment at the end of the operational life cycle are highly reversible;

- Moderate

Impacts on the environment at the end of the operational life cycle are reasonably reversible;

- Low

Impacts on the environment at the end of the operational life cycle are slightly reversible; or

- Non-reversible

Impacts on the environment at the end of the operational life cycle are not reversible and are consequently permanent.

Indirect Impact

Indirect impacts are secondary impacts and usually occur at a different place or time. Specialists will need to elaborate on any indirect or secondary impacts of proposed activities. If there are no indirect impacts, the specialist will need to briefly explain so.

Cumulative Impact
Consideration is given to the extent of any accumulative impact that may occur due to the proposed development. Such impacts are evaluated with an assessment of similar developments already in the environment. Such impacts will be either positive or negative and will be graded as being of negligible, low, medium or high impact.

Determination of Significance – Without Mitigation
The significance is determined through a synthesis of impact characteristics and is an indication of the importance of the impact in terms of both physical extent and time scale. The significance of the impact "without mitigation" is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, the significance is noted as "positive." The significance is rated on the following scale:

- No significance

The impact is not substantial and does not require any mitigation action.

- Low

The impact is of little importance but may require limited mitigation.

- Medium

The impact is of importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.

- High

The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Determination of Significance – With Mitigation
The significance is determined through a synthesis of impact characteristics. It is an indication of the importance of the impact in terms of both physical extent and time scale and therefore indicates the level of mitigation required. In this case, the prediction refers to the foreseeable significance of the impact after the successful implementation of the suggested mitigation measures. Significance with mitigation is rated on the following scale:

- No significance

The impact will be mitigated to the point where it is regarded to be insubstantial.

- Low

The impact will be mitigated to the point where it is of limited importance.

- Low to medium

The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels.

- Medium

Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.

- Medium to high

The impact is of great importance. Through implementing the correct mitigation measures the negative impacts will be reduced to acceptable levels.

- High

The impact is of great importance. Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and, taken within the overall context of the project, is a fatal flaw in the project proposal. This could render the entire development option or entire project proposal unacceptable.

The status of the impacts and degree of confidence with respect to the assessment of the significance is stated as follows:
Status of the impact: A description as to whether the impact will be:

- Positive (environment overall benefits from impact);
- Negative (environment overall adversely affected); or
- Neutral (environment overall not affected).

Degree of confidence in predictions:
The degree of confidence in the predictions, based on the availability of information and specialist knowledge.
This should be assessed as:

- High;
- Medium; or
- Low.

Furthermore, the following must be considered:

- Impacts should be described both before and after the proposed mitigation and management measures have been implemented.
- All impacts should be evaluated for the construction, operation and decommissioning phases of the project, where relevant.
- The impact evaluation should take into consideration the cumulative effects associated with this and other facilities which are either developed or in the process of being developed in the region, if relevant. Management Actions:
- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, augmentation measures will be identified to potentially enhance these.
- Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.

Monitoring

Specialists should recommend monitoring requirements to assess the effectiveness of mitigation actions, indicating what actions are required, by whom, and the timing and frequency thereof.

Mitigation
The objective of mitigation is to firstly avoid and minimise impacts where possible and where these cannot be completely avoided, to compensate for the negative impacts of the development on the receiving environment and to maximise re-vegetation and rehabilitation of disturbed areas. For each impact identified, appropriate mitigation measures to reduce or otherwise avoid the potentially negative impacts are suggested. All impacts are assessed without mitigation and with the mitigation measures as suggested.

The degree to which the impact can be avoided:
This indicates the degree to which an impact can be avoided. Impacts can either be fully avoided (impact is completely avoidable), partly avoided (impact is avoidable with moderate mitigation and/or management) or the impact is unavoidable (the impact it cannot be avoided even with significant mitigation measures and/or management).

The degree to which the impact can be managed:
This indicates the degree to which an impact can be managed. Impacts can either be fully managed (impact is completely manageable), partly managed (impact is manageable with moderate mitigation and/or management) or the impact is unmanageable (the impact cannot be managed even with significant mitigation measures).

The degree to which the impact can be mitigated:
This indicates the degree to which an impact can be reduced. The degree of mitigation can either be high (the impact can be fully mitigated), moderate (the impact can be partly mitigated) or not mitigated at all.

Residual Impact
Residual impacts are those impacts that remain following the implementation of mitigation measures. Residual impacts must be identified and discussed. If there are no residual impacts, the specialist will need to briefly explain that the activity will have no residual impacts.

3. Assessment of each impact and risk identified for each alternative

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

Please note, no Decommissioning is planned in the foreseeable future, therefore this aspect of the Lifecycle will not be assessed as part of this application

