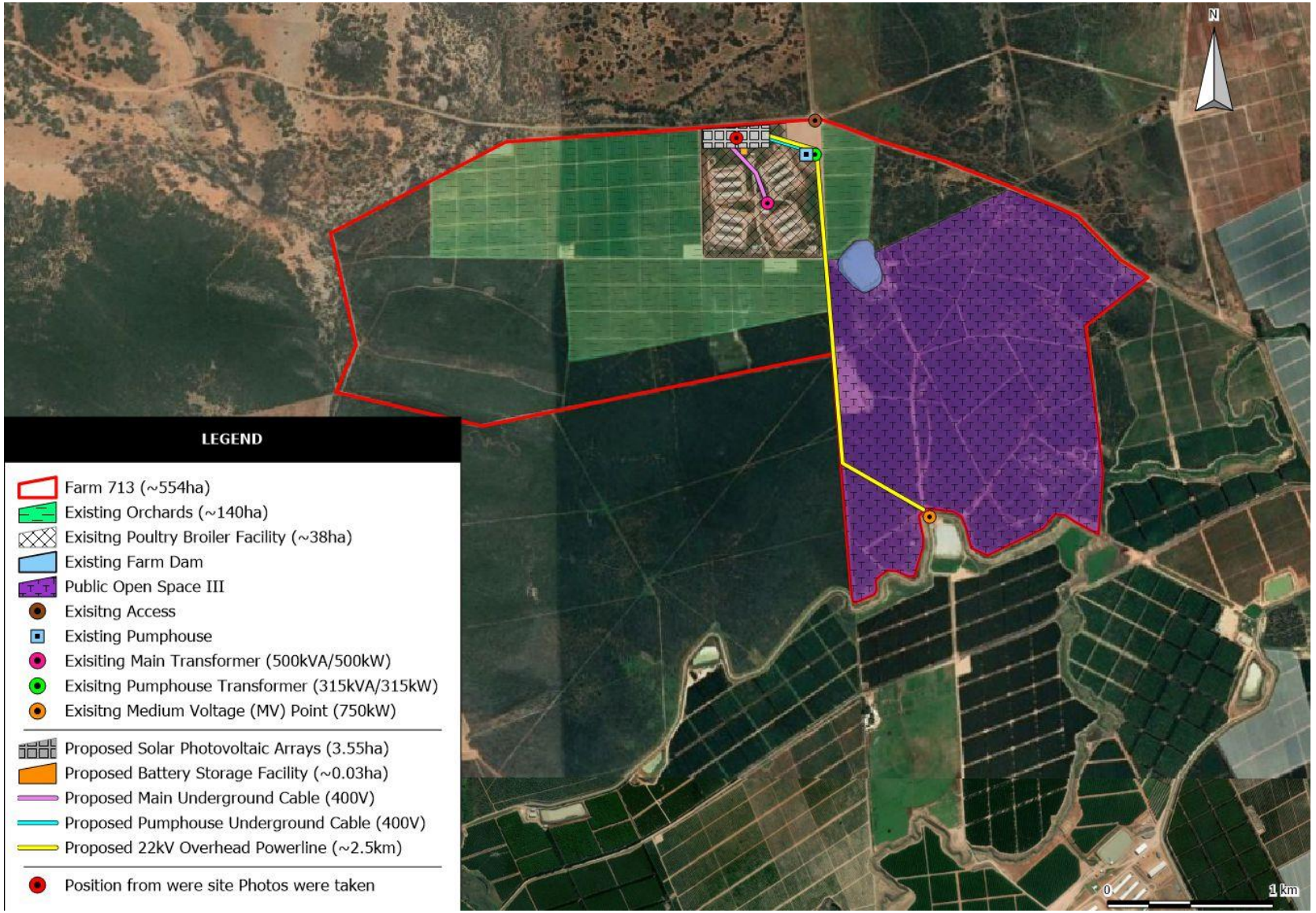
SECTION F: APPENDICES

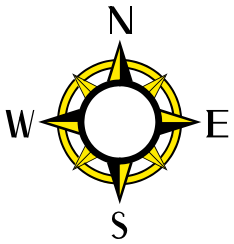
APPENDIX A: SITE PLAN



APPENDIX B: PHOTOGRAPHS TAKEN FROM THE CENTRE OF THE SITE

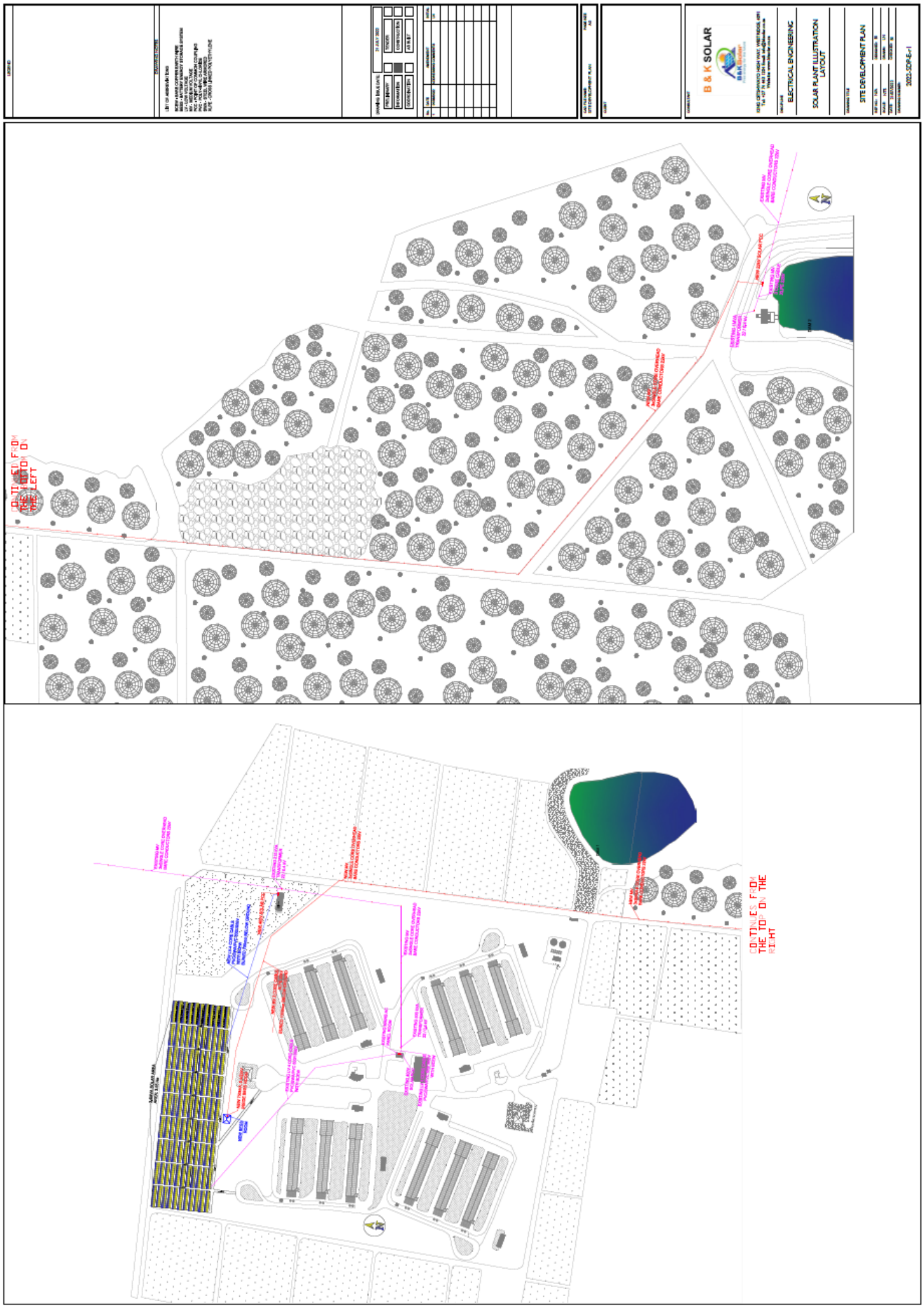









APPENDIX C: FACILITY ILLUSTRATION(S)



Appendix D (i): Aquatic Biodiversity Compliance Statement

Disco 2 Solar PV Facility: Proposed Construction and Operation of a Solar Photovoltaic Facility and Associated Infrastructure, on a Portion of Farm 713, Hopefield, Sundays River Valley Municipality, Eastern Cape

AQUATIC COMPLIANCE STATEMENT

August 2022

Prepared for: Public Process Consultants
120 Diaz Road,
Adcockvale,
Port Elizabeth,
6001

Prepared by: Ms Jaclyn Smith
JS Environmental Consulting
P.O. Box 19176,
Tecoma,
East London,
5214

SPECIALIST DETAILS

This report was prepared by Jaclyn Smith. She is an Environmental Consultant with over 8 years' experience in undertaking numerous Environmental Impact Assessments (EIA), aquatic specialist as well as wetland impact assessments. She has a BSc in Geology and Environmental Science from Rhodes University and a BSc (Hons) in Geology from Nelson Mandela Metropolitan University. Her honours thesis looked at the sediment disturbance depth over two beaches in the Port Elizabeth area. Jaclyn attended the Tools for Wetland Assessment course at Rhodes University and was certified competent to undertake wetland assessments. Jaclyn is also a SACNASP Registered Professional Natural Scientist (No. 120693)

Declaration

I, Jaclyn Smith, declare that, in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amended Environmental Impact Assessment Regulations, 2017;
I act as the independent specialist in this application;
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
I declare that there are no circumstances that may compromise my objectivity in performing such work;
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
I will comply with the Act, Regulations and all other applicable legislation;
I have no, and will not engage in, conflicting interests in the undertaking of the activity;
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
All the particulars furnished by me in this report are true and correct; and
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Ms Jaclyn Smith

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INTRODUCTION

Project Description and Location

The Venter Wildlife Trust (the applicant) proposes the development and operation of a Solar Photovoltaic facility (PV), including associated infrastructure, capable of producing 3.4MW of AC electricity, on Farm 713 (Hopefield) in the Sundays River Valley Local Municipality, Eastern Cape (Figure 1.1). The farm measures approximately ~554ha in extent and is zoned as Agriculture 1.

The PV facility will be grid tied meaning electricity produced will be fed back in to the ESKOM grid as part of a Wheeling Agreement with the electricity utility. Two existing transformers (termed 'Main' and 'Pump") occur within the site and will form part of the Wheeling Agreement.

The PV facility and associated infrastructure (powerlines and battery storage area) is proposed to be located on an area that has already been irreversibly transformed (Figure 1.2). In addition to the PV facility a 22kV overhead powerline will be installed to connect the PV facility to an existing Medium Voltage Point (MV) located on the adjacent farm immediately south of the southern boundary of Farm 713. The overhead power line will be installed within an existing road reserve, therefore, it is not anticipated that any additional indigenous vegetation will be removed.

The purpose of this report is to provide baseline data, verify sensitivity of aquatic features within and surrounding the proposed development footprint for the Basic Assessment Report (BAR) process being undertaken by Public Process Consultants.

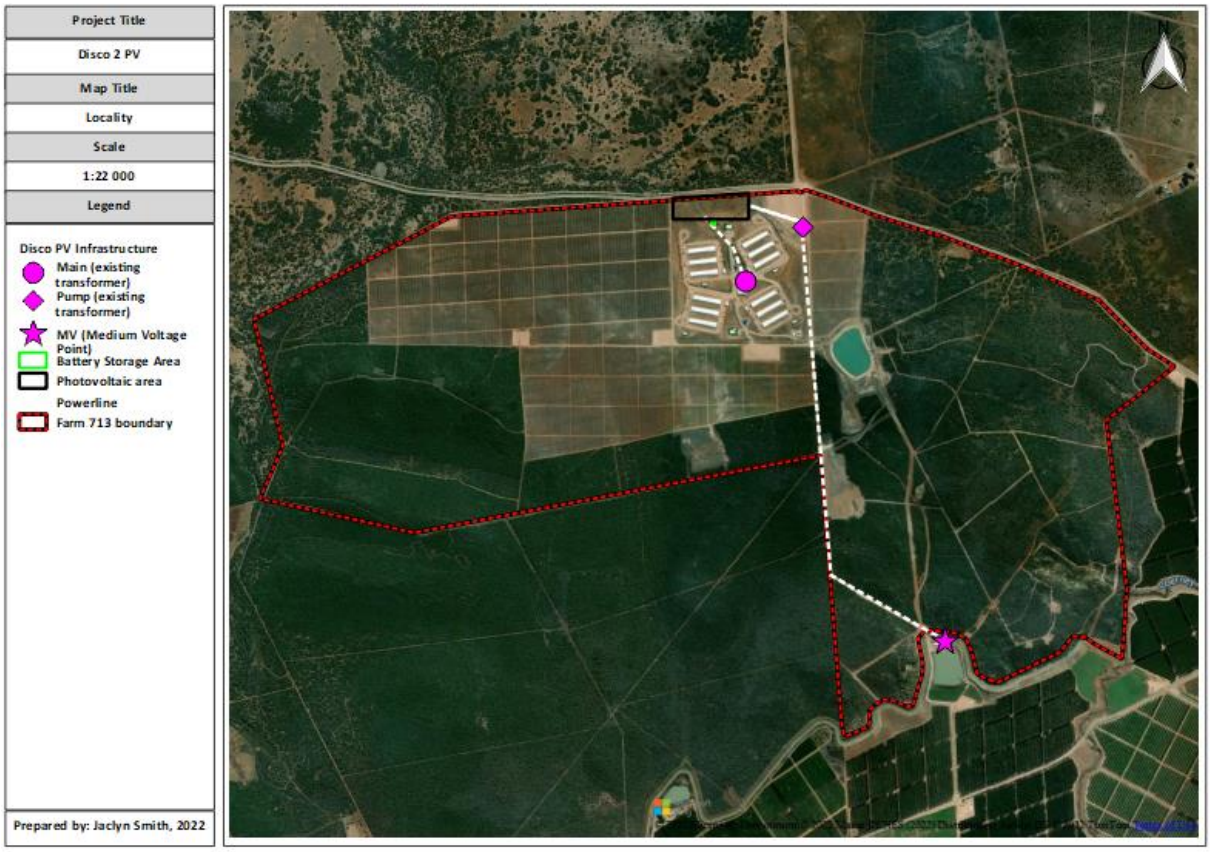


Figure 1.1 Locality map of the study area.

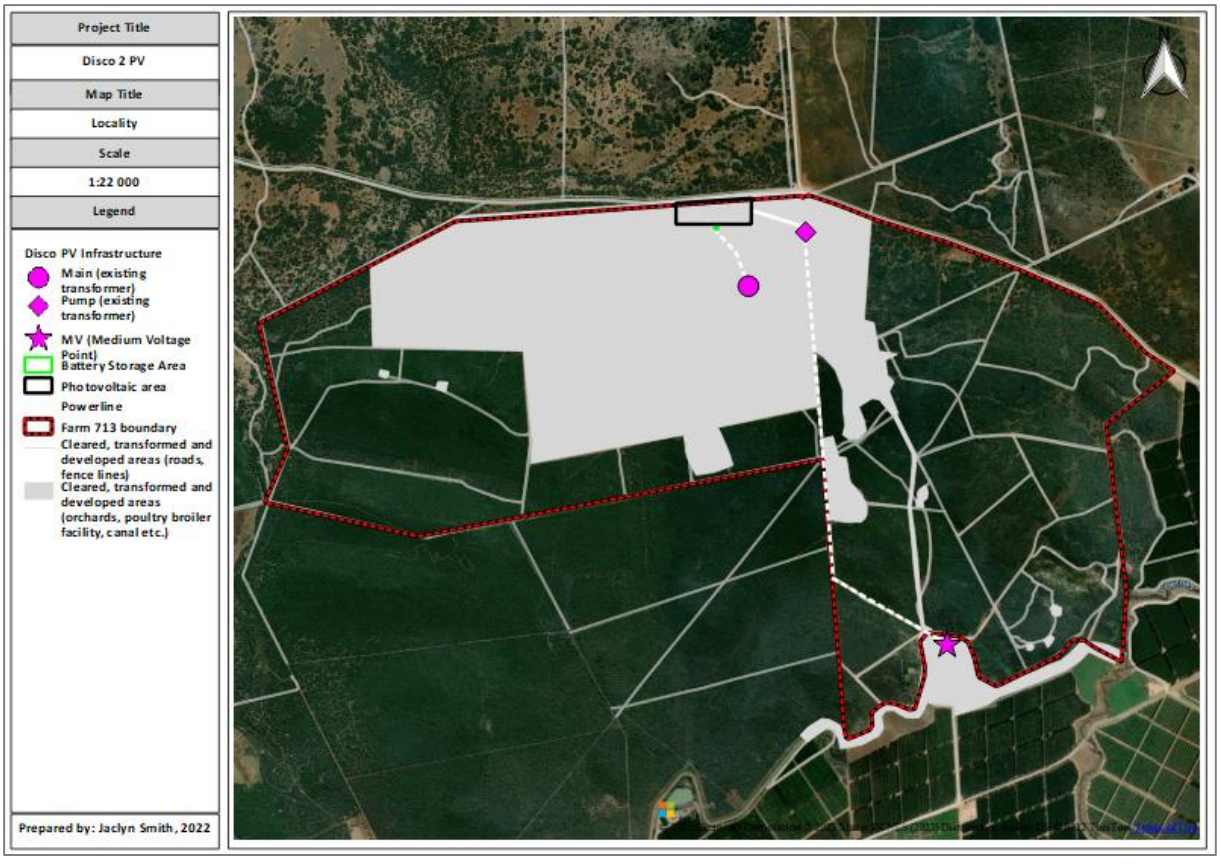


Figure 1.2 Locality map of the study area showing extent of existing cleared, transformed and developed areas (grey colour).

Assumptions and Limitations

The following assumptions and limitations are made for this assessment:

The desktop investigation was undertaken using the best available literature at the time;
A site verification exercise was undertaken in winter (22 June 2022); and
The assessment is based on the project description and information provided by the client.

Terms of Reference

This report has been undertaken in accordance with the procedures to be followed for the Assessment and Minimum Criteria for Reporting of Identified Environmental Themes in terms of Section 24(5)(a) and (h) of the National Environmental Management Act (1998) when Applying for Environmental Authorisation.

An Aquatic Biodiversity Compliance Statement prepared in terms of these Regulations must contain, at a minimum, the following:

Requirement	Section
(a) Contact details of the specialist; their SACNASP registration number, their field of expertise and a curriculum vitae;	Specialist details and declaration – Page (i)
(b) a signed statement of independence by the specialist;	Specialist details and declaration – Page (i)
(c) a statement of the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Section 0
(d) a baseline profile description of biodiversity and ecosystem of the site;	Section 0
(e) the methodology used to verify the sensitivities of the aquatic biodiversity features on the site including the equipment and modelling used where relevant;	Section 0 and 0
(f) in the case of a linear activity, confirmation from the aquatic biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase.	Section0
(g) Where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr;	Section 0
(h) A description of the assumptions made as well as any uncertainties or gaps in knowledge of data; and	Section 0
(i) Any conditions to which this statement is subjected.	Section 0

LEGISLATION REQUIREMENTS AND BASE DATA

The following legislation (Acts and Regulations) was consulted and is relevant to this aquatic assessment:

Table 2.1 List of legislation relevant to the project.