	PREFERRED ALTERNATIVE 1	ALTERNATIVE 2	NO-GO ALTERNATIVE
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Geology and geohydrological aspects**	**Geology and geohydrological aspects**	**Geology and geohydrological aspects**
Nature of impact:	Erosion	Erosion	N/A
Extent and duration of impact:	Extent: Site Duration: Short-term	Extent: Site Duration: Short-term	N/A
The consequence of impact or risk:	Erosion during the construction phase.	Erosion during the construction phase.	Neutral – Status quo will remain.
The probability of occurrence:	Low	Low	N/A
The degree to which the impact may cause irreplaceable loss of resources:	Low	Low	N/A
The degree to which the impact can be reversed:	High	High	N/A
Indirect impacts:	Disturbance of surrounding areas	Disturbance of surrounding areas	N/A
Cumulative impact prior to mitigation:	Low	Low	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative	Low negative	N/A
The degree to which the impact can be avoided:	Avoidable	Avoidable	N/A
The degree to which the impact can be managed:	Fully manageable	Fully manageable	N/A
The degree to which the impact can be mitigated:	High	High	N/A
Proposed mitigation:	• The contractor must take all reasonable precautions to prevent soil erosion resulting from a diversion, restriction or increase in the flow of stormwater or water resulting from its operations and activities to the satisfaction of the RE. • The contractor shall take reasonable measures to control the erosive effects of stormwater run-off. • The contractor shall use silt screens to prevent overland flowing water from eroding the affected area.	• The contractor must take all reasonable precautions to prevent soil erosion resulting from a diversion, restriction or increase in the flow of stormwater or water resulting from its operations and activities to the satisfaction of the RE. • The contractor shall take reasonable measures to control the erosive effects of stormwater run-off. The contractor shall use silt screens to prevent overland flowing water from eroding the affected area.	N/A
Residual impacts:	None	None	N/A
Cumulative impact post mitigation:	None	None	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very low negative	Very low negative	N/A
OPERATIONAL PHASE			
Potential impact and risk:	**Geology and geohydrological aspects**	**Geology and geohydrological aspects**	**Geology and geohydrological aspects**
Nature of impact:	N/A	N/A	N/A
Extent and duration of impact:	N/A	N/A	N/A
The consequence of impact or risk:	N/A	N/A	N/A
The probability of occurrence:	N/A	N/A	N/A
The degree to which the impact may cause irreplaceable loss of resources:	N/A	N/A	N/A
The degree to which the impact can be reversed:	N/A	N/A	N/A
Indirect impacts:	N/A	N/A	N/A
Cumulative impact prior to mitigation:	N/A	N/A	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	N/A	N/A	N/A
The degree to which the impact can be avoided:	N/A	N/A	N/A
The degree to which the impact can be managed:	N/A	N/A	N/A
The degree to which the impact can be mitigated:	N/A	N/A	N/A
Proposed mitigation:	N/A	N/A	N/A

	PREFERRED ALTERNATIVE 1	ALTERNATIVE 2	NO-GO ALTERNATIVE
Residual impacts:	N/A	N/A	N/A
Cumulative impact post-mitigation:	N/A	N/A	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	N/A	N/A	N/A
DECOMMISSIONING AND CLOSURE PHASE			
Potential impact and risk:	None	None	None

	PREFERRED ALTERNATIVE 1	ALTERNATIVE 2	NO-GO ALTERNATIVE
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Biodiversity impact**	**Biodiversity impact**	**Ecological impact 1**
Nature of impact:	**Loss of secondary vegetation**	None – the area does not consist of indigenous vegetation. T	N/A
Extent and duration of impact:	Extent: Local Duration: Long term	N/A	N/A
The consequence of impact or risk:	Loss of secondary vegetation.	N/A	Neutral – Status quo will remain.
The probability of occurrence:	High	N/A	N/A
The degree to which the impact may cause irreplaceable loss of resources:	Very low	N/A	N/A
The degree to which the impact can be reversed:	Not reversible in the short- to medium-term	N/A	N/A
Indirect impacts:	None	N/A	N/A
Cumulative impact prior to mitigation:	Negligible	N/A	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative	N/A	N/A
The degree to which the impact can be avoided:	Low	N/A	N/A
The degree to which the impact can be managed:	Low	N/A	N/A
The degree to which the impact can be mitigated:	Low	N/A	N/A
Proposed mitigation:	The following is provided by the botanical specialist: • *None proposed since the habitat has very low plant species and biodiversity sensitivity.*	N/A	N/A
Residual impacts:	None	N/A	N/A
Cumulative impact post mitigation:	Very low negative	N/A	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low negative	N/A	N/A
OPERATIONAL PHASE			
Potential impact and risk:	**Biodiversity impact**	**Biodiversity impact**	**Ecological impact 12**
Nature of impact:	None	None	N/A
DECOMMISSIONING AND CLOSURE PHASE			
Potential impact and risk:	None	None	None

	PREFERRED ALTERNATIVE	ALTERNATIVE 2	NO-GO ALTERNATIVE
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Impact on freshwater features**	**Impact on freshwater features**	**Impact on freshwater features**
Nature of impact:	None	None	None
Extent and duration of impact:	N/A	N/A	N/A
The consequence of impact or risk:	N/A	N/A	N/A
The probability of occurrence:	N/A	N/A	N/A
The degree to which the impact may cause irreplaceable loss of resources:	N/A	N/A	N/A
The degree to which the impact can be reversed:	N/A	N/A	N/A
Indirect impacts:	N/A	N/A	N/A
Cumulative impact prior to mitigation:	N/A	N/A	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	N/A	N/A	N/A
The degree to which the impact can be avoided:	N/A	N/A	N/A

The degree to which the impact can be managed:	N/A	N/A	N/A
The degree to which the impact can be mitigated:	N/A	N/A	N/A
Proposed mitigation:	N/A	N/A	N/A
Residual impacts:	N/A	N/A	N/A
Cumulative impact post-mitigation:	N/A	N/A	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	N/A	N/A	N/A
OPERATIONAL PHASE			
Potential impact and risk:	None	None	None
DECOMMISSIONING AND CLOSURE PHASE			
Potential impact and risk:	None	None	~~None~~

	PREFERRED ALTERNATIVE	**ALTERNATIVE 2**	**NO-GO ALTERNATIVE**
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Socio-economic**	**Socio-economic**	**Socio-economic**
Nature of impact:	Job creation as part of the construction phase	Job creation as part of the construction phase	N/A
Extent and duration of impact:	Extent: Local Duration: Short term	Extent: Local Duration: Short term	N/A
The consequence of impact or risk:	Job creation during the construction phase	Job creation during the construction phase	N/A
The probability of occurrence:	High	High	N/A
The degree to which the impact may cause irreplaceable loss of resources:	The impact is positive	The impact is positive	N/A
The degree to which the impact can be reversed:	The impact is positive as such it does not need to be reversed.	The impact is positive as such it does not need to be reversed.	N/A
Indirect impacts:	Skills development, economic benefit to the local community.	Skills development, economic benefit to the local community.	N/A
Cumulative impact prior to mitigation:	None	None	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low positive	Low positive	N/A
The degree to which the impact can be avoided:	Low	Low	N/A
The degree to which the impact can be managed:	Fully manageable	Fully manageable	N/A
The degree to which the impact can be mitigated:	The impact is positive. No mitigation is required.	The impact is positive. No mitigation is required.	N/A
Proposed mitigation:	The following general measures are proposed: • Recruit labour from the local community as far as possible. • Sub-contract to local construction companies where possible.	The following general measures are proposed: • Recruit labour from the local community as far as possible. Sub-contract to local construction companies where possible.	N/A
Residual impacts:	Reduction in unemployment within the Municipality.	Reduction in unemployment within the Municipality.	N/A
Cumulative impact post-mitigation:	Medium positive	Medium positive	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium positive	Medium positive	N/A
OPERATIONAL PHASE			
Potential impact and risk:	**Socio-Economic**	**Socio-Economic**	**Socio-Economic**
Nature of impact:	None	None	None
DECOMMISSIONING AND CLOSURE PHASE			
Potential impact and risk:	None	None	None

	PREFERRED ALTERNATIVE	**ALTERNATIVE 2**	**NO-GO ALTERNATIVE**
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Heritage, archaeological and cultural resources**	**Heritage, archaeological and cultural resources**	**Heritage, archaeological and cultural resources**
Nature of impact:	Loss of heritage resources	Loss of heritage resources	N/A Status quo will remain
Extent and duration of impact:	Extent: Site Duration: During construction	Extent: Site Duration: During construction	N/A
The consequence of impact or risk:	Loss of heritage resource	Loss of heritage resource	N/A
The probability of occurrence:	Low	Low	N/A
The degree to which the impact may cause irreplaceable loss of resources:	Low	Low	N/A
The degree to which the impact can be reversed:	Low	Low	N/A

	PREFERRED ALTERNATIVE	ALTERNATIVE 2	NO-GO ALTERNATIVE
Indirect impacts:	None	None	N/A
Cumulative impact prior to mitigation:	None	None	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative	Low negative	N/A
The degree to which the impact can be avoided:	Low	Low	N/A
The degree to which the impact can be managed:	High	High	N/A
The degree to which the impact can be mitigated:	High	High	N/A
Proposed mitigation:	If any Heritage resources are found, HWC will be contacted immediately	If any Heritage resources are found, HWC will be contacted immediately	N/A
Residual impacts:	None	None	N/A
Cumulative impact post mitigation	None	None	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible	Negligible	N/A
OPERATIONAL PHASE			
Potential impact and risk:	None	None	None
DECOMMISSIONING AND CLOSURE PHASE			
Potential impact and risk:	None	None	None

	PREFERRED ALTERNATIVE	ALTERNATIVE 2	NO-GO ALTERNATIVE
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Noise**	**Noise**	**Noise**
Nature of impact:	Construction noise	Construction noise	N/A
Extent and duration of impact:	Extent: local Duration: Short term	Extent: local Duration: Short term	N/A
The consequence of impact or risk:	Construction noise, which includes the noise of construction vehicles travelling to and from site	Construction noise, which includes the noise of construction vehicles travelling to and from site	N/A
The probability of occurrence:	High	High	N/A
The degree to which the impact may cause irreplaceable loss of resources:	Low	Low	N/A
The degree to which the impact can be reversed:	Low	Low	N/A
Indirect impacts:	None	None	N/A
Cumulative impact prior to mitigation:	None	None	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative	Low negative	N/A
The degree to which the impact can be avoided:	Medium	Medium	N/A
The degree to which the impact can be managed:	High	High	N/A
The degree to which the impact can be mitigated:	High	High	N/A
Proposed mitigation:	• Working hours will be restricted to daily normal working hours. • All plant and machinery to be fitted with adequate silencers. • No sound amplification equipment such as sirens, loud hailers or hooters may be used on-site, after normal working hours, except in emergencies. • If work is to be undertaken outside of normal work hours, permission must be obtained from the Landowner. Prior to commencing any such activity, the Contractor is also to advise potentially affected neighbouring residents. Dates, times and the nature of the work to be undertaken to be provided. The notification could include letter-drops. • The acceptable noise level according to SABS 10103 Code of Practice is 45dBA in the rural district during the day and 35dBA at night. The applicant must comply/adhere to these requirements.	• Working hours will be restricted to daily normal working hours. • All plant and machinery to be fitted with adequate silencers. • No sound amplification equipment such as sirens, loud hailers or hooters may be used on-site, after normal working hours, except in emergencies. • If work is to be undertaken outside of normal work hours, permission must be obtained from the Landowner. Prior to commencing any such activity, the Contractor is also to advise potentially affected neighbouring residents. Dates, times and the nature of the work to be undertaken to be provided. The notification could include letter-drops. • The acceptable noise level according to SABS 10103 Code of Practice is 45dBA in the rural district during the day and 35dBA at night. The applicant must comply/adhere to these requirements.	N/A
Residual impacts:	None	None	N/A
Cumulative impact post mitigation:	None	None	N/A
The significance rating of impact after mitigation	Very Low negative	Very Low negative	N/A