Legislation	Description and relevance
National Environmental Management	NEMA provides for co-operative, environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-

Act (NEMA) (107 of 1998)	operative governance and procedures for co-ordinating environmental functions exercised by organs of state and to provide for such matters. This Act requires that prior Environmental Authorisation is obtained before the undertaking of any listed activities.
Environmental Impact Assessment (EIA) Regulations (2014, as amended)	The EIA Regulations (2014, as amended) stipulate the process that must be followed when applying for Environmental Authorisation and provides a list of activities (in the form of the 3 Listing Notices; GN 327, GN 325 & GN 324) that require Environmental Authorisation. All application for Environmental Authorisation have to be undertaken in accordance with the procedures outlined in the EIA Regulations.
National Water Act (NWA) (36 of 1998)	NWA allows for governance and management of water resources to ensure that the nation's water resources are conserved and protected as well as used and developed in a sustainable manner. NWA requires that all water use activities are in line with the provisions in the Act and the necessary authorisations/licences are obtained for certain water use activities. NWA includes the provision of procedures and requirements for **General Authorisations** and **Water Use Licences** which permit the use of water.
National Environmental Management: Biodiversity Act (NEMBA) (Act 10 of 2004),	NEMBA provides for the management and conservation of South Africa's biodiversity within the framework of NEMBA; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute. NEMBA provides details regarding the protection of threatened ecosystems, threated or protected species as well as management of alien and invasive species.

Table 2.2 provides a list of baseline data consulted for the assessment:

Table 2.2 Base data used in this assessment

Name of base data	Age (Date)	Description and quality of data
Department of Water and Sanitation (DWS) Desktop Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) Model.	2014	The objective of the Present Ecological State/Ecological Importance/Ecological Sensitivity (PES/EI/ES) dataset is to provide first level desktop information on ecological issues as it relates to the protection and management of sub-quaternary reaches (SQRs). The PES and EIS relates specifically to Rivers (instream and riparian aspects) and limited aspects of valley-bottom wetlands. This data set replaces the 1999 PESEIS assessment by DWS.
DWA Ecoregional classification.	2007	The aim of the DWA Ecoregional classification is to group rivers into Level 1 and Level 2 Ecoregions according to similarities based on a top-down nested hierarchy. The Ecoregions were grouped based on attributes such as climate, rainfall, physiography, geology and natural vegetation. The Level 2 Ecoregion classification will facilitate future developments into stream classification, geomorphological segments, longitudinal zones and biological habitat segments.
Addo Biodiversity Sector Plan: Biodiversity sector plan for the Sundays River Valley Municipality Also known as the Sundays River Valley	2012	This plan provides for critical biodiversity area categories as well as land use guidelines in the Sundays River Valley Municipality. The CBA areas formed an update to the ECBCP (2007) CBA areas.

Name of base data	Age (Date)	Description and quality of data
Municipality Biodiversity Sector Plan (SRVM BSP)		
Eastern Cape Biodiversity Conservation Plan (ECBCP) – Aquatic Critical Biodiversity Areas and Ecological Support Areas	2019	The latest ECBCP (2019) replaces the previous revision of the first ECBCP (2007), and has been adopted by the competent authority. ECBCP (2019) includes the incorporation of the latest environmental and biodiversity data. ECBCP (2019) maps important biodiversity areas and has developed associated land use management guidelines.
National Biodiversity Assessment (NBA) – South African Inventory of Inland Aquatic Ecosystems (SAIIAE)	2018	The aim of SAIIAE is to provide information on the ecosystem types and pressures for wetland and river systems. The SAIIAE builds on and improves spatial data available for the river and wetland systems. It provides the National Wetland Map (NWM) 5 which provides improvements to the NWM 4 from NFEPA.
The National Freshwater Ecosystem Priority Areas (NFEPA) project	2011 - 2014	The aim of the NFEPA project was to identify Freshwater Ecosystem Priority Areas (FEPA's) to meet national biodiversity goals for freshwater ecosystems and develop a basis for enabling effective implementation of measures to protect FEPA's as well as free-flowing rivers. The project involved input and collaboration from numerous stakeholders, scientists and practitioners who contributed knowledge and data to the NFEPA product.
National list of ecosystems that are threatened and in need of protection (NEMBA)	2011	The aim of the listing of threatened ecosystems is to reduce the rate of ecosystem and species extinction which includes preventing further degradation and loss of structure, function and composition of threatened ecosystems.
Historical aerial imagery – Department of Rural Development and Land Reform	1957	Black and white detailed and accurate aerial photography taken from an aircraft dating back to the 1950's. Allows for the identification and interpretation of site conditions prior to any current or recent developments to the area.

APPROACH AND METHODOLOGY

The baseline desktop assessment was undertaken using the following approach:

- Desktop assessment – involves the gathering of baseline desktop data available for the study area including the following:
    - Consulting aerial imagery
    - Review of previous assessments
    - Review of national and local legislation
    - Relevant mapping resources (including ECBCP 2019, SRVM BSP, NFEPA).
- Sensitivity assessment – sensitivity analysis base on desktop findings;
    - Screening Tool Report
- Site visit undertaken
- Impact assessment – assessment of potential impacts and appropriate mitigation measures.

DESKTOP SITE ASSESSMENT

A desktop investigation was undertaken using available desktop data.

Quaternary Catchment, Water Management Area and Strategic Water Source Area

The project area falls within the boundaries of quaternary catchments N40D of the Mzimvubu-Tsitsikamma Water Management Area. The study area does not fall within any Strategic Water Source Areas.

Ecoregions

The study area falls within Level 1 Ecoregion 20: South Eastern Coastal Belt.

Level 1 Ecoregion

This Level 1 Ecoregion is characterised by closed hills and mountains with a moderate to high relief. Dominant vegetation types include Afromontane Forest and Mesic Succulent Thicket although Fynbos, Renosterveld, Grassland and Thicket vegetation types occur. The Gamtoos, Keurbooms and Swartkops River flow this region. The Level 1 Ecoregion has the following attributes:

Mean annual precipitation: Moderate to high.
Coefficient of variation of annual precipitation: Low to moderate.
Drainage density: Low to medium.
Stream frequency: Low/medium to medium/high in limited areas.
Slopes <5%: >80% but significant areas <20%.
Median annual simulated runoff: Moderate to very high.
Mean annual temperature: Moderate to moderately hot.

Level 2 Ecoregion

The Level 2 Ecoregion: South Eastern Coastal Belt 20.01 is characterised by the following main attributes:

Table 4.1 Main Attributes of Level 2 Ecoregion: South Eastern Coastal Belt 20.01

Main Attributes	South Eastern Coastal Belt 20.01
Terrain Morphology: Broad division	Plains; moderate relief, Closed hills, mountains; moderate and high relief, Plains; low relief
Terrain Morphology	Strongly Undulating Plains, Undulating Hills, Moderately Undulating Plains, Slightly Undulating Plains, Hills, Low Mountains.
Vegetation types (Primary)	Mesic Succulent Thicket, Xeric Succulent Thicket, Eastern Thorn Bushveld, Coastal Grassland, Coastal Forest, Valley Thicket, Grassy Fynbos, Dune Thicket, South and South-west Coast Renosterveld, Afromontane Forest.
Altitude (m a.m.s.l.)	0 - 300

Main Attributes	South Eastern Coastal Belt 20.01
MAP (mm).	300 - 700
Coefficient of variation (% of annual precipitation).	20 - 35
Rainfall concentration index.	<15 - 30
Rainfall seasonality.	All year, with peaks in very late summer.
Mean annual temp (°C).	16 - 20
Mean daily max temp (°C) February.	24 - 30
Mean daily max temp (°C) July.	18 - 22
Mean daily min temp (°C) February.	14 - 18
Mean daily min temp (°C) July.	6 - 10

Rivers

According to topographical data (2015), there are a number of non-perennial rivers that fall within the catchment and surrounding the site (Figure 4.1). Non-perennial rivers are rivers which do not flow throughout the year. These non-perennial rivers ultimately drain into the Coerney River south of the site. A perennial river (in the case of the Coerney River) is a river that flow continuously throughout most years. The non-perennial rivers are, based on analysis of topographical data, disconnected from the Coerney River. However, classification of this river has still been included as it falls within the quaternary catchment of the site. According to topographic data, an irrigation canal (a canal to convey water throughout the area to surrounding farm lands for irrigation use) occurs along the boundary of the southern portion of the property boundary. Water from the irrigation canal is diverted in a siphon (tube or pipe to convey water) to another irrigation canal on adjacent farmlands.

The actual extent and delineation of the rivers within and surrounding the study site is included in Section 5 of this report. Topographic data is used as a tool for the desktop assessment, with the site verification exercise confirming the extent of any rivers within and surrounding the study site.

Table 4.2 Classification of rivers within the study area according to NFEPA, NBA and DWS PESEIS data

Data set	Description		
NFEPA Classification (2011 – 2014)	There is no classification of the non-perennial rivers and the Coerney River in terms of NFEPA.		
NBA Classification (2018) Threat Status	There is no classification of the non-perennial rivers within the study area, however, the Coerney River south of the study site is considered to be an Endangered ecosystem. Endangered ecosystems are ecosystem types are close to becoming Critically Endangered. Any further loss of natural habitat or deterioration of condition in these ecosystem types should be avoided, and the remaining healthy areas should be the focus of conservation action.		
	PES	**EI**	**ES**

Data set	Description		
DWS PES EIS	PES Class D: Largely modified whereby a large loss of natural habitat, biota and basic ecosystem functions has occurred. The river habitat and flow has been affected by transformed farmland within the catchment and surrounding the river, numerous crossings and the inter-basin transfer of water for the Lower Sundays River Irrigation System from the Orange-Fish-Sundays Irrigation Scheme.	Moderate	Moderate

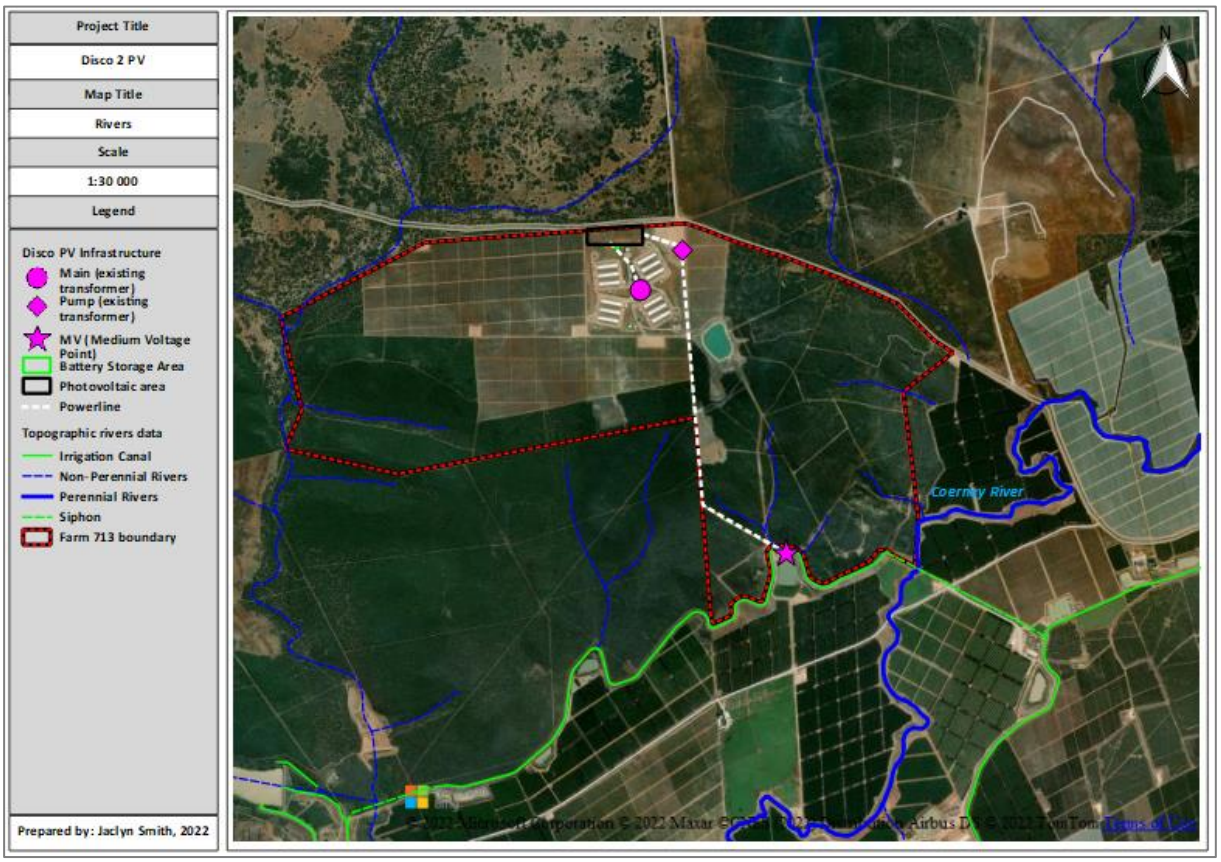


Figure 4.1 Map of the rivers within and surrounding the study area.

Wetlands and water storage dams

NBA (2018) classification and delineation of wetlands and water storage dams within the study area

According to the NBA (2018), no natural wetlands occur within 500m of the study site. NBA (2018) identifies two water storage dams within 500m of the study site (proposed PV area and powerline). According to NBA (2018), one dam occurs within the existing developed and cleared areas associated with the Poultry Broiler Facility. It is worth noting that this dam does occur on site.
Another dam occurs within close proximity to the irrigation canal on the southern adjacent property RE/690 adjacent to the existing MV point (Figure 4.2).

The NBA (2018) serves as a tool used for the desktop assessment and actual site conditions (including aquatic and wetland features) are shown in Section 5 of this report. The site

assessment showed that one dam is located ~630m southeast of the proposed solar panel array and the other can be found on the southern adjacent property RE /690 adjacent to the existing MV point. **The delineation and actual extent of dams is provided in Section 5.4 of this report.**

It should be noted that NBA (2018) provides the latest wetland classification map (National Wetland Classification Map 5) and therefore takes preference over the NFEPA National Wetland Classification Map 4.

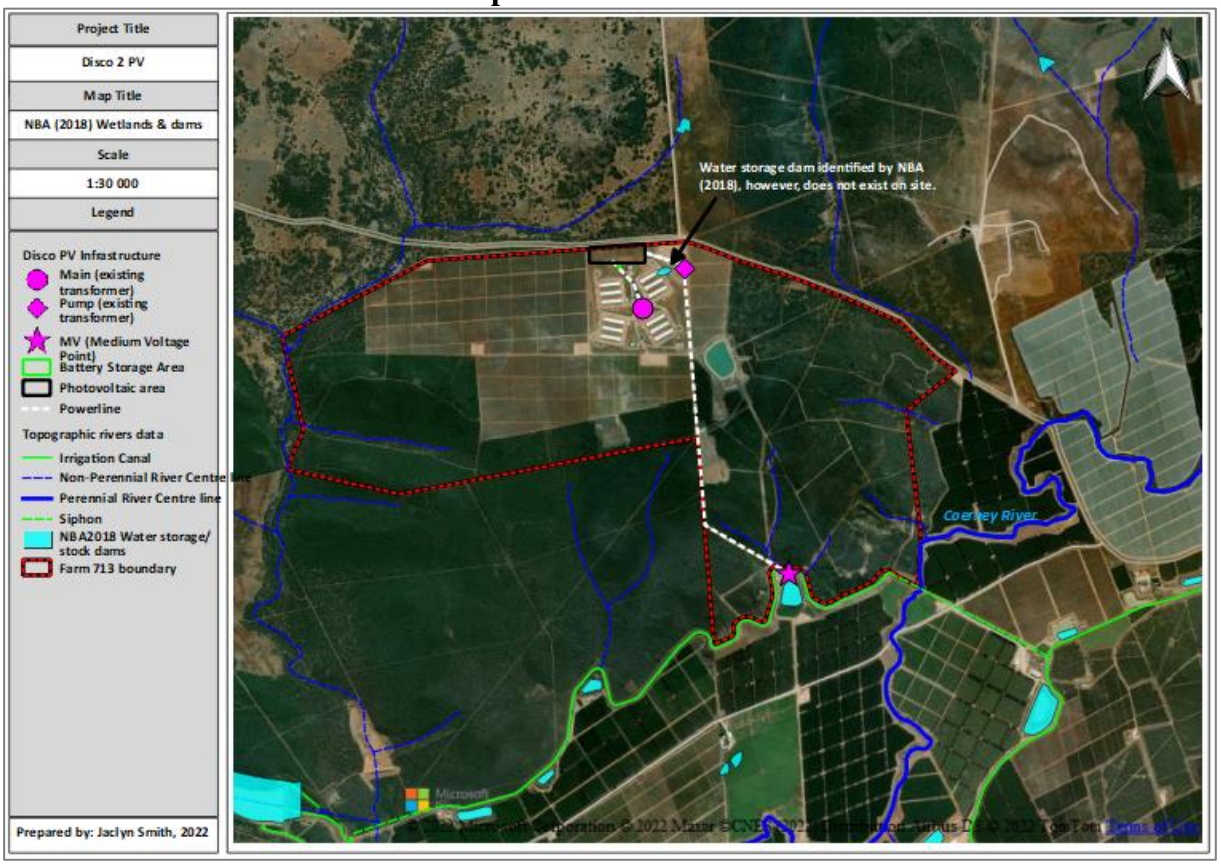


Figure 4.2 Map of water storage/stock dams within and surrounding the development footprint.

Vegetation

According to the Vegetation Map of South Africa, Lesotho and Swasiland (2018), the study site (PV area) falls predominantly within the Koedoeskloof Karroid Thicket and most of the associated infrastructure (Powerlines and Battery storage area) falls with the Sundays Valley Thicket of the Albany Thicket Biome.

The Sundays Valley Thicket is characterised by medium-sized to tall dense thicket with a woody tree and shrub component with a well-developed succulent component. No distinct strata can be found in the vegetation as the lower and upper canopy of species intertwine, with a wide variety of lianas linking the understorey with the canopy often present. *Euphorbia* and *Cussonia* species commonly emerge above the canopy. *Portulacaria afra* and other succulent shrubs often occur in abundance. This vegetation type typically occurs on undulating plains, low foothills and mountain slopes within the Eastern Cape Province, primarily in the lower Sundays River Valley from Kleinpoort in the west toward Paterson and Colchester in the east.