	PREFERRED ALTERNATIVE	ALTERNATIVE 2	NO-GO ALTERNATIVE
(e.g. Low, Medium, Medium-High, High, or Very-High)			
OPERATIONAL PHASE			
Potential impact and risk:	**Noise**	**Noise**	**Noise**
Nature of impact:	None	None	N/A
DECOMMISSIONING AND CLOSURE PHASE			
Potential impact and risk:	None	None	None

	PREFERRED ALTERNATIVE	ALTERNATIVE 2	NO-GO ALTERNATIVE
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Visual**	**Visual**	**Visual**
Nature of impact:	Visual and dust nuisance created through site clearance, removal of existing vegetation, earthworks, etc.	Visual and dust nuisance created through site clearance, removal of existing vegetation, earthworks, etc.	N/A
Extent and duration of impact:	Extent: Local Duration: Short term	Extent: Local Duration: Short term	N/A
The consequence of impact or risk:	Unsightly view	Unsightly view	N/A
The probability of occurrence:	High	High	N/A
The degree to which the impact may cause irreplaceable loss of resources:	Low	Low	N/A
The degree to which the impact can be reversed:	High	High	N/A
Indirect impacts:	None	None	N/A
Cumulative impact prior to mitigation:	None	None	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative	Medium negative	N/A
The degree to which the impact can be avoided:	Low	Low	N/A
The degree to which the impact can be managed:	High	High	N/A
The degree to which the impact can be mitigated:	Medium	Medium	N/A
Proposed mitigation:	The aesthetic measures indicated below must be implemented as required by the specific site and situated as agreed with the RE/EO. • The Contractor shall be required to visually screen the site. a. Visual screening shall be aesthetically pleasing and shall be erected by the Contractor prior to commencing any activities. b. Visual screening shall be maintained by the Contractor for the duration of the Contract. c. Visual screening must be of the following types: • Shade cloth • Hessian • Berms	The aesthetic measures indicated below must be implemented as required by the specific site and situated as agreed with the RE/EO. • The Contractor shall be required to visually screen the site. d. Visual screening shall be aesthetically pleasing and shall be erected by the Contractor prior to commencing any activities. e. Visual screening shall be maintained by the Contractor for the duration of the Contract. f. Visual screening must be of the following types: • Shade cloth • Hessian • Berms	N/A
Residual impacts:	None	None	N/A
Cumulative impact post mitigation:	None	None	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative	Low negative	N/A
OPERATIONAL PHASE			
Potential impact and risk:	**Visual**	**Visual**	**Visual**
Nature of impact:	**Solar panels**	**Solar Panels**	N/A
Extent and duration of impact:	Extent: Local Duration: Long term	Extent: Local Duration: Long term	N/A
The consequence of impact or risk:	Minimal visual impact as the development is in line with the zoning and visual mitigation measures can be implemented, such as planting trees for screening.	Minimal visual impact as the development is in line with the zoning and visual mitigation measures can be implemented, such as planting trees for screening.	N/A
The probability of occurrence:	Definite	Definite	N/A
The degree to which the impact may cause irreplaceable loss of resources:	Low	Low	N/A
The degree to which the impact can be reversed:	Low	Low	N/A
Indirect impacts:	None	None	N/A

	PREFERRED ALTERNATIVE	ALTERNATIVE 2	NO-GO ALTERNATIVE
Cumulative impact prior to mitigation:	None	None	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative	Medium negative	N/A
The degree to which the impact can be avoided:	Low	Low	N/A
The degree to which the impact can be managed:	Medium	Medium	N/A
The degree to which the impact can be mitigated:	High	High	N/A
Proposed mitigation:	▪ Landscape/screen tree planting in front of the house.	▪ Landscape/screen tree planting in front of the house.	N/A
Residual impacts:	None	None	N/A
Cumulative impact post mitigation:	None	None	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative	Low negative	N/A
OPERATIONAL PHASE			
Potential impact and risk:	**Visual**	**Visual**	**Visual**
Nature of impact:	**Solar panels – glint and glare**	**Solar Panels - glint and glare**	N/A
Extent and duration of impact:	Extent: Local Duration: Long term	Extent: Local Duration: Long term	N/A
The consequence of impact or risk:	Impact on aircraft	Impact on aircraft.	N/A
The probability of occurrence:	Medium	Low	N/A
The degree to which the impact may cause irreplaceable loss of resources:	Low	Low	N/A
The degree to which the impact can be reversed:	Low	Low	N/A
Indirect impacts:	None	None	N/A
Cumulative impact prior to mitigation:	Low	low	N/A
The significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative	Medium negative	N/A
The degree to which the impact can be avoided:	Low	Low	N/A
The degree to which the impact can be managed:	Medium	Medium	N/A
The degree to which the impact can be mitigated:	High	High	N/A
Proposed mitigation:	Anti-reflective coating for solar panels, if required.	Anti-reflective coating for solar panels, if required.	N/A
Residual impacts:	None	None	N/A
Cumulative impact post mitigation:	None	None	N/A
The significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative	Very low negative	N/A
DECOMMISSIONING AND CLOSURE PHASE			
Potential impact and risk:	None	None	None

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.

From the Botanical and Biodiversity Assessment (refer to Error! Reference source not found.**page** Error! Bookmark not defined.**):**
"***General Assessment and Recommendations***

- *Only vegetation type was originally found in the study area namely Swartland Granite Renosterveld. This vegetation no longer exists in its typical state in the study area, and this is ascribed to historical agriculture. The entire site was cleared and ploughed. The vegetation is now a uniform, secondary plant community dominated by weedy species in the family Asteraceae and lacking characteristics of true renosterveld.*
- *Swartland Granite Renosterveld is classified as Endangered A2b, A3, A3alt, B1(i), B1(iii) in the Revised National List of Ecosystems Threatened and in need of Protection (Government Gazette, 2022).*
- *Development of the area earmarked for the solar energy facility would not result in any further loss of Swartland Granite Renosterveld. What would be lost is secondary semi-natural vegetation in moderate to poor condition.*
- *When scrutinizing the WCBSP 2017 map as shown in Figure 24, it is seen that the study area falls largely within a CBA1. It is my view that this classification is exaggerated and at best should be mapped as ESA1.*
- *The anticipated direct impacts would be Low Negative prior to mitigation. However, no mitigation on the site itself is recommended. In the broader context, apart from the agricultural development, there is active conservation of other parts of Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, in some areas actively encouraging the return of near-natural Swartland Granite Renosterveld as opposed to simply leaving the land to lie fallow and permitting the dominance of such species as Eriocephalus africanus (kapokbos), Stoebe plumosa (slangbos) and Passerina corymbosa. The conservation farming approach is articulated on the Spier website.*
- *No rare or threatened plant species (species of conservation concern – SCC) were found during the survey despite the survey being conducted in spring. This is ascribed to the loss of these species from the seedbank because of historical cultivation of the land.*

11. Conclusions

The vegetation in the proposed solar energy development area at Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, would originally have been Swartland Granite Renosterveld. No typical Swartland Granite Renosterveld remains and instead a uniform, secondary, species-poor plant community is now present. No plant species of conservation concern were recorded, and the vegetation is not deemed to be sensitive. It is my strong view that the classification of the area as a CBA1 in the Western Cape Biodiversity Plan is highly exaggerated and it should, at the most, be classified as an Ecological Support Area. This view is supported by field observation as well as the Red Listed Ecosystems classification that hardly includes the study area within endangered habitat. The proposed solar energy facility development is thus supported from both botanical and biodiversity perspectives, with the principal mitigation measure being to conserve as much semi-natural habitat elsewhere on the property that should be actively managed (not simply left fallow!) to attempt to get the vegetation to revert to more typical Swartland Granite Renosterveld."

From the Agricultural Compliance Statement (refer to Error! Reference source not found.**, page** Error! Bookmark not defined.**):**

"The potential of the soils of the development site varies between medium-low to medium-high. With appropriate soil preparation and irrigation, the site has the potential to be used for intensive crop production. However, within the context of the rest of the farm, it is highly unlikely to be developed for cultivation within the medium to long term, due to the following facts:

- *It is situated far from the existing irrigation and other farming infrastructure;*
- *There is ample land with similar or better soils available for expansion closer to the existing infrastructure;*
- *Developing the land will require encompassing environmental authorisation and approval for the clearing of vegetation for cultivation in terms of CARA;*

The applicant proposes the implementation of the concept generally known as Agricvoltaics for the development of the solar PV facility. Agrivoltaics, involves the installation of solar panels above crops, creating a dual-use system that can potentially enhance the efficiency of land use while providing additional benefits, such as microclimate moderation and crop protection against excessive wind and/or sunlight. In the case of the Spier agrivoltaic facility, no crop production is proposed, but rather the retention or enhancement of the grazing capacity of the vegetation and the utilization thereof by small stock. The agricultural (grazing) potential of the land will thus not be lost, but more importantly the vegetation cover will be retained, which will protect the soil from erosion or degradation while surface runoff will be mitigated. The benefit of the retention of the grazing capacity is small (6 SSU's with the current vegetation – see paragraph 4.1.6) and rather irrelevant given the extensive grazing opportunities elsewhere on the farm.

The very high agricultural sensitivity of the neighbouring land to the north – as indicated by the Screening Tool – is the result of land that was previously used for irrigated cultivation. This land is fallow at the moment, but can be used for intensive crop production again in future. The solar facility as proposed, will have no impact on such possible future cultivation.

The development site is directly next to an existing substation and therefore there will be no need for long overhead powerlines. Also, the development footprint of the facility falls within the allowable limits.

The above arguments and factors are all in support of the application and thus approval is recommended, irrespective of the implementation of an agrivoltaics or conventional solar PV option."

From the Heritage Western Cape (refer to Error! Reference source not found.**, page** Error! Bookmark not defined.**):**
"You are hereby notified that, since there is no reason to believe that the proposed installation of solar panels and associated infrastructure on Portion 10 of Farm 502, Annandale Road, Stellenbosch, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC chance finds procedure to be included in the environmental authorization".

Mitigation as indicated by the specialists have been included in the EMPr.	
2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr
The recommendations as included above and in the specialists' report will be included in the EMPr.	
3.	List the specialist investigations and the impact management measures that will **not** be implemented and provide an explanation as to why these measures will not be implemented.
All specialist findings will be implemented.	
4.	Explain how the proposed development will impact the surrounding communities.
The proposed development will lead to positive impacts such as temporary job creation for the surrounding community.	
5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.
N/A	
6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.
No conflicting recommendations.	
7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.