The Koedoeskloof Karroid Thicket is characterised by a mosaic of low thicket consisting of bush clumps in a matrix of grassy karroid shrubland. The bush clumps typically comprise of Sundays Valley Thicket species with *Portulacaria afra* dominant and occasionally emergent *Euphorbia triangularis*. This vegetation type occurs within the Eastern Cape Province in fragmented patches to the north and southwest of Addo Elephant National Park just above the lower Sundays River Valley.

However, site observation confirmed that the site proposed of development has been irreversibly modified and no vegetation is present on the site. The proposed 22kV overhead powerline will be installed within an existing road reserve. Thus, it is anticipated that the vegetation types on site will not be affected.

Eastern Cape Biodiversity Conservation Plan (ECBCP) 2019

According to ECBCP (2019) Freshwater mapping resource, the study area traverses an Ecological Support Area (ESA) 1 area (Figure 4.3). ESA 1 areas identified within the site are, in terms of ECBCP, based on modelled wetland areas, stream channels (perennial and non-perennial), valley bottoms accompanied by their respective a 32m buffers.

The land management objective of an ESA 1 area is to maintain ecological function within the localised and broader landscape. These areas should be maintained in a semi-natural state such that ecological function and ecosystem services are maintained.

It should be noted that site observations confirmed that the site and general surrounding areas have been transformed to citrus orchards, a dam and a Poultry Broiler facility, as well as internal access roads. The proposed Solar PV facility is proposed in an area that is transformed. The ESA 1 area falling within the northern portion of the site (PV) area and the southern portion of the property (within MV and powerline area), is based on modelled wetland areas, stream channels, valley bottoms accompanied by their respective 32m buffer. It is worth noting that the modelling of this ESA 1 areas, within this study area, does not appear to be based on a stream channel, valley bottom area, contours or wetland areas and is therefore likely an error in the modelling of this area. The ESA 1 area along the southern portion of the property does not appear to be linked to any areas of conservation importance (or the Coerney River) in this case.

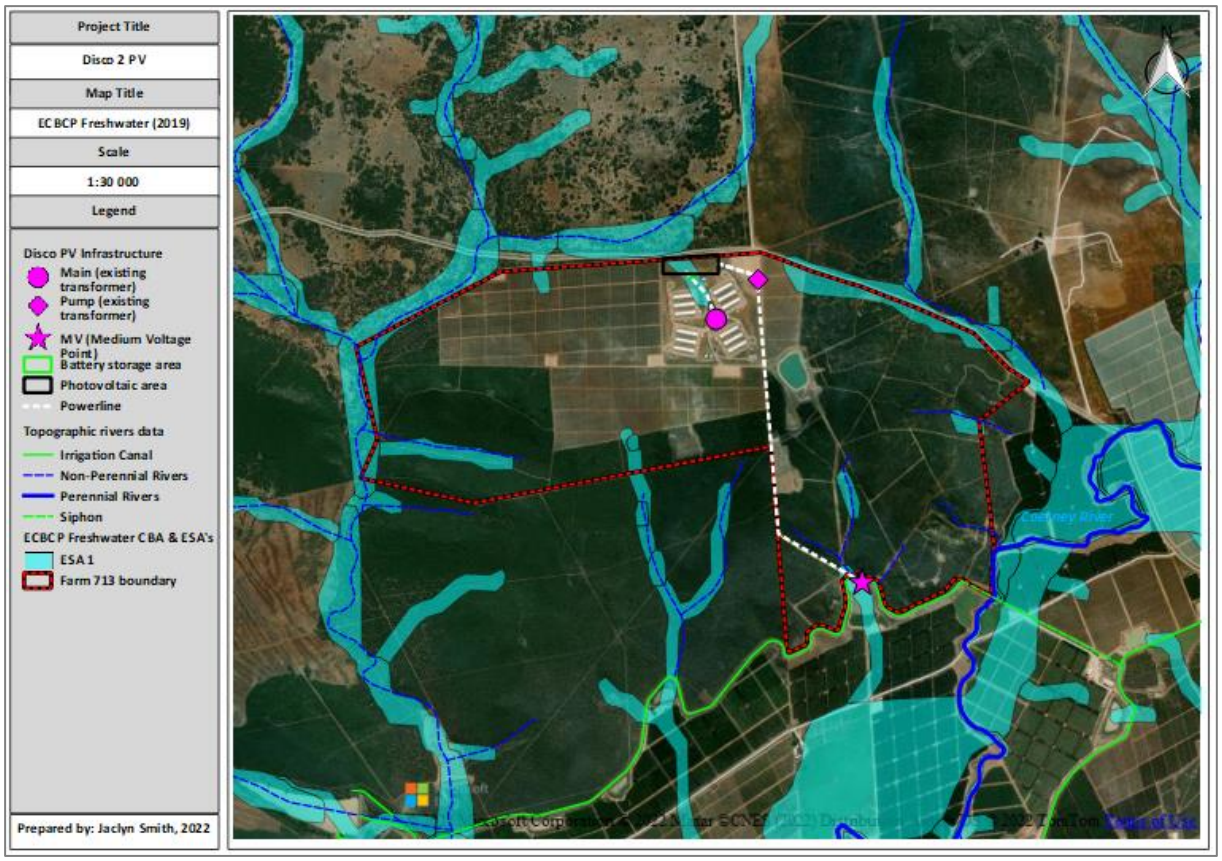


Figure 4.3 ECBCP Freshwater CBA Map.

Addo Biodiversity Sector Plan (2012)

The Addo Biodiversity Sector Plan (BSP) (2012) indicates that the majority of the site falls within "Other Natural Areas" with landcover considered to be natural and degraded in these areas. A small portion of the southern portion of the site falls within "No Natural Areas Remaining" with landcover considered to be related to agriculture (Figure 4.4).

The desired management objective for areas classified as Other Natural Areas is sustainable management within general rural land-use principles and for the areas classified as No Natural Areas Remaining sustainable management within general rural land use principles is desired. No Natural Areas Remaining are considered to be favourable areas for development.

Based on aerial imagery and the site investigation, the site falls within already transformed areas associated with the footprints and within existing citrus orchards, roads, cutlines, broiler facilities, water storage dams and an irrigation canal.

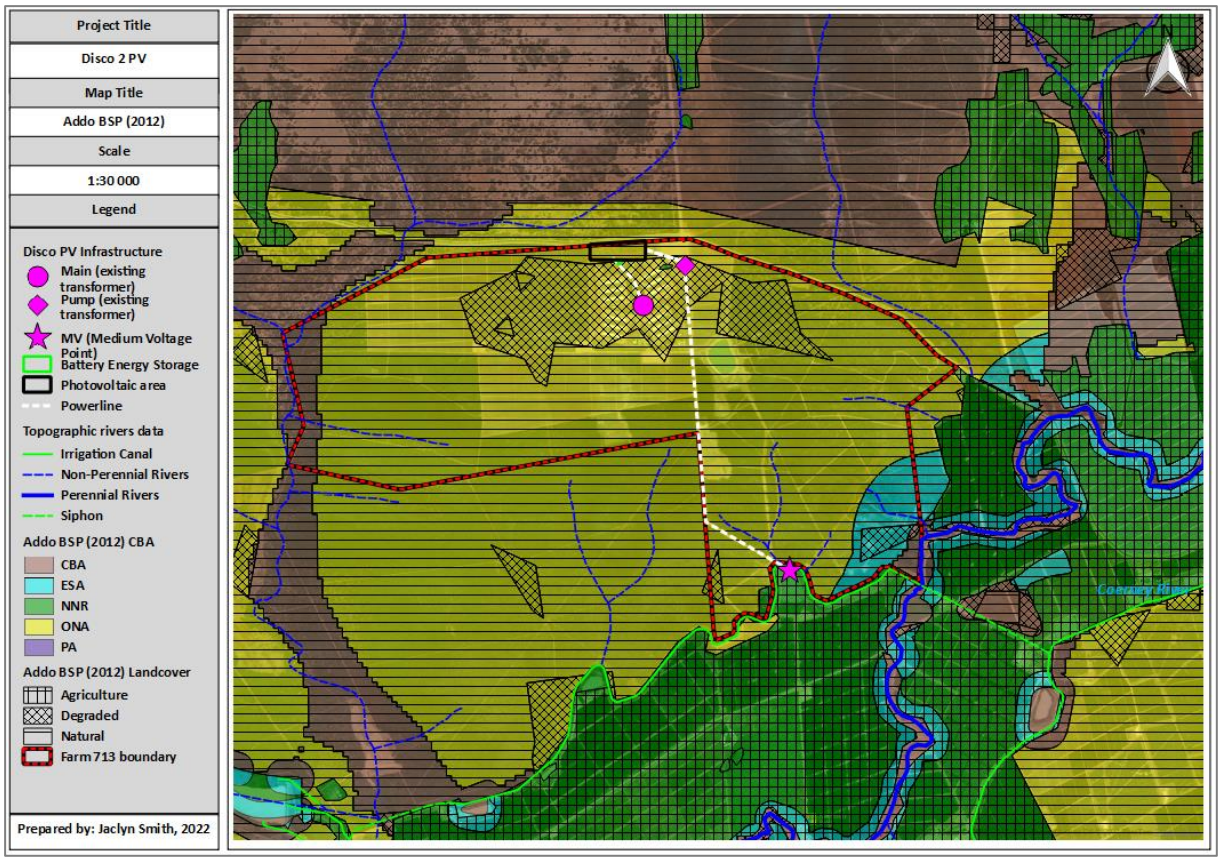


Figure 4.4 Addo BSP (2012) Critical Biodiversity Areas and Landcover.

Site Assessment

Rivers

The following watercourse systems occur surrounding the study area:

A transformed drainage line system along the southern portion of the powerline (See Figure 4.3) is disconnected from any downstream river systems (namely the Coerney River system) and has been historically altered by roads, dams and irrigation canal infrastructure as well as cultivated areas. These drainage lines lack a well-developed active channel or a well-developed riparian zone and is considered to be non-perennial in nature. The transformed drainage line is considered to be of **moderate** sensitivity and of **low** ecological importance and has been transformed to some extent due to existing and surrounding agricultural activities, developments and is disconnected from the downstream river systems associated with the Coerney River.

Due to the distance of the proposed development from the Coerney River system, it is the opinion of this specialist that the proposed development will have a no significant direct impact on the surrounding drainage lines or rivers.

Description	Photo 5.1: View of drainage lines surrounding the southern portion of the development footprint (powerline).
Location	33°26'26.97"S; 25°39'12.82"E

Irrigation canal

The Lower Sundays River Water Users Association (LSRWUA) irrigation canal runs along the southern portion of the development footprint. This canal is artificial in nature and goes throughout areas of the Sundays River Valley Local Municipality.

Description	Photo 5.2: Eastern view of the irrigation canal along the southern boundary of Farm 713.	Photo 5.3: South-western view of the irrigation canal along the southern boundary of Farm 713.
Location	33°26'30.96"S; 25°39'20.80"E	33°26'30.96"S; 25°39'20.80"E

Wetlands

No natural or artificial wetlands were found to occur within the study area.

Water storage/stock dams

One earthen dam occurs on the farm (~637m south-east of the PV area) and another on the adjacent property, south of the LSRWUA canal, along the southern portion of the study area.

		
Description	Photo 5.4: A photograph, facing east, of the water storage dam found on Farm 713.	Photo 5.5: A photograph, facing south, of the water storage dam located on adjacent farm RE/690 south of Farm 713.
Location	33°25'49.22"S; 25°39'4.29"E	33°26'31.46"S; 25°39'21.56"E

Delineation of watercourses within the study area

Figure 5.1 below provides a delineation of watercourses surrounding the study area. The delineation was undertaken using available historical aerial imagery, topographical data and site survey findings. Based on the available data the proposed development does not fall within river or drainage line.

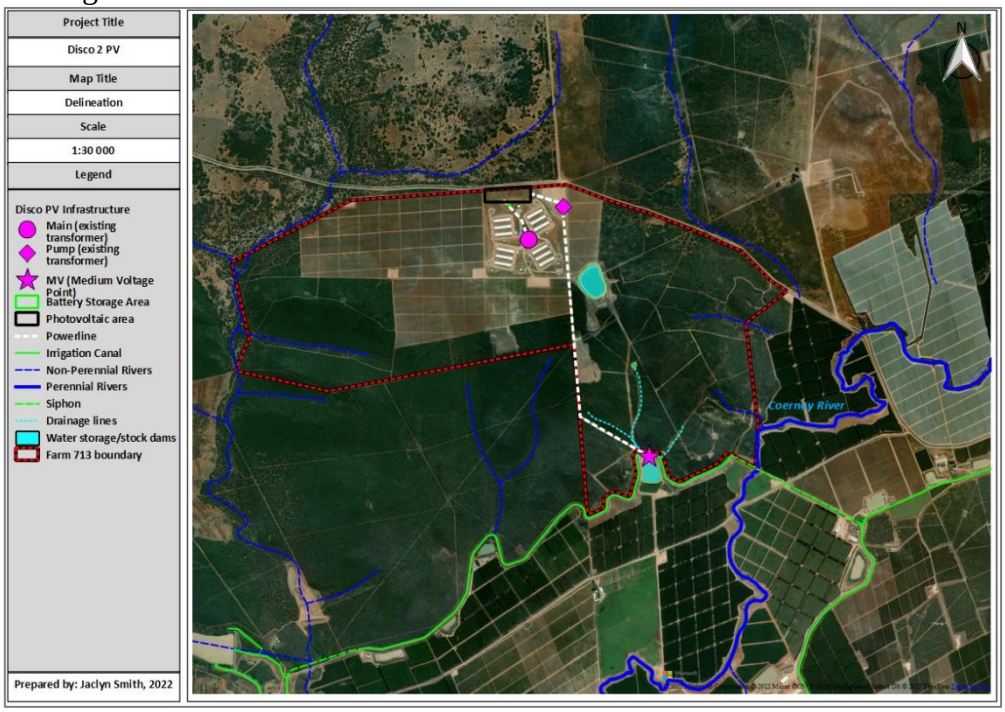
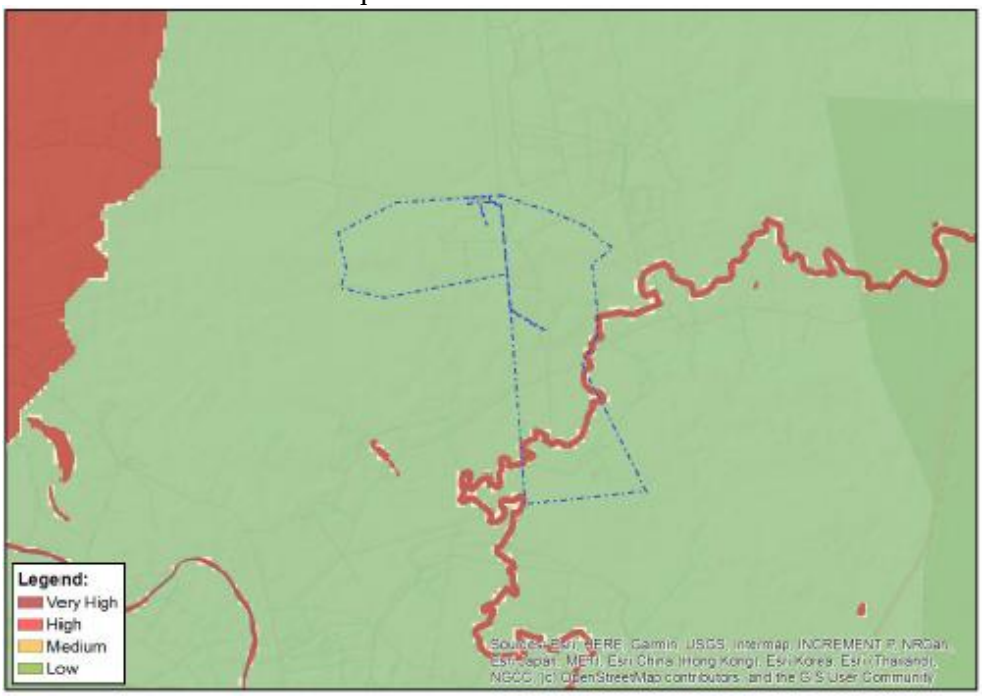


Figure 5.1 Delineation of watercourses surrounding the study area.

SENSITIVITY

DEA National Environmental Screening Tool

The DEA National Environmental Screening Tool classifies the development footprint falls within an area identified as low sensitivity (Figure 6.1) in terms of aquatic environment given that there are no sensitive aquatic features.



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			x

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

Figure 6.1 DEA National Environmental Screening Tool classification of the aquatic sensitivity of the site.

Final Site Sensitivity Verification

The sensitivity allocation is based on the desktop assessment of the water resources within the study area.

Table 6.1 below provides a description of the sensitivity ratings assigned to aquatic features on site , the water resources that have been assigned a specific rating and the rationale behind the allocation of the sensitivity rating.

Table 6.1 Sensitivity ratings of watercourses surrounding the site footprint and rational behind the allocation.

Sensitivity rating	Watercourse	Rationale
Low	Low sensitivity is allocated to: • Water storage dams bordering the study site. • Irrigation canal.	No biodiversity value associated with the water storage/stock dam and irrigation canal as these areas are artificial.

Sensitivity rating	Watercourse	Rationale
Moderate	Moderate sensitivity is allocated to: • Drainage lines.	Low biodiversity value considering it is not linked to any downstream watercourses and has been transformed. These drainage lines are adjacent to fairly natural areas and are therefore likely to have some biodiversity from a terrestrial perspective and within the general landscape.

It should be noted that the project footprint is considered to be of low aquatic sensitivity. The drainage lines occurring in the general area and surrounding the southern portion of the proposed powerline is considered to be of moderate sensitivity and is anticipated to be unaffected by the proposed development. No watercourses will be directly impacted by the proposed footprint of the proposed development.

RECOMMENDATIONS AND MITIGATION MEASURES

The proposed development is unlikely to have any adverse negative impacts on the surrounding or downstream watercourses, although no sensitive watercourses are directly within the development footprint. However, the following recommendations should be included in the EMPr:

An Alien Vegetation Management Plan must be developed and implemented during and post-construction.
A Rehabilitation Plan must be developed and implemented when required (if applicable)
The construction footprint must be clearly delineated
Construction activities must be limited to the approved project footprint.
Bare soil surfaces must be protected against erosion using appropriate erosion control measures.
Stormwater management to capture and disperse runoff must be implemented during the construction and operation phase.
Any construction site camp and material stockpile areas must be established in already disturbed areas more than 32m from water storage/stock dams, irrigation canal and drainage lines surrounding the site.
All hazardous substances and hazardous waste must be stored in impermeable structures or containers placed in secondary impermeable bunded structures 110% the volume of the primary structure.
All hazardous substances and hazardous waste should be placed more than 32m from water storage/stock dams, irrigation canal and drainage lines surrounding the site.
Emergency response plan must be drawn up to deal with any hazardous spillages/accidental leakages.
A spill kit must be available on site during the construction phase.
A drip tray must be used under all generators and any construction vehicles (when on site and not in use).
All chemical toilets/ablution facilities must be properly secured so that they cannot be windblown, be serviced regularly and should be placed more than 32m from water storage/stock dams, irrigation canal and drainage lines surrounding the site.
ECO should be appointed for monitoring of conditions in the EMPr.
Construction must not commence until necessary approvals/permissions have been obtained from the relevant departments.

CONCLUSIONS AND RECOMMENDATIONS

The proposed development footprint falls within existing transformed area assessed to be of **LOW** aquatic sensitivity. There are area of moderate sensitivity (drainage lines) surrounding the project area which will be unaffected by the proposed development. The proposed overhead powerline will be installed within an existing road reserve and no additional vegetation will be cleared nor will any aquatic features be negatively affected, including the crossing of the LSRWUA canal. Any vegetation that is cleared for the overhead powerline will be confined to the development footprint and will regenerate within 2 years after installation is complete.

REFERENCES

Berliner D. & Desmet P. (2007) Eastern Cape Biodiversity Conservation Plan: Technical Report. Department of Water Affairs and Forestry Project No 2005-012, Pretoria. 1 August 2007.

Department of Water and Sanitation, (2014). A Desktop Assessment of the Present Ecological State, Ecological Importance and Ecological Sensitivity per Sub Quaternary Reaches for Secondary Catchments in South Africa.

Department of Water Affairs and Forestry (2005). A level 1 and 2 Ecoregional Classification System for South Africa, Lesotho and Swaziland.

Hawley, G., Desmet, P. and Berliner, D. (2018). ECBCP (2018) Eastern Cape Biodiversity Conservation Plan Handbook. Department of Economic Development and Environmental Affairs (King Williams Town).

Marnewick MD, Retief EF, Theron NT, Wright DR, Anderson TA. 2015. Important Bird and Biodiversity Areas of South Africa. Johannesburg: Bird Life South Africa.

Mucina, L. & Rutherford, M.C. (eds) 2006. *The vegetation of South Africa, Lesotho and Swaziland.* Strelitzia 19. South African National Biodiversity Institute, Pretoria.

National Environmental Management Act (No 107 of 1998) as amended.

National Environmental Management: Biodiversity Act (No 10 of 2004).

National Water Act (No 36 of 1998) as amended.

NFEPA Atlas, 2011 – 2014.

SANBI (bgis.sanbi.org).

Technical Report for the National Freshwater Ecosystem Priority Areas project.

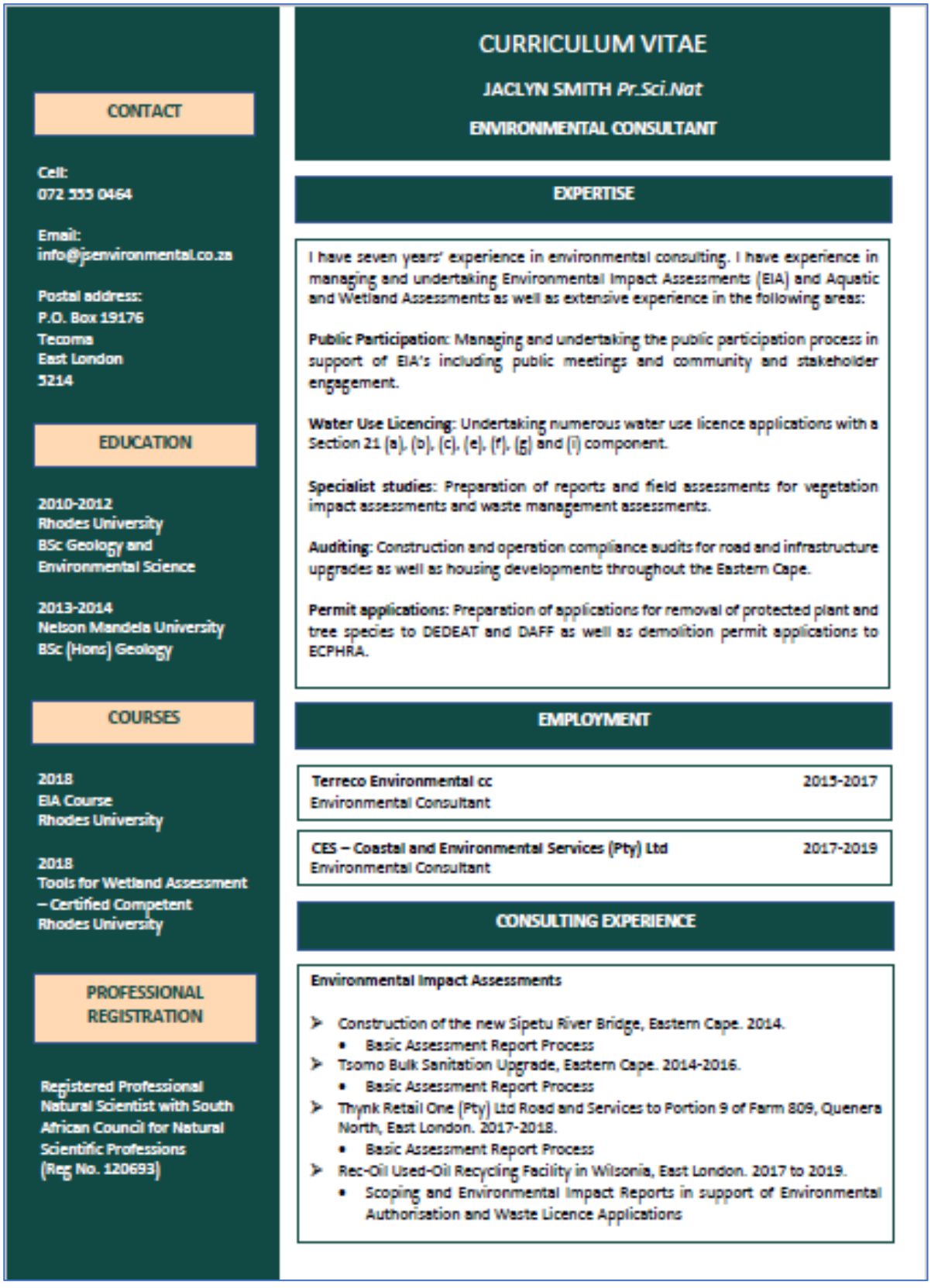
The Constitution Act (108 of 1996).

Van Deventer, H.; Smith-Adao, L.; Mbona, N.; Petersen, C.; Skowno, A.; Collins, N.B.; Grenfell, M.; Job, N.; Lötter, M.; Ollis, D.; Scherman, P.; Sieben, E.; Snaddon, K. 2018. South African Inventory of Inland Aquatic Ecosystems. South African National Biodiversity Institute, Pretoria. Report Number: CSIR report number CSIR/NRE/ECOS/IR/2018/0001/A; SANBI report number http://hdl.handle.net/20.500.12143/5847.

Van Deventer, H., Smith-Adao, L., Collins, N.B., Grenfell, M., Grundling, A., Grundling, P-L., Impson, D., Job, N., Lötter, M., Ollis, D., Petersen, C., Scherman, P., Sieben, E., Snaddon, K., Tererai, F. & Van der Colff, D. 2019. *South African National Biodiversity Assessment 2018: Technical Report. Volume 2b: Inland Aquatic (Freshwater) Realm*. CSIR report number CSIR/NRE/ECOS/IR/2019/0004/A. South African National Biodiversity Institute, Pretoria. http://hdl.handle.net/20.500.12143/6230.

Appendix A

Curriculum Vitae of Specialist and SACNASP Registration Certificate



CURRICULUM VITAE

JACLYN SMITH *Pr.Sci.Nat*

ENVIRONMENTAL CONSULTANT

CONTACT

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EDUCATION

2010-2012
Rhodes University
BSc Geology and Environmental Science

2013-2014
Nelson Mandela University
BSc (Hons) Geology

COURSES

2018
EIA Course
Rhodes University

2018
Tools for Wetland Assessment – Certified Competent
Rhodes University

PROFESSIONAL REGISTRATION

Registered Professional Natural Scientist with South African Council for Natural Scientific Professions (Reg No. 120693)

EXPERTISE

I have seven years' experience in environmental consulting. I have experience in managing and undertaking Environmental Impact Assessments (EIA) and Aquatic and Wetland Assessments as well as extensive experience in the following areas:

Public Participation: Managing and undertaking the public participation process in support of EIA's including public meetings and community and stakeholder engagement.

Water Use Licencing: Undertaking numerous water use licence applications with a Section 21 (a), (b), (c), (e), (f), (g) and (i) component.

Specialist studies: Preparation of reports and field assessments for vegetation impact assessments and waste management assessments.

Auditing: Construction and operation compliance audits for road and infrastructure upgrades as well as housing developments throughout the Eastern Cape.

Permit applications: Preparation of applications for removal of protected plant and tree species to DEDEAT and DAFF as well as demolition permit applications to ECPHRA.

EMPLOYMENT

Terreco Environmental cc 2015-2017
Environmental Consultant

CES – Coastal and Environmental Services (Pty) Ltd 2017-2019
Environmental Consultant

CONSULTING EXPERIENCE

Environmental Impact Assessments

- Construction of the new Sipetu River Bridge, Eastern Cape. 2014.
  - Basic Assessment Report Process
- Tsomo Bulk Sanitation Upgrade, Eastern Cape. 2014-2016.
  - Basic Assessment Report Process
- Thynk Retail One (Pty) Ltd Road and Services to Portion 9 of Farm 809, Quenera North, East London. 2017-2018.
  - Basic Assessment Report Process
- Rec-Oil Used-Oil Recycling Facility in Wilsonia, East London. 2017 to 2019.
  - Scoping and Environmental Impact Reports in support of Environmental Authorisation and Waste Licence Applications

CONSULTING EXPERIENCE

- Proposed Infrastructure Developments in the SANBI Kwelera National Botanical Garden, Eastern Cape. 2017 to 2019.
  - Basic Assessment Process
- Nottinghill Farm NEMA Section 24G Application, Eastern Cape. 2017 to 2018.
  - Section 24G application

Aquatic and Wetland Impacts Assessments

- Amalinda Downs Development, Amalinda, East London. 2018.
- Villa Rosa Development, Eastern Cape. 2017.
- Hope Village Development, Gauteng. 2018.
- Cambridge West Housing Development, Eastern Cape. 2019.
- Boulders WEF Powerline, Western Cape. 2019.
- Mbhashe Access Roads Upgrade, Mbhashe Local Municipality, Eastern Cape. 2019.
- MBSA Clarkebury Road Upgrade, Eastern Cape. 2019.
- Kei Road Housing Development, Eastern Cape. 2017.
- Tsomo WWTW Upgrade, Eastern Cape. 2019.
- Willowvale and Idutywa Informal Settlement Upgrades. 2020.
- Ventnor Dam, Tarkastad. 2020.
- BCMM Ward 46 Road and Culvert Upgrade. 2020.
- Dordrecht Sports Field Upgrade. 2020.

Water Use Licencing and Risk Assessments

- Alice pipelines and road upgrade, Eastern Cape. 2019.
- Amatolaville Primary School, Stutterheim, Eastern Cape. 2018.
- SKG Properties Bengal Heights Development, Amalinda, East London. 2017.
- Yellowwoods River Sewer Pipeline Crossing, Eastern Cape. 2019.
- Qwabi Bridge Widening, Eastern Cape. 2018.
- Mdantsane Pedestrian Bridges, Eastern Cape. 2019.

Permit applications

- MBSA J-Site, East London, Eastern Cape. 2016.
  - ECPHRA Demolition permit applications
- Mjanyana and Nessie Knight Hospital Upgrades, Eastern Cape. 2014.
  - ECPHRA Demolition permit applications
- Blind River Bridge Repairs, East London, Eastern Cape. 2014.
  - DAFF Protected plant permit application
- SKG Voestalpine Development, ELIDZ, East London, Eastern Cape. 2019.
  - Vegetation assessment and DAFF and DEDEAT plant relocation permits

Construction and Operation Compliance Auditing

- SANRAL Upgrade of the R72 from Openshaw Village to Birah River, Eastern Cape. 2017 to 2019.
- Wavecrest Hotel Expansion, Eastern Cape. 2018 to 2019.
- Kidds Beach Retirement Village, Eastern Cape. 2018.
- De Gama annual external Water Use Licence Audit, Eastern Cape. 2018.
- Coffee Bay Quarry Works and Rehabilitation, Eastern Cape. 2015-2016.
- Coffee Bay to Zithulele Hospital Road and Bridge Upgrade, Eastern Cape. 2015-2016.
- Clippety Clop Housing Development. Eastern Cape. 2015-2016.
- Fynbos and Ndancama Housing Development, Eastern Cape. 2014-2017.

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Jaclyn Jane Smith

Registration Number: 120693

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following fields(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective **13 November 2019** Expires **31 March 2022**

Botha

Chairperson

Chief Executive Officer

To verify this certificate scan this code

Appendix D (ii): Terrestrial Biodiversity Compliance Statement

Terrestrial Biodiversity Compliance Statement

Proposed Disco 2 PV facility

Date: 18/07/2022
Version: Final Draft
Author: J. Pote

Terrestrial Biodiversity Compliance Statement

Proposed Disco 2 PV facility

Compiled by: **Jamie Pote** (Pr. Sci. Nat.)
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jamiepote@live.co.za +27 (0)76 888 9890

Compiled for: **Public Process Consultants**

Date of report: **18/07/2022**

Version: Final Draft Report

Revisions

Report/Revision Version	Date:	Approved by:
First Draft	17/06/2022	Jamie Pote
Revisions/Comments	24/06/2022	JP Hechter
Final Draft	18/07/2022	Jamie Pote
IAP comments		
Final Version		

Table of Contents

1 Introduction

This compliance statement is compiled as per the requirements of Section 5.3 of the Terrestrial Biodiversity, Plant and Animal Species Protocols.

1.1 Specialist Details

Name: Jamie Pote
Qualification: BSc - Botany & Environmental Science, Rhodes University; BSc (Hons) - Botany, Rhodes University
Professional Membership: SACNASP: Ecological Science (Registration number 115233)
Experience: Jamie Pote has 18 years professional experience in Biodiversity, Ecological and Vegetation Assessments on over 350 projects in southern, western and central Africa across a wide range of habitats and biomes. This biodiversity experience is tempered by his experience as an environmental assessment practitioner on over 50 projects in the mining, infrastructure, housing and agricultural sectors and environmental monitoring as well as environmental auditing and monitoring on over 50 civil infrastructure and construction projects. Jamie Pote has thus participated in and managed all aspects of projects from inception through to implementation as an individual, specialist and as part of complex multidisciplinary teams, thus developing deep insight not only into the ecological sphere but also developing an overall understanding and insight into the complex socio-environmental-economic of the natural environment. The implementation of this environmental experience is further enhanced through the utilisation and development of Advanced GIS Mapping Tools and Analysis and Biostatistics including community analysis.

SACNASP registration certificate and abbreviated professional profile attached as Appendix C.

1.2 Statement of independence

I, Jamie Pote, as the appointed terrestrial biodiversity specialist, hereby declare/affirm the correctness of the information provided in this compliance statement, and that I:

1. meet the general requirements to be independent and have no business, financial, personal or other interest in the proposed development and that no circumstances have occurred that may have compromised my objectivity; and
2. am aware that a false declaration is an offence in 27 terms of regulation 48 of the EIA Regulations (2014).

Signature

17 June 2022

Date

1.3 Purpose of Report

1.3.1 Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes

The report will be compiled to fulfil the requirement for a Terrestrial Biodiversity Compliance Statement as per the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of NEMA (GNR 320), as gazetted on 20 March 2020. This report is undertaken as supporting information as part of an environmental

application process and is compliant in terms of the requirements in the above regulations in terms of Terrestrial Biodiversity.

This report also includes the requirements of the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of sections 24(5)(a) and (h) and 44 of NEMA, gazetted on 30 October 2020, relating specifically to the Terrestrial Plant and Animal (species) themes.

The principles that guide this process include protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources which are fundamental to sustainable development.

2 Methodology

2.1 Desktop Study

1. A Screening Tool report was compiled on 14 March 2022, via the national web-based screening tool website (https://screening.environment.gov.za/screeningtool/).
2. Satellite aerial imagery, including historical imagery was interpreted.
3. No data modelling nor other databases other than the national web-based screening tool was required.
4. No habitat mapping was required, as the entire site is considered to be transformed.
5. Relevant databases and bioregional plans that have been assessed include the following

    - National (DEA) Web Based Screening Tool – to generate the sites potential environmental sensitivity.
    - National Vegetation Map 2018 (NVM, 2018), Mucina & Rutherford (2006) and National Biodiversity Assessment (NBA, 2019) – description of vegetation types, species (including endemic) and vegetation unit conservation status.
    - Sub-Tropical Ecosystem Planning (STEP, 2002) – bioregional plan.
    - Eastern Cape Biodiversity Conservation plan (ECBCP, 2019) – critical biodiversity areas.
    - Sundays River Valley Biodiversity Sector Plan SRVM BSP, 2012) – critical biodiversity areas.
    - Botanical Database of Southern Africa (BODATSA) and New Plants of Southern Africa (POSA) – lists of plant species and potential species of concern found in the general area (SANBI.)
    - International Union for Conservation of Nature (IUCN) - Red List of Threatened Species.
    - Animal Demography Unit Virtual Museum (VM) – potential faunal species.
    - Global Biodiversity Information Facility (GBIF) – potential faunal species.
    - Southern African Bird Atlas Project 2 (SABAP2) – for bird species records.
    - National Red Books and Lists - mammals, reptiles, frogs, dragonflies & butterflies.
    - National and Regional Legislation including Provincial Nature Conservation Ordinance (P.N.C.O). NEM:BA Threatened or Protected Species (ToPS).
    - National Freshwater Ecosystem Priority Areas assessment (NFEPA, 2011) - important catchments.
    - National Protected Areas Expansion Strategy (NPAES, 2018) and South Africa Protected Area database (2020) – protected area information.

2.2 Assumptions and Limitations

- It is assumed that all third-party information used, including GIS datasets, screening tool and satellite imagery was correct at the time of generating this report.
- The survey was restricted to a single season (autumn), but it is not considered necessary to perform any additional surveys as the findings were conclusive.
- All areas on site requiring assessment were accessible.

2.3 Site Inspection

A site inspection was conducted on 15 June 2022, with a duration of 3 hours, undertaken during Winter months of the site (also referred to as the development footprint). Due to the completely transformed nature of the site and area of influence, seasonality of the survey is not considered to be an important factor.