The botanical specialist stated the following:
"***General Assessment and Recommendations***

- *Only vegetation type was originally found in the study area namely Swartland Granite Renosterveld. This vegetation no longer exists in its typical state in the study area, and this is ascribed to historical agriculture. The entire site was cleared and ploughed. The vegetation is now a uniform, secondary plant community dominated by weedy species in the family Asteraceae and lacking characteristics of true renosterveld.*
- *Swartland Granite Renosterveld is classified as Endangered A2b, A3, A3alt, B1(i), B1(iii) in the Revised National List of Ecosystems Threatened and in need of Protection (Government Gazette, 2022).*
- *Development of the area earmarked for the solar energy facility would not result in any further loss of Swartland Granite Renosterveld. What would be lost is secondary semi-natural vegetation in moderate to poor condition.*
- *When scrutinizing the WCBSP 2017 map as shown in Figure 24, it is seen that the study area falls largely within a CBA1. It is my view that this classification is exaggerated and at best should be mapped as ESA1.*
- *The anticipated direct impacts would be Low Negative prior to mitigation. However, no mitigation on the site itself is recommended. In the broader context, apart from the agricultural development, there is active conservation of other parts of Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, in some areas actively encouraging the return of near-natural Swartland Granite Renosterveld as opposed to simply leaving the land to lie fallow and permitting the dominance of such species as Eriocephalus africanus (kapokbos), Stoebe plumosa (slangbos) and Passerina corymbosa. The conservation farming approach is articulated on the Spier website.*
- *No rare or threatened plant species (species of conservation concern – SCC) were found during the survey despite the survey being conducted in spring. This is ascribed to the loss of these species from the seedbank because of historical cultivation of the land.*

11. Conclusions

The vegetation in the proposed solar energy development area at Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, would originally have been Swartland Granite Renosterveld. No typical Swartland Granite Renosterveld remains and instead a uniform, secondary, species-poor plant community is now present. No plant species of conservation concern were recorded, and the vegetation is not deemed to be sensitive. It is my strong view that the classification of the area as a CBA1 in the Western Cape Biodiversity Plan is highly exaggerated and it should, at the most, be classified as an Ecological Support Area. This view is supported by field observation as well as the Red Listed Ecosystems classification that hardly includes the study area within endangered habitat. The proposed solar energy facility development is thus supported from both botanical and biodiversity perspectives, with the principal mitigation measure being to conserve as much semi-natural habitat elsewhere on the property that should be actively managed (not simply left fallow!) to attempt to get the vegetation to revert to more typical Swartland Granite Renosterveld."

From the Agricultural Compliance Statement (refer to Error! Reference source not found.**, page** Error! Bookmark not defined.**):**

"The potential of the soils of the development site varies between medium-low to medium-high. With appropriate soil preparation and irrigation, the site has the potential to be used for intensive crop production. However, within the context of the rest of the farm, it is highly unlikely to be developed for cultivation within the medium to long term, due to the following facts:

- *It is situated far from the existing irrigation and other farming infrastructure;*
- *There is ample land with similar or better soils available for expansion closer to the existing infrastructure;*
- *Developing the land will require encompassing environmental authorisation and approval for the clearing of vegetation for cultivation in terms of CARA;*

The applicant proposes the implementation of the concept generally known as Agricvoltaics for the development of the solar PV facility. Agrivoltaics, involves the installation of solar panels above crops, creating a dual-use system that can potentially enhance the efficiency of land use while providing additional benefits, such as microclimate moderation and crop protection against excessive wind and/or sunlight. In the case of the Spier agrivoltaic facility, no crop production is proposed, but rather the retention or enhancement of the grazing capacity of the vegetation and the utilization thereof by small stock. The agricultural (grazing) potential of the land will thus not be lost, but more importantly the vegetation cover will be retained, which will protect the soil from erosion or degradation while surface runoff will be mitigated. The benefit of the retention of the grazing capacity is small (6 SSU's with the current vegetation – see paragraph 4.1.6) and rather irrelevant given the extensive grazing opportunities elsewhere on the farm.

The very high agricultural sensitivity of the neighbouring land to the north – as indicated by the Screening Tool – is the result of land that was previously used for irrigated cultivation. This land is fallow at the moment, but can be used for intensive crop production again in future. The solar facility as proposed, will have no impact on such possible future cultivation. *The development site is directly next to an existing substation and therefore there will be no need for long overhead powerlines. Also, the development footprint of the facility falls within the allowable limits.* *The above arguments and factors are all in support of the application and thus approval is recommended, irrespective of the implementation of an agrivoltaics or conventional solar PV option."* Similarly, the Heritage Western Cape indicated that there is no reason to believe that the proposed development will impact on heritage resources. As such, to ensure the best environmental results post construction all mitigation from the botanical and faunal specialists as well as the comment from HWC have been included in the EMPr.	
8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.
The mitigation hierarchy consists of five steps namely, avoidance, mitigation, restoration or rehabilitation, offset and compensation. The proposed development has avoided any detrimental environmental impact since there are minimal biological and heritage impacts for the preferred development areas. It would be fair to state that the focus during the planning stage was on avoidance as much as possible. Where impacts could not be avoided, mitigation measures have been provided (such as relating to construction noise). No restoration/rehabilitation, offset or compensation has been required for the proposed development, as the initial two steps have fulfilled all requirements.	

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.

The preferred alternative requires the construction of the installation of solar panels and associated infrastructure.