2.4 Field Survey

- The specialist investigated the study area on foot due to the small size (less than 5 Ha).
- No sample sites were required due to the small size of the area and obvious transformation, with little to no intact natural vegetation cover.
- The habitat was characterised and photographed, and the likelihood of any Terrestrial Biodiversity Priority Areas (BPAs), plant or animal species being present was determined
- All terrestrial ecosystems observed during the site survey were photographed using a Canon 60 EOS 350D with 18–55 mm zoom lens and Samsung Galaxy S22 Ultra smartphone camera.

3 Project Description

3.1 Activity Location and Description

An application is being undertaken by Public Process Consultant's on behalf of the Venter Wildlife Trust, (the applicant) for the proposed construction of a Photo Voltaic Solar Facility and associated Infrastructure on Farm 713 (Hopefield), which requires an environmental authorisation in order to undertake a listed activity. Refer to the BA report for a comprehensive project description.

The combined construction footprint for the solar PV area is approximately 3.5 hectares in extent and overhead and underground cabling is required to connect the facility to the existing transformers on site, as well as the Eskom grid. The proposed PV facility will be constructed within a transformed area that is comprised of grass and is secondary vegetation as the site was cleared of natural vegetation within the last 10 years. Furthermore, the vegetation appears to be mowed regularly. The overhead line that is proposed to be installed to a Medium Voltage point (MV) will be installed in an existing vehicle tract, therefore , it is unlikely that any significant clearing of vegetation will be required.

The site is located in the Eastern Cape, outside of urban areas and ~6.3 km south and ~7.6 km west from the nearest boundaries of the Addo Elephant National Park.

3.2 National Environmental Screening Tool

The National web-based Environmental Screening Tool allows for the generating of a Screening Report referred to in Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended, which is required to accompany any application for Environmental Authorisation. The National Environmental Screening Tool identifies the following Sensitivities on the site (development footprint), which have relevance to this report:

- Terrestrial Biodiversity - Very High (Figure 1).
- Plant Species sensitivity – Medium and Low (Figure 2).
- Animal Species sensitivity – High and Medium (Figure 3).
- Aquatic Sensitivity - Low (Figure 4).

Figure 1:. Terrestrial Biodiversity Sensitivity.

Figure 2:. Plant Species Sensitivity

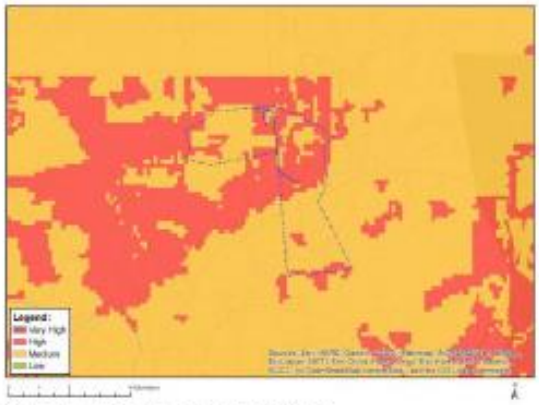


Figure 3:. Animal Species Sensitivity

Figure 4:. Aquatic Sensitivity

The key biodiversity features that are indicative of this sensitivity, which will be assessed further in this report, include the following:

Sensitivity	Feature(s)	Affected Project Component/s
Terrestrial Sensitivity		
Very High	Ecological support area 1	The entire proposed development footprint
High	None	
Medium	None	
Low	None	
Plant Sensitivity		
Very High	None	
High	None	
Medium	Sensitive species 1252, 1268, 974, 91, 1248, 19, *Justicia orchioides subsp. orchioides, Duvalia pillansii, Selago zeyheri, Asparagus spinescens*	Potentially within the entire proposed development footprint
Low	Present	
Animal Sensitivity		
Very High	None	
High	*Circus ranivorus*	Potentially within the entire PV array footprint area and portions of the powerline
Medium	*Aneuryphymus montanus (Insect), Acinonyx jubatus* (Mammal), Sensitive species 7	Potentially within portions of the proposed overhead powerline
Low	Present	

Aquatic Sensitivity		
Very High	None	
High	None	
Medium	None	
Low		

This compliance statement serves to confirm the presence or absence of such features on the site and area of influence.

3.3 Regional Planning

A screening of Systematic Planning Framework for the site was undertaken (summarised in Table 1), that included the following features:

- Critically Endangered and Endangered Ecosystems
- Critical Biodiversity Areas & Ecological Support Areas
- Vulnerable Ecosystems
- River, Estuarine and Wetland Freshwater Ecosystem Priority Areas (FEPAs) and buffers
- Protected Areas (and buffers) and NPAES
- Critical Habitat for listed endemic or protected species.

Table 1: Summary of Regional Planning Biodiversity features.

FEATURE	DESCRIPTION	IMPLICATIONS/COMMENT
National Environmental Screening Tool (Terrestrial Biodiversity)	The following Sensitives have been identified for the proposed development footprint **Terrestrial Biodiversity** Very High sensitivity **Plant Species** Medium sensitivity **Animal Species** High and Medium sensitivity **Aquatic sensitivity** Low	The entire proposed development footprint falls within an area that has been identified as a Very High sensitivity, classified as an Ecological Support Area 1 The proposed site is transformed, and the overhead powerline will be constructed within existing internal roads. No plant or animal species are likely to be present due to transformed nature of site.
National Vegetation Map (NVM, 2018)	The development footprint and associated infrastructure has been mapped as Koedoeskloof Karroid Thicket (PV) Sundays Valley Thicket (OHL)	Sundays Valley Thick and Koedoeskloof Karroid Thicket has been classified as Least Concern No Sundays Valley Thicket or Koedoeskloof Karroid Thicket was identified within the proposed development footprint, due to the transformed nature of the site
Critically Endangered and Endangered Ecosystems (NBA, 2019)	None	No Critical Endangered or Endangered Ecosystems will be affected
Vulnerable Ecosystems (NBA, 2019)	None	No Vulnerable ecosystems have been identified on site and thus will not be affected
Eastern Cape Biodiversity Conservation Plan (2019)	Terrestrial ESA 1 (entire site)	The proposed development footprint falls within a completely transformed area, namely game and livestock grazing to the north and north-east, citrus orchards located on the east and the west, as well as a Poultry Broiler Facility located to the south.

FEATURE	DESCRIPTION	IMPLICATIONS/COMMENT
		Therefore, Ecological Support Systems or connectivity function is limited.
Sundays River Valley Municipality Biodiversity Sector Plan (SRVM BSP) – CBA Mapping resources	"Other Natural Area"	A site visit confirmed the study area is transformed and no natural vegetation is remaining on the PV site.
Regional Planning: Sub-Tropical Ecosystem Planning (STEP, 2006)	Kremlin Grassland Thicket (PV) Sundays Spekboom Thicket (OHL)	The development footprint partially falls within an area identified as Kremlin Grasland Thicket and Sundays Spekboom Thicket. Sundays Spekboom Thicket is Currently NOT Vulnerable, however as Kremlin Grassland Thicket is classified vulnerable. No Sundays Spekboom Thicket or Kremlin Grassland Thicket was identified within the development footprint, due to the transformed nature of the site.
Protected Areas (SAPAD)	The Addo Elephant National Park is located ~6.3 km north and ~7.6 km east of the site.	These protected areas nor any associated ecological processes are likely to be affected by the proposed development.
NPAES	Closest designated NPAES areas are less than 1 km to the north of the development.	No NPAES or Ecological processes associated with the proposed development are likely to be affected.
Strategic Water Source Areas (SWSA)	Not situated within any designated SWSA	No Strategic Water Source Areas will be affected.
Freshwater Ecosystem Priority Areas (FEPA's)	The PV site is situated more than 2.7 km north of the perennial Coerney River (CLASS C: MODERATELY MODIFIED). The powerline is within 1 km of the same river.	The development footprint is in proximity to the Coerney River, which is extensively moderately modified along its banks and generally surrounded by intensive agricultural activities. The development activities are unlikely to significantly impact cumulative impacts. Refer to the Aquatic Compliance Statement for further information.
Regional Hotspots & Regions of Endemism	The development footprint is located on the western edge of the Albany Centre of Endemism, being within the Gamtoos-Groot River basin.	Several endemic species are known to form the wider surrounding area; however, none are present on site due to the transformed nature of the area surrounded by citrus orchards and pastures.
Important Bird Areas (IBA's)	The development footprint does not fall within any Important Bird Areas (IBA's). The site is around 30 km from the Alexandria Coastal Belt IBA.	The specific activity will have no impact on the nearby IBA, nor any processes associated with it.
Key Biodiversity Areas (KBA's)	None	No Key Biodiversity Areas will be affected
Marine/Coastal areas	Addo Elephant Marine Protected Area is located ~20.8 km to the south (Barkley bridge on the Sundays River estuary).	The specific activity will have no impact on the Marine Protected Area, nor any processes associated with it.
RAMSAR sites	None	The proposed development footprint will have no impact on any RAMSAR sites

FEATURE	DESCRIPTION	IMPLICATIONS/COMMENT
Within 32 m of Watercourses	Site is in proximity to non-perennial watercourses.	Unlikely to pose any risk to watercourses. Refer to the Aquatic Compliance Statement for further information.
Within 100 m of Rivers	The closest boundary of the Coerney River is located ~100m from the development footprint	Terrestrial Biodiversity impact on the Coerney River associated with the development will be negligible
Within 500 m of Wetlands	Several man-made dams are present in the surrounding area.	Site is outside of functional zones of these aquatic features. The proposed activity is not anticipated to have any direct or indirect impact of significance.
Forest	None	No forest pockets nor any ecological processes associated with them are affected by the proposed project.
Surrounding Land Uses	Mostly agricultural	High levels of disturbance are present in surrounding landscape associated with the Sundays River Valley, being a high value irrigated agricultural area.
Critical Habitat for listed endemic/ protected species	Transformed Habitat	No threatened or protected or endemic plant or animal species were recorded within the site nor are likely to be present within the area of influence since it is completely transformed.

4 Findings

4.1 Sampling and Observations

Due to the small area of the proposed development and transformed nature of the site (being cleared of vegetation within the last 10 years), no sampling sites were required, although the entire powerline route was assessed. Furthermore, vegetation within the proposed site comprised of a mix of grass species with occasional ruderal or ephemeral herbaceous weeds. The proposed PV site is located within a securely fenced off area adjacent to an existing chicken house facility and the area appears to be mowed on a regular basis. An excavated trench runs down the western side of the proposed site, which serves as a conduit for stormwater runoff from the adjacent chicken houses.

4.2 Terrestrial Biodiversity

Habitat characteristics indicate the area is transformed and the likelihood of any terrestrial ecosystem BPA's, plant or animal Species of Conservation Concern being found at the site or within the area of influence is negligible (very low).

Being transformed, the proposed site is surrounded by adjacent chicken houses to the south, citrus orchards to the west, with natural vegetation only to the north and east. The site is thus not considered to be an Ecological Support Area 1 nor likely to provide ecological function associated with such features. Furthermore, the PV site is within a fenced area, being part of the chicken house facility, which is a permanent structure and hence not suitable for rehabilitation.

NOTE: as per point 1.5 of the Terrestrial Biodiversity Specialist Assessment and Minimum Report Content Requirements:
'If any part of the proposed development footprint falls within an area of 'very high' sensitivity, the assessment and reporting requirements prescribed for the 'very high' sensitivity apply to the entire footprint, excluding linear activities for which impacts on terrestrial biodiversity are temporary and the land in the opinion of the terrestrial biodiversity specialist, based on the mitigation and remedial measures, can

be returned to the current state within two years of the completion of the construction phase, in which case a compliance statement applies. Development footprint in the context of this protocol means the area on which the proposed development will take place and includes any area that will be disturbed.'

Based on the above reporting protocol condition, the entire overhead powerline will fall into the above category, which implies that for a temporary linear activity, such as a powerline, any screening tool designated high sensitivity should be reduced to a low sensitivity and only a complicated statement would be required. The proposed powerline to the Eskom grid will pass along the edge of an access road to the dam, as described in the project description. So long as the road reserve is not widened nor a separate powerline servitude cleared of natural thicket vegetation, the impact to terrestrial biodiversity, including associated flora and fauna will be negligible. The powerline is linear, and any vegetation clearing will likely rehabilitate within 2 years, providing it is placed next to the road, where thicket vegetation is already cleared. **Hence the activity is deemed low sensitivity and a Compliance Statement is deemed adequate.** In addition, since the powerline is a linear activity and not within a Critical Biodiversity Area, or requiring excavation within a watercourse, it will not trigger a listing activity in terms of the EIA Regulations (2014).

4.3 Plant Species

Several plant species were flagged as per the screening tool, however none of the aforementioned Species in section 3.2, were identified on site, confirming the plant species sensitivity for the site would be deemed to be low.

4.4 Animal Species

The animal species, including an invertebrate (*Aneuryphymus montanus*), a bird (*Circus ranivorus*), Sensitive Species 7 and a mammal (*Acinonyx jubatus*) are not found within the site and although they may be present in the broader area, they are unlikely to be affected by the proposed activity. In addition, the site, being a transformed habitat, will not provide suitable habitat for these species.

4.5 Aquatic Biodiversity

The proposed activity is unlikely to pose any risk to any terrestrial aspects pertaining to aquatic features. Aquatic Biodiversity and potential impact pertaining to the proposed development will be assessed by a separate Aquatic Biodiversity Compliance Statement

4.6 Proposed Impact Management Actions

1. No impact management actions are proposed to mitigate impacts on terrestrial biodiversity, (plant and animal species impacts), as it is unlikely to be any impacts, as long as no additional natural thicket is cleared for the powerline. Should more than 300 m² require clearing, additional listed activities may be triggered.
2. Appropriate measures to be implemented in order to manage stormwater runoff from the PV facility.
3. Compliance with duty of care in terms of Section 28 of the National Environmental Management Act (NEMA).

5 Conclusion and Recommendations

1. This compliance statement is applicable only to the study area as described in the BA documentation and shown the map provided in Appendix B.

2. Due to the transformed state of the habitat and confirmed absence of any "very high", "high" or "medium" sensitivity features, the PV facility site (including BESS) is considered to have a "low" sensitivity for terrestrial biodiversity, plant species and animal species.
3. The powerline is linear, and any vegetation clearing will likely rehabilitate within 2 years, providing it is placed next to the road, where thicket vegetation is already cleared. Hence this activity is deemed "***low***" sensitivity and a Compliance Statement is deemed adequate (*refer Terrestrial Biodiversity Specialist Assessment and Minimum Report Content Requirements*). Furthermore, the powerline activity will not trigger any listed activity ito the EIA Regulations.
4. The proposed development will not have any impact on terrestrial biodiversity, including Terrestrial Biodiversity Priority Areas (BPAs), Plant and Animal Species of Conservation Concern nor any Aquatic Biodiversity features, as confirmed by the aquatic specialist.

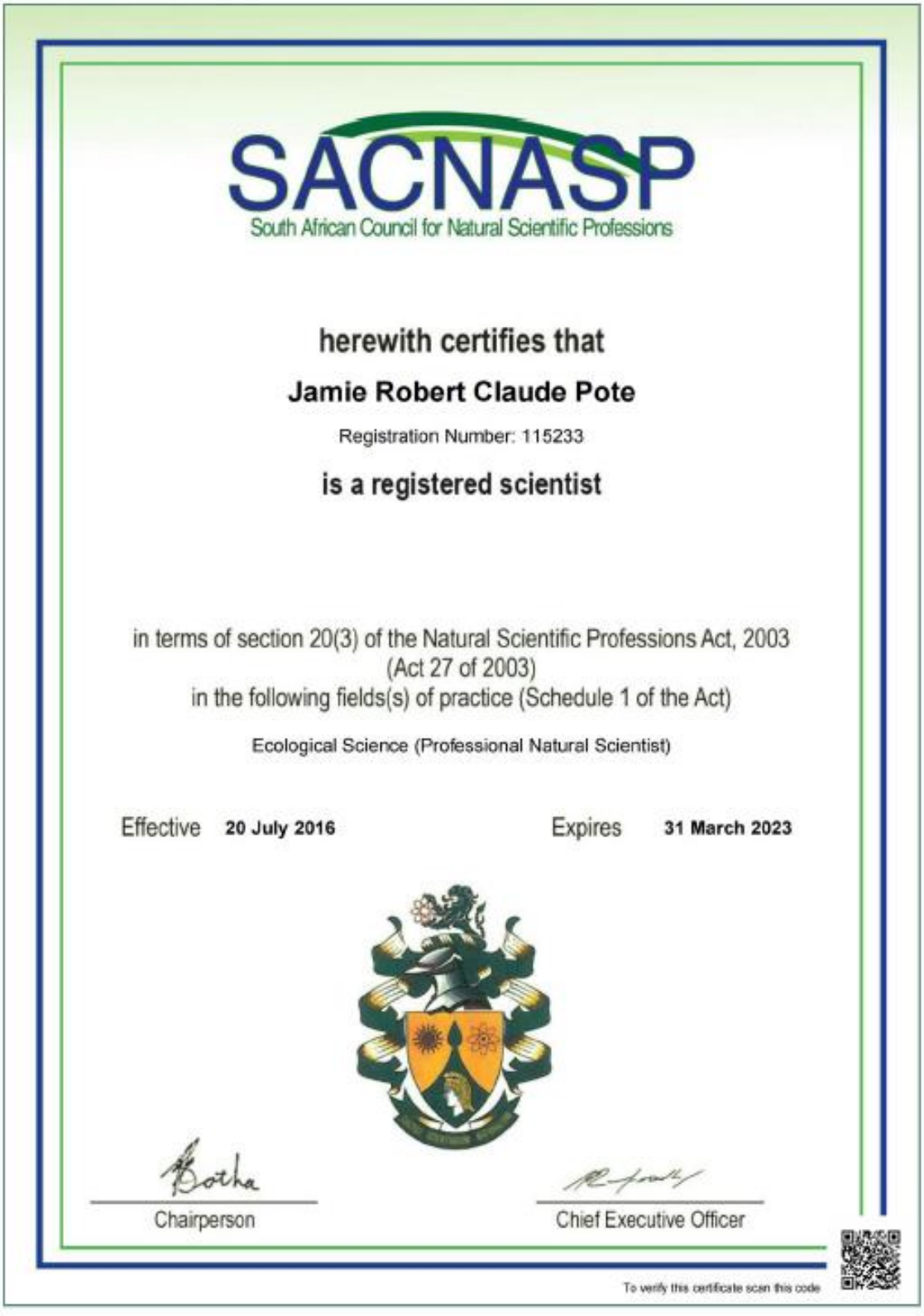
6 Annexures

6.1 Appendix A: Site Photo Record

Site Photo 1 15 June 2022 25.647 S -33.424 E	View of the PV site from the north.	Low Sensitivity	
Site Photo 2 15 June 2022 25.647 S -33.424 E	View of the PV site from the east.	Low Sensitivity	
Site Photo 3 15 June 2022 25.647 S -33.424 E	View of the PV site from the north. Note orchards to the west and chicken houses to the south	Low Sensitivity	
Site Photo 4 15 June 2022 25.647 S -33.424 E	Proposed powerline route to the south of the PV site, following access road with adjacent thicket.	Low Sensitivity	
Site Photo 5 15 June 2022 25.647 S -33.424 E	Proposed powerline route to the south of the PV site, following access road with cleared areas.	Low Sensitivity	
Site Photo 6 15 June 2022 25.647 S -33.424 E	Proposed powerline route to the south of the PV site, near end point at Eskom transformer following access road.	Low Sensitivity	

7 Appendix B: Site Layout Map

8 Appendix C: SACNASP Certificate



SACNASP
South African Council for Natural Scientific Professions

herewith certifies that

Jamie Robert Claude Pote

Registration Number: 115233

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following fields(s) of practice (Schedule 1 of the Act)

Ecological Science (Professional Natural Scientist)

Effective **20 July 2016** Expires **31 March 2023**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

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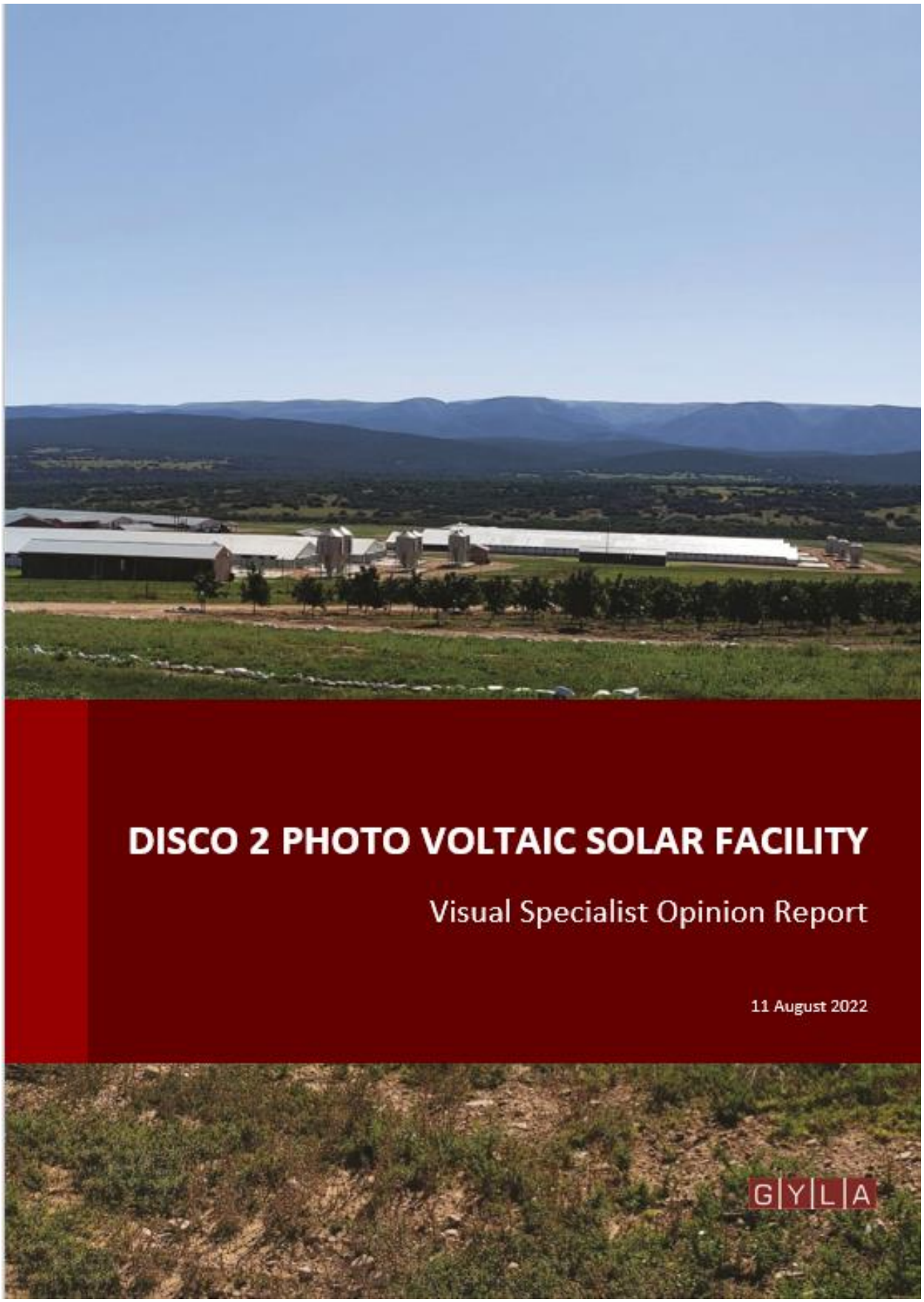
Appendix D (iii): Visual Specialist Opinion Report



VISUAL SPECIALIST OPININON REPORT

DISCO 2 PHOTO VOLTAIC SOLAR FACILITY, ADDO, EASTERN CAPE

Submitted to:

Public Process Consultants
PO Box 27688, Greenacres, 6057
Tel: +27 041 374 8426

Prepared by:

Graham A Young **Landscape Architect**

PO Box 331

Groenkloof

0027

+27 (0)82 462 1491

Report Revision No:	*FINAL*
Date Issued:	11 August 2022
Prepared By:	Graham Young PrLArch, FILASA
Reviewed By:	Graham Young PrLArch, FILASA
Signed:	
Reference:	088_2022: Disco 2 PV Solar Facility

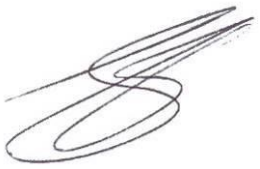
EXPERTISE OF SPECIALIST

Name:	Graham A Young
Qualification:	BL (Toronto)
Professional Registration:	South African Council for the Landscape Architectural Profession (SACLAP) Fellow Institute of Landscape Architects of South Africa (FILASA)
Experience in Years:	40 years
Experience	Graham is a landscape architect with forty years of experience. He has worked in Southern Africa and Canada and has valuable expertise in the practice of landscape architecture, urban design, and environmental planning. He is also a senior lecturer, teaching urban design and landscape architecture at post and undergraduate levels at the University of Pretoria. A speciality of his is Visual Impact Assessment, for which he was cited with an ILASA Merit Award in 1999. He has completed over 275 specialist reports for projects in South Africa, Canada and other African countries. He was on the panel that developed the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (2005) and produced a research document for Eskom, *The Visual Impacts of Power Lines* (2009). In 2011, he created '*Guidelines for involving visual and aesthetic specialists'* for the Aapravasi Ghat Trust Fund Technical Committee (they manage a World Heritage Site) and the *Visual Impact Assessment Training Module Guideline Document.*

DECLARATION OF INDEPENDENCE

I, Graham Young, declare that –

- I am contracted to produce the Visual Impact Report for the Disco 2 Photo Voltaic Solar Facility Project.
- I will perform the work relating to the application objectively, even if this results in views and findings that are not favourable to the applicant.
- I declare that there are no circumstances that may compromise my objectivity in performing such work.
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the National Environmental Management Act (Act 107 of 1998), 2014 Environmental Impact Assessment Regulations (as amended on 7 April 2017), and any guidelines that have relevance to the proposed activity.
- I will comply with the Act, regulations, and all other applicable legislation.
- I will consider, to the extent possible, the matters listed in Regulation 13.
- I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken concerning the application by the competent authority; and – the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 16 (1)(b)(iii).



Graham A. Young FILASA PrLArch Reg. No. 87001
11 August 2022

Acronyms & Abbreviations	
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme Report
GYLA	Graham A Young Landscape Architect
NEMA	National Environmental Management Act
SACLAP	South African Council for the Landscape Architectural Profession
VAC	Visual Absorption Capacity
VIA	Visual Impact Assessment

Glossary of Terms	
Aesthetic Value	Aesthetic value is the emotional response derived from the experience of the environment with its natural and cultural attributes. The response can be either to visual or non-visual elements and can embrace sound, smell and any other factor having a strong impact on human thoughts, feelings and attitudes (Ramsay, 1993). Thus, aesthetic value encompasses more than the seen view, visual quality or scenery, and includes atmosphere, landscape character and sense of place (Schapper, 1993).
Aesthetically significant place	A formally designated place visited by recreationists and others for the express purpose of enjoying its beauty. For example, tens of thousands of people visit Table Mountain on an annual basis. They come from around the country and even from around the world. By these measurements, one can make the case that Table Mountain (a designated National Park) is an aesthetic resource of national significance. Similarly, a resource that is visited by large numbers who come from across the region probably has regional significance. A place visited primarily by people whose place of origin is local is generally of local significance. Unvisited places either have no significance or are "no trespass" places. (after New York, Department of Environment 2000).
Aesthetic impact	Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project proposal, should not be a threshold for decision making. Instead, a project, by its visibility, must interfere with or reduce (i.e. visual impact) the

	public's enjoyment and/or appreciation of the appearance of a valued resource e.g. cooling tower blocks a view from a National Park overlook (after New York, Department of Environment 2000).
Cumulative Effects	The summation of effects that result from changes caused by a development in conjunction with the other past, present, or reasonably foreseeable actions.
Landscape Character	The individual elements that make up the landscape, including prominent or eye-catching features such as hills, valleys, woods, trees, water bodies, buildings, and roads. They are generally quantifiable and can be easily described.
Landscape Impact	Landscape effects derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced (Institute of Environmental Assessment & The Landscape Institute 1996).
Study area	For this report, the Project Study area refers to the proposed project footprint/project site as well as the 'zone of potential influence' (the area defined as the radius about the centre point of the Project beyond which the visual impact of the most visible features will be insignificant) which is a 3,0km radius from the approximate centre of the proposed project footprint.
Project Footprint / Site	For this report, the Project *site*/*footprint* refers to the actual layout of the Project as described. Incorporating all alternatives to the Project.
Sense of Place (genius loci)	Sense of place is the unique value that is allocated to a specific place or area through the cognitive experience of the user or viewer. *A genius locus means* 'spirit of the place.'
Sensitive Receptors	Sensitivity of visual receptors (viewers) to a proposed development.
Viewshed analysis	The two-dimensional spatial pattern created by an analysis that defines areas, which contain all possible observation sites from which an object would be visible. The basic assumption for preparing a viewshed analysis is that the observer eye height is 1,8m above ground level.
Visibility	The area from which project components would potentially be visible. Visibility depends upon general topography, aspect, tree cover or other visual obstruction, elevation, and distance.
Visual Exposure	Visibility and visual intrusion qualified with a distance rating to indicate the degree of intrusion and visual acuity, which is also influenced by weather and light conditions.
Visual Impact	Visual effects relate to the changes that arise in the composition of available views because of changes to the landscape, to people's responses to the changes, and the overall effects concerning visual amenity.

Visual Intrusion	The nature of intrusion of an object on the visual quality of the environment resulting in its compatibility (absorbed into the landscape elements) or discord (contrasts with the landscape elements) with the landscape and surrounding land uses.
Visual absorption capacity	Visual absorption capacity is defined as the landscape's ability to absorb physical changes without transformation in its visual character and quality. The landscape's ability to absorb change ranges from low-capacity areas, in which the location of an activity is likely to cause a visual change in the character of the area, to high-capacity areas, in which the visual impact of development will be minimal (Amir & Gidalizon 1990).
Worst-case Scenario	Principle applied where the environmental effects may vary, for example, seasonally to ensure the most severe potential effect is assessed.
Zone of Potential Visual Influence	By determining the zone of potential visual influence, it is possible to identify the extent of potential visibility and views which could be affected by the proposed development. Its maximum extent is the radius around an object beyond which the visual impact of its most visible features will be insignificant primarily due to distance.

TABLE OF CONTENT

1. INTRODUCTION

1.1 Project Overview and Background

Graham A Young Landscape Architect (GYLA) was commissioned by Public Process Consultants to conduct a visual impact assessment for the proposed Disco 2 Photo Voltaic facility ("the Project"). This report forms part of a Basic Assessment Report (BAR) that is being prepared for the Project. The project applicant, Venter Wildlife Trust proposes the construction of a Solar Photovoltaic facility and associated infrastructure, on a portion of Farm 713, Hopefield, Addo, Sundays River Valley Municipality. Refer to Figure 1.

The VIA assess the potentially intrusive nature of physical aspects of the proposed Project (form, scale, bulk and sense of space) within its local context. Refer to Figure 2.

1.2 Project Site and Study Area

The project site is within an already transformed area comprised of an existing poultry broiler facility and its associated infrastructure. It is approximately 3,57ha in extent and is located adjacent to the farm's northern boundary. The study area[1] is approximately 3km from the centre of the Project site, as illustrated in Figure 2.

1.3 Objective of the report

The objective of the report is to document the baseline conditions and ensure that the visual/aesthetic consequences of the proposed Project are understood. Therefore, the report assesses impacts on land use, landscape sensitivity and sensitive receptors.

1.4 Terms of Reference

The following terms of reference were established:

- Review any relevant legislation, policies, guidelines and standards
- Conduct a site visit accompanied by a photographic survey of the site (5 May 2022)
- Determine the zone of influence for the project
- Determine visual exposure viewpoints
- Undertake a view shed analysis of the area – establish inherent visual sensitivity in terms of slope, landforms, vegetation, special features and land use
- Describe the landscape character and quality, as well as assess the visual resource of the receiving environment as contained within the study area.
- Describe the visual characteristics of the components of the Project; and
- Identify potential receptor sensitivities and visual issues that may arise from the proposed Project.
- Propose appropriate mitigation measures to reduce the potential impact of the Project.

[1] The extent of the study area is determined by the zone of potential influence, which in this study relates to a radius of 3,0km around the Project sites. At 3,0km and beyond the development would recede into background views and or be screened by topography, vegetation or existing infrastructure.

1.5 Assumptions, Limitations and Uncertainties

- The description of project components is limited to what has been supplied to the author before this report's completion date.
- The extent of the study area is determined by the zone of potential influence, which in this study, relates to a radius of 3,0km around the centre of the Project site
- The public participation process had not been completed at the time of writing the report; however, based on the context of the development and a general understanding of the public's concern for visual issues, it is assumed that sensitivities would be low.

1.6 Legal Requirements and Guidelines

This report adheres to the Western Cape Department of Environmental Affairs & Development Planning: Guideline for Involving Visual and Aesthetic Specialists in EIA Processes Edition 1 (CSIR, 2005). Although the guidelines were compiled explicitly for the Province of the Western Cape, they provide guidance elsewhere in the country, that is appropriate for any EIA process. The Guideline document also seeks to clarify instances when a visual specialist should get involved in the EIA process.[2]

1.7 Approach

The above guideline document specifically clarifies when and if a Visual Impact Assessment is required (Oberholzer 2005: page 3). Based on the site visit the Project is expected to have a minimal visual impact on the environment, and therefore, the guideline recommends a Level 2 approach to visual impact assessment (Oberholzer 2005: 19). The Level 2 approach includes:

- Identification of issues raised in pre-application phase, and site visit
- Description of the receiving environment and the proposed Project
- Establishment of view catchment area and receptors; and
- A brief indication of potential visual impacts and possible mitigation measures.

[2] The Western Cape Guidelines are the only official guidelines for visual impact assessment reports in South Africa and can be regarded as best practice throughout the country.