- The proposed development will be accessible via Annandale Road and existing farm roads.
- The applicant owns the property.
- The proposed development will provide electricity to the Spier Cellar and Hotel.
- The HWC has stated *"You are hereby notified that, since there is no reason to believe that the proposed installation of solar panels and associated infrastructure on Portion 10 of Farm 502, Annandale Road, Stellenbosch, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC chance finds procedure to be included in the environmental authorization."*
- The following is taken from the Botanical and Biodiversity Assessment: *"The vegetation in the proposed solar energy development area at Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, would originally have been Swartland Granite Renosterveld. No typical Swartland Granite Renosterveld remains and instead a uniform, secondary, species-poor plant community is now present. No plant species of conservation concern were recorded, and the vegetation is not deemed to be sensitive. It is my strong view that the classification of the area as a CBA1 in the Western Cape Biodiversity Plan is highly exaggerated and it should, at the most, be classified as an Ecological Support Area. This view is supported by field observation as well as the Red Listed Ecosystems classification that hardly includes the study area within endangered habitat. The proposed solar energy facility development is thus supported from both botanical and biodiversity perspectives."*
- The proposed development will not be located within 32m of a watercourse.
- Existing agricultural practices will not be impacted. The Agricultural Specialist states, *"The proposed solar development does not affect or restrict any of the existing or future irrigation areas. Furthermore, the soils of this portion of land have low suitability for irrigated cultivation."*

1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)

Please see **Appendix B2.**

1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.

Following is a summary of the positive and negative impacts as per the assessment tables.

Aspects	Design and Construction			Operational		
	Preferred Alternative	Alternative 2	No-Go Alternative	Preferred Alternative	Alternative 2	No-Go Alternative
Geology and Geohydrological	Very low negative	Very low negative	N/A	None	None	None
Biodiversity Impact	Very low negative	N/A	N/A	None	N/A	None
Freshwater:	N/A	N/A	N/A	N/A	N/A	N/A
Socio-Economic: Job creation	Medium positive	Medium positive	N/A	None	None	N/A
Heritage	Negligible	Negligible	N/A	None	None	None
Noise	Very low negative	Very low negative	N/A	None	None	None
Visual	Low negative	Low negative	N/A	Low negative	Low negative	None

Summary of positive and negative impacts for the proposed development alternatives:

Preferred alternatives	
Positive	**Negative**
• The proposed development is within an acceptable distance from the existing Eskom substation. • The proposed development will be easily accessible via Annandale Road and the existing farm roads. The traffic impacts will be insignificant. • Existing agricultural practices will not be impacted. The Agricultural Specialist states, *"The proposed solar development does not affect or restrict any of the existing or future irrigation areas. Furthermore, the soils of this portion of land have low suitability for irrigated cultivation."* • The proposed development will provide temporary employment opportunities during the construction phase. • The proposed development is not located within 32m of a watercourse. • Botanical impacts will be low negative as the area has been transformed. • The proposed development of the property will not result in any heritage impacts	• Potential visual impact

2. Recommendation of the Environmental Assessment Practitioner ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr

Impact management outcomes:

- Maintain safety and security (with security on-site).
- Minimise construction noise.
- Protect heritage resources if discovered.
- Increase permanent job opportunities for locals.

2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.

N/A

2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.

The development should be authorised, for the following reasons:

- The proposed development will be accessible via Annandale Road and existing farm roads.
- The applicant owns the property.
- The proposed development will provide electricity to the Spier Cellar and Hotel.
- The HWC has stated "You are hereby notified that, since there is no reason to believe that the proposed installation of solar panels and associated infrastructure on Portion 10 of Farm 502, Annandale Road, Stellenbosch, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC chance finds procedure to be included in the environmental authorization."
- The following is taken from the Botanical and Biodiversity Assessment: *"The vegetation in the proposed solar energy development area at Re Portion 10 of Farm Louw's Bos 502, Stellenbosch, would originally have been Swartland Granite Renosterveld. No typical Swartland Granite Renosterveld remains and instead a uniform, secondary, species-poor plant community is now present. No plant species of conservation concern were recorded, and the vegetation is not deemed to be sensitive. It is my strong view that the classification of the area as a CBA1 in the Western Cape Biodiversity Plan is highly exaggerated and it should, at the most, be classified as an Ecological Support Area. This view is supported by field observation as well as the Red Listed Ecosystems classification that hardly includes the study area within endangered habitat. The proposed solar energy facility development is thus supported from both botanical and biodiversity perspectives."*
- The proposed development will not be located within 32m of a watercourse.
- Existing agricultural practices will not be impacted. The Agricultural Specialist states, *"The proposed solar development does not affect or restrict any of the existing or future irrigation areas. Furthermore, the soils of this portion of land have low suitability for irrigated cultivation."*

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.

A thorough investigation has been carried out with the required specialists providing comment in order to compile a basic assessment that ensures the environment is given full consideration.

The following is taken from the Botanical and Biodiversity Assessment (refer to Error! Reference source not found., **page** Error! Bookmark not defined.):

"Limitations and Assumptions

The weather at the time of the survey was fine. As noted above, the season of the survey was ideal since it was well into spring and winter, with spring-flowering geophytes and annuals, where found, being easily identifiable. The vegetation varied in density but where dense, it did not limit access."

2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.

- The period for which the EA is required – 10 years
- The date the activity will be concluded – 10 years after construction commenced.
- When the post-construction monitoring requirements should be finalised – 6 months after construction concludes.

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.

Non-potable water will be sourced for use during the construction phase.
The proposed development does not use water. However, should water be required, non-potable water will be utilised.

The proposed development does not use water. Only for cleaning of the panels when required. However, should water be required, non-potable water will be utilised.