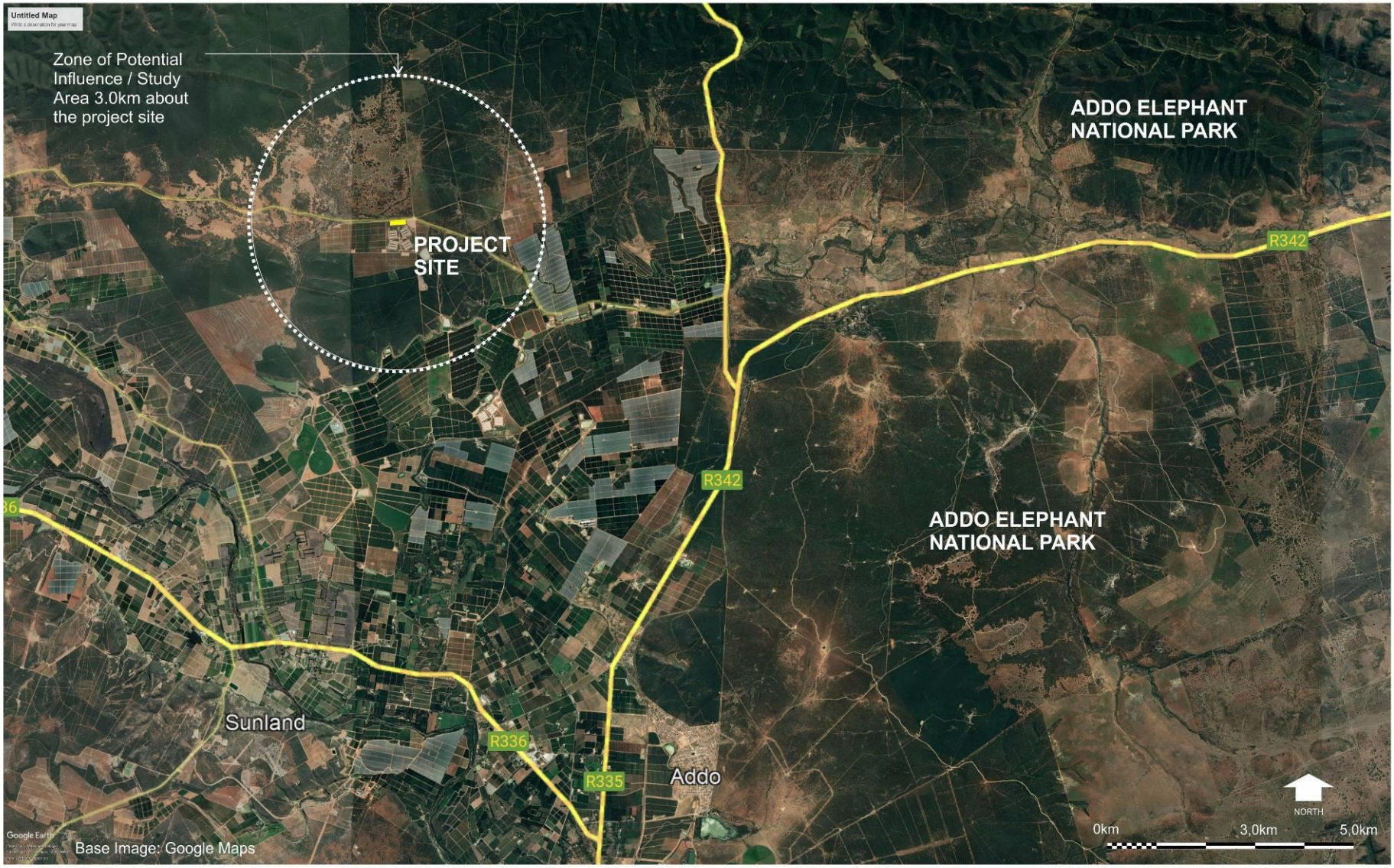


Figure 01: **LOCALITY** - Disco 2 PV Solar Facility

GYLA
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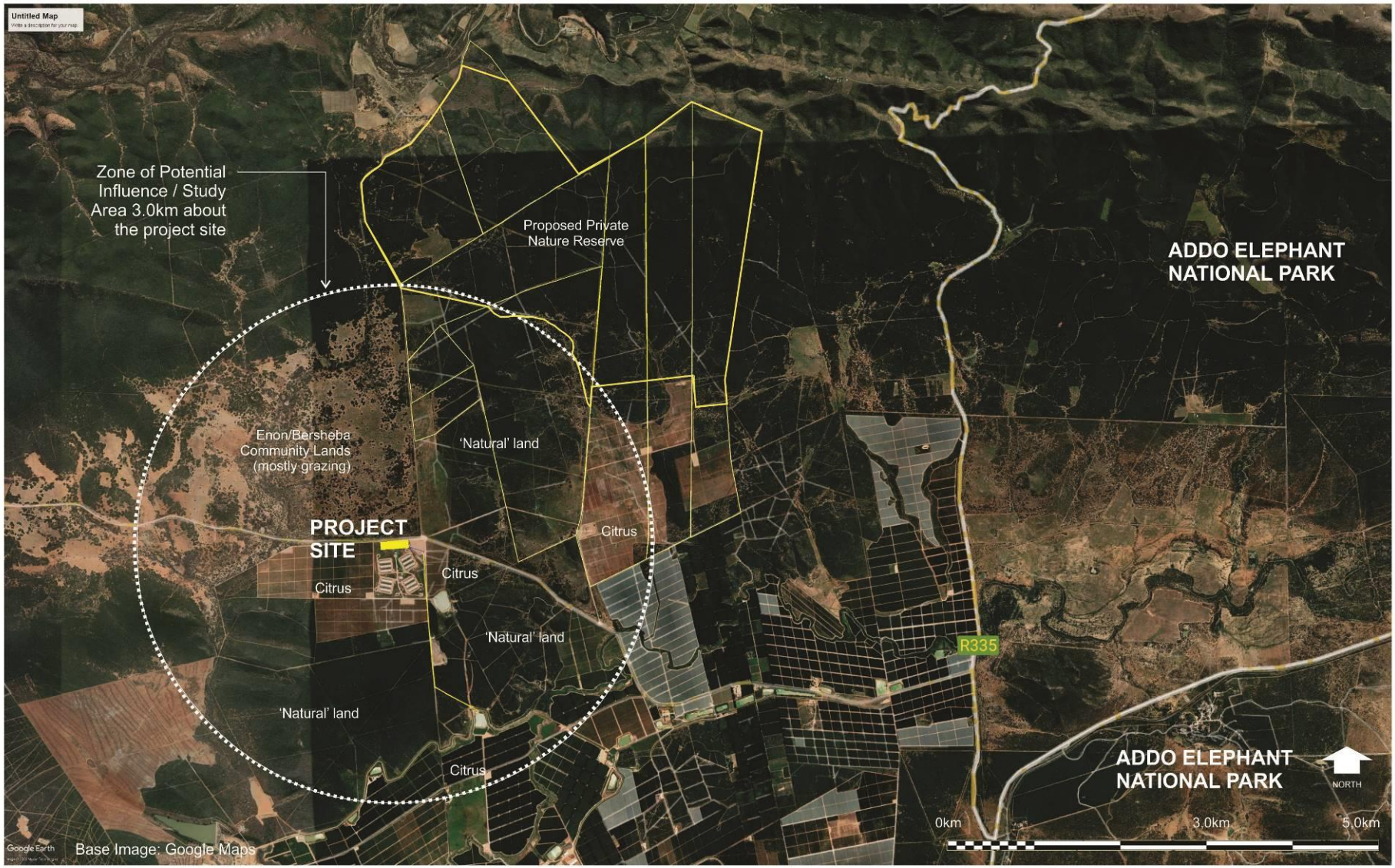

Figure 02: **CONTEXT**- Disco 2 PV Solar Facility

GYLA
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Landscape Architect
082 462 1491

The PV Solar facility will have the capacity to generate 3.4MW AC electricity which will be fed back into the Eskom grid as part of a Wheeling Agreement with the power utility. The facility will be installed in the following way:

- The project applicant, JN Venter Beleggings Trust proposes the construction and operation of a 3.4 MW Photo Voltaic Solar facility (PV Facility), as well as associated infrastructure (battery room and above as well as below ground electrical cables) on Farm 713 Hopefield Addo, Sundays River Valley Municipality. The total development footprint for the PV facility and battery storage area is proposed to be ~3.57 ha (35 775m^2).
- The PV component of the facility footprint is proposed adjacent to the existing poultry broiler facility on the northern boundary of the farm and within an already transformed area. Thus, no additional intact vegetation is required to be cleared in the PV Facility component of the project.
- The facility will have the capacity to generate 3.4MW AC electricity which will be fed back into the Eskom grid as part of a Wheeling Agreement with the power utility. The panel array will be installed over an area of ~35 475 m^2 (3.55 ha). In addition, a battery area (4 x 40 containers) of ~300m^2 is proposed immediately south of the PV array. The combined construction footprint for the PV and battery area is thus 3.57.
- The proposed facility is a hybrid PV solution, comprising grid connection with battery backup. Based upon the most cost-effective option at time of construction, the inverters will either be string inverters mounted on the PV panel structures, or alternatively a central inverter will be housed in 300m² battery area.
- In addition to the solar PV area, electrical cables must be installed (yellow, green and blue lines) from the PV panels to the existing Eskom transformers on site, as well as to an MV (Medium Voltage) point. The MV point is located adjacent to an existing dam on the northern boundary of the Remainder of Farm 690. The 22kV cable that will connect the PV area to the MV point is proposed to be installed overhead (aboveground) on creosote poles at 80m intervals along an existing vehicle track. A disturbance footprint of 1 m2, within the existing vehicle track, is required for each creosote pole.

- The two existing transformers into which energy is proposed to be imported, are located ~320m south (referred to as “Main) and ~180m east (referred to as “Pump”) of the PV area, respectively. The cable to the Main transformer (500kVA / 500kW) will be installed underground over a length of ~342m. The cable to the Pump transformer (315kVA / 315kW) will also be installed underground, over a length of ~270m. The voltage of these cables is anticipated to be 400V.

Refer to Figure 3, which illustrates the PV solar facility site within the context of the existing farm and typical PV arrays.

Figure 03: **CONTEXT**- Disco 2 PV Solar Facility

GYLA
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Landscape Architect
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3.1 Typical Issues

Typical issues associated with solar PV projects:

- Who will be able to see the new development?
- What will it look like, and will it contrast with the receiving environment?
- Will the development affect sensitive views in the area, and if so, how?
- Would the solar PV panels cause glint and glare?
- What will be the impact of the development during the day and at night?
- What will the cumulative impact be?

Public Process Consultants are conducting the Basic Assessment Process including the public participation process. At the time of writing this report no comments were received that relates to visual impacts of the proposed development. However, it is anticipated that visual issues would not be a significant concern to the public, given the context of the development, i.e. relatively small size, occurring on an already disturbed area and the developed character of the farm (Poultry Broiler Facility).

3.2 Glint and Glare of Solar PV facilities

In addition to the common issues mentioned above, the potential of glint and glare can often be of concern. PV panel surfaces are designed to absorb the sunlight as much as possible, therefore substantially reducing the potential for glint and glare. The glass layer covering the PV modules is high transmission tempered glass with an anti-reflective (AR) coating. Consequently, the percentage of the reflected light from PV modules can vary from 2% to 30%, depending on the angle of incidence (PagerPower 2020:24). However, published guidance shows that the intensity of solar reflections from solar panels is **equal to** or **less than those from water**. It also indicates that reflections from solar panels are significantly less intense than many other reflective surfaces, which are common in an outdoor environment, such as the metal roofs of the adjacent existing Poultry Broiler Facility (PagerPower 2020:24). This amount is low: by comparison, a mirror can reflect a percentage of the incident light above 98% (Tata 2015:3).

However, the panels and other components reflect light that may result in some glinting (but only at minimal angles), and glare depending on panel orientation, sun angle, viewing angle, viewer distance, and other visibility factors (USDI 2013:77). The effect of glint (a sharp focus of light) is not generally associated with PV arrays; however, glare can occur with certain climatic and orientation conditions, as has been illustrated. Figure 3-1 below provides examples of the apparent colour changes, or glare, of a similar PV facility at differing sun angles and distance from viewer.

The South African Civil Aviation Authority (SACAA) obstacle notice 3/2020[3] Additional Requirements for Solar Project Applications states that a Glint and Glare Assessment would not be required if the solar PV

[3] **Obstacle Notice 3/2020 (Replacement for 17/11/2017): Additional Requirements for Solar Project Applications**
Kindly note that with immediate effect, A Glint & Glare Assessment will be required as soon as the proposed site is located on the extended runway centreline within the ICAO Annex 14 Approach Surface, Take-Off Climb Surface & Departure Surface, and within 3km radius around an Aerodrome/helistop as pe Part 139.01.30 (3).

facility is not within a 3km radius of the aerodrome (Part 139.01.30 (3). Therefore a **Glint and Glare Assessment has not been undertaken**. Also, it is general practise to orientate the PV arrays facing north, therefore glare (should it occur) could potentially occur north of the PV solar arrays.

Apparent colour changes with differing sun angles and viewing geometry at a PV facility. (USDI 2013:78)
Credit: Robert Sullivan, Agganne National Laboratory.

PV panel surfaces are not designed to reflect light and therefore have reduced potential for glint and glare; however, the panels and other components do reflect light that may result in glinting, glare and other visual effects that would vary depending on panel orientation, sun angle, viewing angle, viewer distance, and other visibility factors (USDI 2013:77)

Figure 3-1: **GLINT AND GLARE -** Disco 2 PV Solar Facility

GYLA
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The study area's original landscape was covered with Sundays Thicket (Mucina and Rutherford 2006:556) with some riverine vegetation along the stream in the site's southern section. A portion has, however, been transformed over time and now consists of citrus orchards, quarry activities, and a poultry broiler facility. The area where the proposed PV facility will be constructed has been previously cleared, therefore, itis anticipated that no additional intact vegetation is required to be cleared in the solar PV area.

Surrounding the site to the immediate south is a Poultry Broiler Facility, and immediately west and east are citrus orchards. In the north-western quadrant of the study area is open veld (Sundays Thicket), which is mainly degraded due to the pressure from livestock grazing animals. The north-eastern quadrant of the study area comprises natural lands with some citrus orchards along the eastern edge. In the far north, a section of the farm known as Intsomi is in the process of being declared as a private nature reserve. Natural land (Sundays Thicket) occurs across the southern quadrant with a strip of citrus orchards under shade cloth at the study area's far south and south-eastern sections.

The overall sense of place in the study area is of low rolling hills with a mixed rural /agricultural character (mainly citrus orchards), with panoramic views of the hills north of the study in elevated areas. Refer to the panoramas in Figures 5-1 and 5-2 below, which depict these characteristics. Figure 4 gives the location of the viewing points identified during the site visit.

Figure 04: **VIEW SITES** - Disco 2 PV Solar Facility

GYLA
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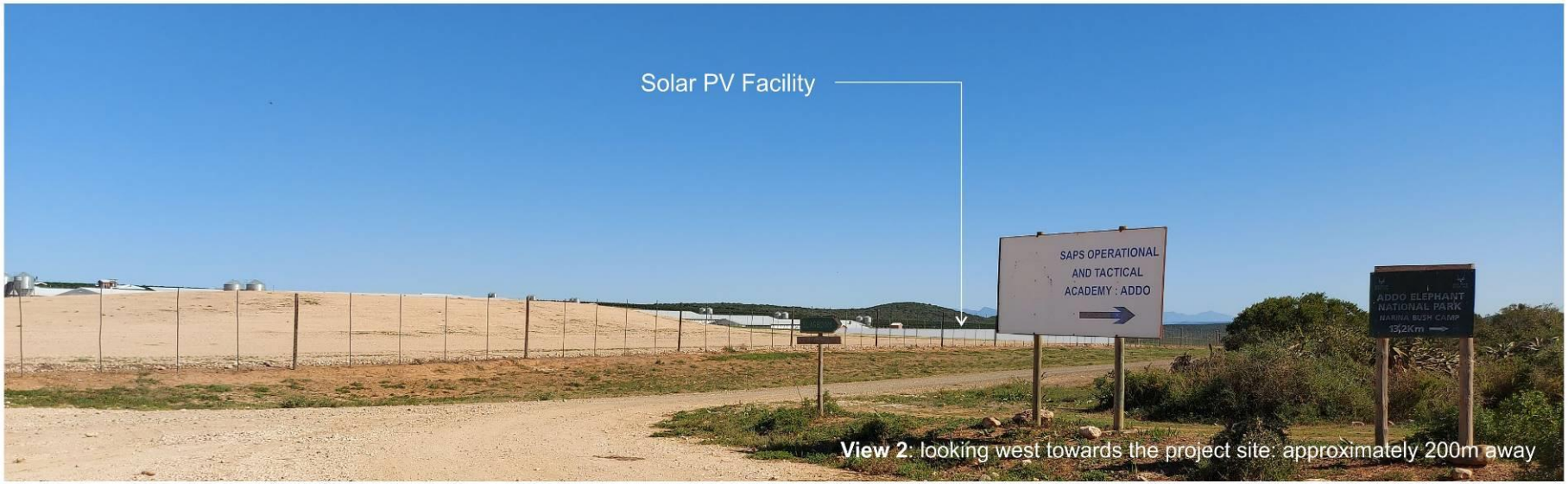

Figure 05-1: **LANDSCAPE CHARACTER** Disco 2 PV Solar Facility

GYLA
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Figure 05-2: **LANDSCAPE CHARACTER** Disco 2 PV Solar Facility

GYLA
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5.1 Landscape Sensitivity

Visual intrusion deals with contextualism, i.e. how well does a project component fit with or disrupt/enhance the ecological and cultural aesthetic of the landscape as a whole? Landscape sensitivity to the proposed development is ***Low*** because the landscape exhibits a positive character but show evidence of alteration to /degradation of the original natural features resulting in an area of mixed agricultural character that is expected with the region. Therefore, with a moderate visual resource value, the landscape is potentially sensitive to change. Change may be detrimental if inappropriately dealt with, but it may not require special or particular attention to detail.

5.2 Receptor Sensitivity

The viewshed in Figure 6 below illustrates the Project's limited visibility from sensitive visual receptors. Other than the adjacent gravel road, known as the Enon/ Bersheba and Slangboom gravel road**,** which falls within the 800m foreground view area, sensitive receptor locations within the area of influence will not be affected by the development. In addition, sensitive viewers will also only be exposed to the intrusion for a very short period of time as they pass the development.

Visual intrusion and receptor sensitivity has been assessed and identified as ***low (-)*** as the Project would:

- Have a minimal effect (low impact) on the visual quality of the landscape
- Contrasts minimally with the patterns that define the structure of the landscape; and
- Be mostly compatible/ visually acceptable with the immediate current land use and enclosure patterns.

The result is a minor change to the landscape character and sense of place resulting in a minimal change to key, potentially sensitive views.

5.3 Potential Visual Impact Assessment

Nature of Impact	Potential visual Impacts on the Landscape Character and Sense of Place as a result of the development – change in landscape character
Extent	Local
Duration	Permanent
Intensity	Low
Probability	Definite
Degree of Confidence	**High**
Reversibility	**Reversible** – Should the facilty not move to the operational phase, the impact is removed
Irreplaceable Loss of Resources	**Replaceable**
Status and Significance (Without mitigation)	**Low Negative** (-) The impact/risk will result in low alteration of the environment due to the size and the transformed nature of the site.
Mitigation	Development footprints should be demarcated and clearing to occur within demarcated areas Maintain solar panels and replace any broken or cracked panels Clean regularly to remove foreign contaminants
Status and Significance (After mitigation)	**Low Negative** (-)

Figure 06: **VIEWSHED** and **RECEPTOR SENSITIVITY** - Disco 2 PV Solar Facility

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It is the opinion of the specialist that, due to the nature and adjacency of land uses within the study area and its low rolling topography, the landscape has a high visual absorption capacity (VAC). It can absorb most visual changes caused by the Project and its associated infrastructure. Furthermore, the proposed PV solar facility is compatible with existing land uses (Poultry broiler buildings and associated infrastructure) and would blend in with the existing infrastructure on the farm. Thus, the visual intrusion is minimal and is unlikely to be seen from sensitive viewing areas.

These factors result in a diminished potential for the Project to cause adverse impacts that would significantly change the study area's visual character or sense of place. Therefore, the intensity of visual impact is negligible as a minor loss or alteration to the visual and aesthetic baseline characteristics is assessed. The pre-development landscape, or view, would approximate the 'minimal change' situation.

Considering the findings of this visual impact opinion report the impact rating for the proposed development is ***low*** without mitigation and ***low*** with mitigation.

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GYLA

Graham Young PrLArch FILASA

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Tel: +27 0(82) 462 1491
grahamyounglandarch@gmail.com

Visual Impact Assessments

Graham is a registered landscape architect with interest and experience in landscape architecture, urban design and environmental planning. He holds a degree in landscape architecture from the University of Toronto and has practiced in Canada and Africa, where he has spent most of his working life. He has served as President of the Institute of Landscape Architects of South Africa (ILASA) and as Vice President of the Board of Control for Landscape Architects.

During his 40 years plus career he has received numerous ILASA and other industry awards. He has published widely on landscape architectural issues and has had projects published both locally and internationally in, scientific and design journals and books. He was a founding member of Newtown Landscape Architects (NLA) and was a senior lecturer (now retired), teaching landscape architecture and urban design at post and undergraduate levels, at the University of Pretoria. He has been a visiting studio critic at the University of Witwatersrand and University of Cape Town and in 2011 was invited to the University of Rhode Island, USA as their Distinguished International Scholar for that year. Graham currently practices as a Sole Proprietor.