Due to the rural site, it is improbable that there will be any industrial fallout or other types of grime accumulation on the panels. Frequent winds, during both winter and summer, will remove/prevent any accumulation of dust or grime.
Literature indicates that in low to zero rainfall areas, there might be a requirement to wash off dirt, dust or bird droppings at approximately 6 monthly intervals. The development area at Spier falls within a high rainfall area during winter, which means that it is unlikely that any further intervention is required.
Should it be required, a small volume will be supplied by the nearest water supply point. Spier has purpose-built cleaning equipment with a compressor and water filter for constant water pressure and quality of water. Please however also note that cleaning is done only when required.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.
• During construction, it will be encouraged that construction waste be reused as far as where possible. • Recycling of general waste will be encouraged.

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.
Generators will be used should electricity be required during the construction phase. During operation, the structure will generate electricity.	

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

Note: Duplicate this section where there is more than one Applicant.

I, HEIDI NEWTON-KING	ID Number:	6	8	1	0	0	7	0	0	3	7	0	8	6

in my personal capacity or duly authorised thereto hereby declare/affirm that:

- the information provided or to be provided as part of this Application form, is true and correct;

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, as defined in Chapter 5 of NEMA (as amended) and any relevant Specific Environmental Management Acts and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware that is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;

- I am aware of my general duty of care in terms of Section 28 of the NEMA;

- I appointed the Environmental Assessment Practitioner ("EAP") which:
    - meets the requirements of the Section 24H Registration Authority Regulations, 2016, promulgated in terms of NEMA;
    - meets all the requirements in terms of Regulation 13 of the EIA Regulations, 2014;
    - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the EIA Regulations, 2014;

- I will provide the EAP and specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;

- I will be responsible for the costs incurred in complying with the EIA Regulations, 2014 and other environmental legislation including but not limited to –
    - costs incurred for the appointment of the EAP or any person contracted by the EAP;
    - costs in respect of any fee prescribed by the Minister or MEC in respect of the EIA Regulations, 2014;
    - costs in respect of specialist reviews; and
    - the provision of security to ensure compliance with applicable management and mitigation measures; and

- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority; hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which the Applicant or EAP is responsible in terms of the EIA Regulations, 2014 and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the Applicant: 05/11/2024 Date:

Spier Farm Management (Pty) Ltd
Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I Mische Molife, EAPASA Registration number 2020/1410 as the appointed EAP hereby declare/affirm the correctness of the:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

05/11/2024

Signature of the EAP: Date:

GroenbergEnviro (Pty) Ltd

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP

I Pieter Badenhorst, EAPASA Registration number 2019/1108 as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

P. Badenhorst.

05/11/2024

Signature of the EAP: Date:

GroenbergEnviro (Pty) Ltd

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I David Jury McDonald, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the specialist:	
Bergwind Botanical Surveys & Tours CC	10 October 2024
Name of company	Date

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I **Francois H Knight**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or

  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);

- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;

- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and

- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

23 October 2024

Signature of the EAP: Date:

Agri Informatics

Name of company (if applicable):

DECLARATION OF THE REVIEW SPECIALIST

I ……., as the appointed Review Specialist hereby declare/affirm that:

- I have reviewed all the work produced by the Specialist(s):
- I have reviewed the correctness of the specialist information provided as part of this Report;
- I meet all of the general requirements of specialists as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the review EAP (if applicable), the Specialist(s), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

Appendices

APPENDIX			✓ (Tick) or x (cross)
Appendix A:	Maps		
	Appendix A1:	Locality Map	✓
	Appendix A2:	Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning	N/A
	Appendix A3:	Map with the GPS co-ordinates for linear activities	N/A
Appendix B:	Appendix B1:	Site development plan(s)	✓
	Appendix B2	A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;	✓
Appendix C:	Photographs		✓
Appendix D:	Biodiversity overlay map		✓
Appendix E:	Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.		
	Appendix E1:	Final comment/ROD from HWC	✓
	Appendix E2:	Copy of comment from Cape Nature	
	Appendix E3:	Final Comment from the DWS	
	Appendix E4:	Comment from the DEA: Oceans and Coast	
	Appendix E5:	Comment from the DAFF	
	Appendix E6:	Comment from WCG: Transport and Public Works	
	Appendix E7:	Comment from WCG: DoA	
	Appendix E8:	Comment from WCG: DHS	
	Appendix E9:	Comment from WCG: DoH	
	Appendix E10:	Comment from DEA&DP: Pollution Management	
	Appendix E11:	Comment from DEA&DP: Waste Management	
	Appendix E12:	Comment from DEA&DP: Biodiversity	
	Appendix E13:	Comment from DEA&DP: Air Quality	
	Appendix E14:	Comment from DEA&DP: Coastal Management	
	Appendix E15:	Comment from the local authority	
	Appendix E16:	Confirmation of all services (water, electricity, sewage, solid waste management)	N/A
	Appendix E17:	Comment from the District Municipality	
	Appendix E18:	Copy of an exemption notice	N/A
	Appendix E19	Pre-approval for the reclamation of land	N/A
	Appendix E20:	Proof of agreement/TOR of the specialist studies conducted.	✓
	Appendix E21:	Proof of land use rights	N/A
	Appendix E22:	Proof of public participation agreement for linear activities	N/A
Appendix F:	Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.		
Appendix G:	Specialist Report(s)		✓
Appendix H:	EMPr		✓
Appendix I:	Screening tool report		✓
Appendix J:	The impact and risk assessment for each alternative		✓ Please see Section H
Appendix K:	Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline		✓
Appendix…..	Any other attachments must be included as subsequent appendices		✓