A niche specialty of his is Visual Impact Assessment for which he was cited with an ILASA Merit Award in 1999. He has completed over 250 specialist reports for projects in South Africa, Canada and other African countries. He was on the panel that developed the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (2005) and produced a research document for Eskom, *The Visual Impacts of Power Lines* (2009). In 2011, he produced '*Guidelines for involving visual and aesthetic specialists'* for the Aapravasi Ghat Trust Fund Technical Committee (they manage a World Heritage Site) along with the *Visual Impact Assessment Training Module Guideline Document.*

*** GYLA ***

1. Public Participation Process

COMMENTS RECEIVED DURING PROJECT ANNOUNCEMENT AND REGISTRATION				
NO	**ISSUES RAISED**	**COMMENTATOR**	**DATE**	**RESPONSE**
1.1	Please find the attached comments for proposed Disco 2 and Middledrift Solar Photovoltanic facilities.	Gcinile Dumse, Dept. of Agriculture, Land Reform and Rural Development,	*3 May 2022, email*	The commentator was proactively registered on the database for this project as a representative of The Department of Agriculture, Land Reform and Rural Development, from the outset of the pre-application stage and will remain registered for the duration of the assessment. The commentator will be provided with copies of the available information and will be notified of the various opportunities to comment throughout the Basic Assessment Process.
1.2	Eskom is an affected and interested party with regards this application	Howard Blane, ESKOM: Distribution Division: Cape Coastal Cluster - Land and Right Manager	*21 April 2022, email*	This commentator was proactively registered on the project database as a representative of Eskom, prior to the project announcement and registration phase of this assessment and will remain on the project database for the duration of the Basic Assessment Process. The commentator will be provided with copies of the available information and will be notified of the various opportunities to comment throughout the Basic Assessment Process.
1.3	Hello Khulile Please register as an I&AP. The site is adjacent to DR02006 and will have to be maintained during the construction phase	Randall Moore, EC Dept. of Transport: District Roads Engineer	*25 April 2022, email*	This comment was received from Mr Randall Moore and was addressed to Mr Kulile Siqiti requesting him to register as an I&AP on the database for this project. The EAP was cc'ed in on this correspondence. However, Mr Siqiti was proactively included on the project database at the onset of this BA process and was notified of the Intention to commence with this Basic Assessment process. Mr Siqiti and Mr Moore will remain on the project database and will be provided with copies of the available project information, including a link to the website where project information can be downloaded, and will be notified of the various

				opportunities to comment during this Assessment Process.
1.4	Thank you very much.	Khulile Siqiti, EC Dept. of Transport: District Roads Engineer	*3 May 2022, email*	This comment was received in response to an email from the EAP to Mr Randall Moore on the 25 April 2022, confirming that Mr Siqiti has been proactively included on the project database. See Comments received above (1.3).
1.5	Please find attached herein is a form to register as I&AP for the project as given in the subject box herein above.	Zinzile Mtotywa, Department of Forestry, Fisheries and the Environment (Forestry)	*24 May 2022, email*	The commentator was registered on the project database for this project as a representative of The Department of Forestry, Fisheries and Environment: Forestry Division, upon request from Ms Babalwa Lyini. The commentator will remain registered on the project database for the duration of the assessment. The commentator will be provided with copies of the available information on the project and will be notified of the various opportunities to comment throughout the Basic Assessment Process.
1.6	Participation in a determined EIA process will therefore, offer DFFE the opportunity to have access to the reports and specialist studies that will form part of the studies to the completion of the process	Zinzile Mtotywa, Dept. of Forestry, Fisheries and the Environment (Forestry)	*24 May 2022, Comment Form*	The commentator and other representatives of the Department of Forestry, Fisheries and Environment (DFFE): Forestry, have been registered on the project database from the outset. The commentator will be provided with copies of information as it becomes available for comment and will be notified of the various opportunities to comment during this BA process.
1.7	A site visit will therefore, be an additional part of our participation to assist the process	Zinzile Mtotywa, Dept. of Forestry, Fisheries and the Environment (Forestry)	*24 May 2022, Comment Form*	A site visit was held with the commentator on 13 July 2022, along with and other representatives of DFFE (Forestry), namely: • Ms Babalwa Layini (Dept. Forestry, Fisheries and Environment) A copy of the meeting register is attached in Appendix G(iv) of this report.
1.8	According to the locality map of the project in question, it does however suggest that the site in question might be covered in natural vegetation.	Zinzile Mtotywa, Dept. of Forestry, Fisheries and the Environment (Forestry)	*24 May 2022, Comment form*	The commentator is referring to the locality map, included with the BID, sent to all I&APs. The EAP utilizes Manifold software for mapping. Based on the comment received from this commentator it was noted that the Manifold arial imagery was outdated and showed the intact vegetation on the

				farm, which was prior to any transformation of the site in April 2016. Based on the comment received, the locality map was revised to contain the latest aerial imagery from Google Earth which indicates the transformed nature of the proposed development footprint, surrounding citrus orchards and Poultry Broiler Facility, amongst others. A copy of the revised mapping was emailed to the commentator. As per the findings of this assessment the proposed development footprint is transformed. The Biodiversity Compliance Statement report is attached as Appendix D (ii) to this report.
1.9	I would like to do a site visit of your application on Wednesday the 13th can you kindly avail yourself.	Babalwa Layini Dept. of Forestry, Fisheries and the Environment (Forestry)	*11 July 2022, Email*	A site visit was held with the commentator on 13 July 2022, along with Mr Zinzile Mtotywa (Dept. Forestry, Fisheries and Environment: Deputy Director) A copy of the meeting register is attached in Appendix G(iv) of this report.

2. Protection of Agricultural Resources

COMMENTS RECEIVED DURING PROJECT ANNOUNCEMENT AND REGISTRATION				
NO	**ISSUES RAISED**	**COMMENTATOR**	**DATE**	**RESPONSE**
2.1	The top soil must be removed on all area where physical disturbance may occur, kept separate from overburden and stockpiled for later rehabilitation.	Gcinile Dumse, Dept. of Agriculture, Land Reform and Rural Development,	*Comment form dated 28 April 2022; received 3 May 2022, email*	The potential for soil erosion and appropriate mitigatory measures are included in the draft EMPr. This includes but is not limited to stockpiling of topsoil in a separately demarcated area on site, to be used in rehabilitation.
2.2	The indigenous grass species that already exist on the site must be used in re-vegetation.	Gcinile Dumse, Dept. of Agriculture, Land Reform and Rural Development,	*Comment form dated 28 April 2022; received 3 May 2022, email*	Should revegetation be required on site, any indigenous vegetation that may occur on the site will be stockpiled and used in revegetation of disturbed areas. Indigenous grass seed mix, approved by the ECO, should be used to supplement the revegetation and may include White Buffalo grass (*Panicum maximum)* and Blue Buffalo grass (*Cenchrus cilianris).*

2.3	The soil erosion prevention should be carried out progressively and the area must be rehabilitated after the construction activities.	Gcinile Dumse, Dept. of Agriculture, Land Reform and Rural Development,	*Comment form dated 28 April 2022; received 3 May 2022, email*	Erosion control monitoring will be audited by an Environmental Control Officer (ECO), who must be appointed to implement the Construction and Operational EMPr.
2.4	A soil erosion plan for monitoring and rehabilitation of erosion events must be in place. The appropriate erosion mitigation measures must form part of this plan to prevent and reduce the risk of any potential erosion.	Gcinile Dumse, Dept. of Agriculture, Land Reform and Rural Development,	*Comment form dated 28 April 2022; received 3 May 2022, email*	The potential for soil erosion has been rated as low negative without mitigation and very low negative with mitigation. The following mitigatory measures are included in the report. • An erosion protection plan must be developed and implemented on site. • The site must be inspected on a regular basis (quarterly and after a heavy rainfall event) for any erosion on site, and any erosion must be rectified immediately through fill and compaction. • The disturbed areas must be revegetated with local grass species to assist with erosion protection
2.5	The weeds control management plan should be development and maintained to control any declared weeds and invasion alien plants on proposed development site and the immediately surroundings. The control and eradication of declared weeds and invader plants must be done in situ.	Gcinile Dumse, Dept. of Agriculture, Land Reform and Rural Development,	*Comment form dated 28 April 2022; received 3 May 2022, email*	An alien invasive plant (AIP) management plan will be developed for the site and implemented during the Construction and Operational Phases of this project. The plan will aim to eradicate and control the spreads of AIP's and should be developed in conjunction with a fire management plan. Any AIP material removed from the site during clearing will be destroyed and removed from site so that germination of seeds and reestablishment on site is limited. Herbicides may be required to be utilized for alien invasive plant management. However, should herbicides be used on site it is recommended that these be organic and/ or biodegradable.

3. Biodiversity Impacts

COMMENTS RECEIVED DURING PROJECT ANNOUNCEMENT AND REGISTRATION				
NO	**ISSUES RAISED**	**COMMENTATOR**	**DATE**	**RESPONSE**

3.1	The department's main interest in this regard, pretains to the implementation and compliance to the National Forest Act, Act 84 of 1998 as amended.	Zinzile Mtotywa, Dept. of Forestry, Fisheries and the Environment (Forestry)	*24 May 2022, Comment Form*	A site visit was held with the commentator on the 13 July 2022. As per the findings of this assessment the proposed development footprint is transformed.

DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

BASIC ASSESSMENT

Proposed Construction and Operation of a Solar Photovoltaic Facility and Associated Infrastructure, on a Portion of Farm 713, Hopefield, Sundays River Valley Municipality

September 2022

Prepared for:
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Environmental Impact Assessment and Public Participation Management

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ABBREVIATIONS

BA	Basic Assessment
CARA	Conservation of Agricultural Resources Act
CEMPr	Construction Phase Environmental Management Programme
DAFF	Department of Agriculture, Forestry and Fisheries
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DWS	Department of Water and Sanitation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EA	Environmental Authorisation
OEMPr	Operational Phase Environmental Management Programme
SEM	Site Environmental Manager

DEFINITIONS

"EIA Regulations, 2014 (as amended)" - In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment (BA), because it triggers, amongst others, the following listed activity, in Listing Notice 1 (GN R327):

"*43. The expansion and related operation of hatcheries or agri-industrial facilities outside industrial complexes, where the development footprint of the hatcheries or agri-industrial facilities will be increased by 2 000 square metres or more*."

"The Department/ Competent Authority" - The Department of Economic Development, Environmental Affairs and Tourism, Cacadu Region.

"Commencement" - Any physical activity on site that can be viewed as associated with the clearing and site preparation phase.

1.1 INTRODUCTION AND BACKGROUND

The applicant, The Venter Wildlife Trust, proposes the construction and operation of a new Solar Photovoltaic (PV) Facility, including associated infrastructure, capable of producing 3.4MW of AC electricity on a portion of Farm 713, also known as Hopefield, Sundays River Valley Municipality. The Farm measures ~554ha in extent and is currently zoned Agriculture 1. Farm 713 is a working farm and is currently used for commercial production of Citrus, a Poultry Broiler Facility and associated infrastructure (reservoirs and irrigation infrastructure).

The PV facility will consist of a solar panel array, measuring approximately 3.5ha in extent, as well as associated infrastructure (battery container facility and powerlines), for a total development footprint of ~3.6ha. It is proposed that the solar panel array (PV component) will be constructed adjacent to the existing Poultry Broiler Facility, adjacent to the northern boundary of the farm and within an already transformed area.

The PV facility will be grid-tied meaning electricity produced at the facility will be fed into the ESKOM grid as part of a Wheeling Agreement with the electricity utility. In addition to the solar PV panels, electrical cables must be installed from the PV panels as well as the battery storage facility (Battery containers) to the existing ESKOM transformers on site, as well as to an MV (Medium Voltage) point.

Farm 713 is located ~ 7km north of Sunland and approximately 8.5km north-west of Addo, in the Sundays River Valley Municipality. The Farm can be accessed via the DR02006 gravel road (Enon/ Bersheba Road), at its intersection with the Slagboom road (MN50605). The nearest boundary of the Addo Elephant National Park is approximately ~5.4km from the boundary of the farm and ~7.6km from the proposed development footprint.

Land-uses on the properties adjacent to Farm 713 include commercial agriculture (i.e., citrus orchards), chicken broiler facilities and livestock and game grazing/ browsing. Vegetation cover on adjacent farms are therefore characterised by activities associated with the “Sundays River Valley” agricultural area.

The proposed Photovoltaic Facility and associated infrastructure can be divided into the following phases, namely:

- Pre-construction Phase
- Construction Phase
- Operational Phase

The activities associated with each phase are discussed in more detail in Section 1.1.1 below.

The proposed BA Process has been undertaken in terms of the NEMA EIA Regulations 2014 (as amended). **This Draft EMPr** has been prepared in line with the amendments to the NEMA EIA Regulations, 2014. In terms of the NEMA EIA Regulations, 2014 (as amended), the project requires a Basic Assessment, prior to the commencement of any activities on the site.

1.1.1 Activities and Regulations for which Application has been made:

Applicant
The Venter Wildlife Trust
Location of Activity
Farm 713, Sundays River Valley Municipality

Activity Description

Subject to the outcome of the specialist assessments and decision-making process, as well as input received during the consultation process the project will entail the construction and operation of a new Solar Photovoltaic (PV) Facility. The electricity produced by the PV Facility will be fed into the ESKOM grid as part of a Wheeling Agreement with the electricity utility.

As it is proposed that the facility and associated components will be constructed in an area which has already been transformed it is not anticipated that any additional indigenous vegetation will be cleared.

SITE OVERVIEW

Farm 713, measures ~554ha in extent and is zoned Agriculture I. Farm 713 is a working farm and is currently used for commercial production of citrus and a Poultry Broiler Facility. South of the proposed facility is an existing Poultry Broiler Facility and to the west is existing citrus orchards. The area for the proposed facility has already been cleared and will therefore, no demolition of structures of clearing of indigenous vegetation is anticipated to occur.

The 22kV powerline is proposed to follow existing roads and cutlines for approximately ~2.4km in an easterly and southerly direction to join a MV (Medium Voltage) point. Prior to joining the MV point the powerline is anticipated to cross the Lower Sundays River Water User Association canal which occurs long the southern boundary of Farm 713.

Pre-Construction Phase

Prior to commencement with construction activities on the farm, the detailed design drawings for the proposed construction of the Solar PV Facility and associated infrastructure, must be finalised.

Construction Phase

It is anticipated that the proposed Construction Phase of the project will entail the following activities on the site:

- Preparation of the site, levelling, runoff control measures and stormwater management.
- Installation of the Solar Photovoltaic array (panels) (~3.55ha).
- Establishment of the battery container facility, and possible installation of an inverter (~300m^2).
- Installation of underground cables connecting the PV facility with existing transformers on the farm.
- Establishment of 22kV overhead private powerline (~2.5km) connecting the PV facility with an existing MV point.
- Establishment/ expansion of internal access roads.
- Securing the facility including erection of a fence.

Operational Phase

Once the PV facility and associated infrastructure has been installed, the facility will become operational and start producing electricity.

See Section A of the Basic Assessment Report for more information on the proposed project.

1.1.1.1 Listed activities according to GN R327, 325 and 324 requiring Environmental Authorisation in terms of the NEMA EIA Regulations 2014 (as amended).

EIA Regulations (2014), as amended	Project Component
GN R327 (Listing Notice 1)	
"1. The development of facilities or infrastructure for the generation of electricity from a renewable resource where—	It is anticipated that the proposed development footprint of the solar PV Facility and associated infrastructure will be ~3.6ha in extent and will have the capacity to produce 3.4MW of AC electricity from a renewable resource.

(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;	**This listed activity will require Environmental Authorisation.**
"28. Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: *(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;"*	The PV facility will be grid-tied as part of a wheeling agreement with Eskom and will provide electricity security for the existing agricultural operations on the farm. The farm is currently utilized for agriculture (commercial citrus production and a Poultry Broiler Facility) and the solar PV facility is considered to be an agro-"industrial" development. The farm falls outside of an urban area, and the combined development footprint is anticipated to be ~3.6ha in extent. **This listed activity will require Environmental Authorisation.**
GN R324 (Listing Notice 3)	
"18. The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. ***a. Eastern Cape*** *i. Outside urban areas:* *(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;*	The PV facility will require internal roads in order to gain access to the project components and solar panels for maintenance and cleaning purposes. The internal roads required will tie in with existing internal access roads provided for the Poultry Broiler facility and is anticipated to be ~4 meters in width and will exceed 1 kilometre in length. The proposed development falls within in the Eastern Cape, outside of an urban area and is located within ~7.6 kilometers of the nearest boundary of the Addo Elephant National Park. **Thus, this listed activity requires Environmental Authorisation**

1.2 DURATION OF AUTHORISATION

Should an EA be issued in respect of the project, the duration of the authorisation will be indicated in said document.

1.3 ENVIRONMENTAL MANAGEMENT PROGRAMMES

Environmental Management Programmes (EMPr), or Environmental Management Frameworks (EMF), serve to ensure that environmental impacts associated with particular activities are monitored, minimised and mitigated for the duration of the project. The practical management measures that should be employed to achieve monitoring and mitigation targets are detailed in the EMPr (DEAT 2004). The EMPr is a dynamic document which should be updated and reviewed on a regular basis so that it may be adapted to changing management styles, and to include improved impact mitigation technology, as well as unforeseen environmental impacts. The EMPr should also be adapted if any changes are made to the project. If such changes will result in significant environmental impacts, which differ from those for which DEDEAT has granted authorisation, such changes must be submitted to the DEDEAT for approval before they are implemented.

This EMPr includes, but is not limited to, the environmental impacts identified in the BA Report and the proposed mitigation measures that must be employed to minimise the harmful effects that those impacts may have on the environment.

The BA Report contains a comprehensive description of the project and the receiving environment and should be read in conjunction with this EMPr. The lead author of the EMPr is Sandy Wren. A CV outlining the experience and key competencies of the lead author is included in Appendix G (v) of the BA Report.

In addition to a summary of the impacts, this EMPr contains more detailed information on the following:

- The manner in which mitigation will be implemented
- The scheduling of the implementation of mitigation
- Responsibility and accountability for mitigation actions
- Monitoring and reporting procedures

The life of the Solar PV Facility can be broadly divided into three main phases:

A **Construction Phase** - which includes all the surveying, land clearing/ levelling of the site, and construction activities associated with the construction of the proposed Solar PV Facility and associated infrastructure.

An **Operational Phase** - which constitutes the day to day utilisation of the Solar PV Facility for the duration of its lifetime, until it is discontinued/ decommissioned.

A **Decommissioning Phase** - which includes all the activities associated with the cessation of the described activity at the site. At present, it is not anticipated that the development will be decommissioned. However, should the development be decommissioned, the relevant legislation at the time would apply.

Environmental impacts, management practices and mitigation measures may differ for different phases of the development. However, some impacts will be present in all phases of the development, resulting in some repetition in the EMPr.

The EMPr must be read in conjunction with the BA Report and EA, as these documents may contain additional, detailed information not included in the EMPr.

1.4 LEGAL REQUIREMENTS

This EMPr does not include all the legislative and regulatory requirements applicable to this development. The representative appointed by the applicant to manage the operation, and the persons responsible for the implementation of the EMPr, must also familiarise themselves with the specific legal requirements applicable to the described activities on site. These may include, but are not limited to:

- Applicable Environmental Law
- Atmospheric Pollution Prevention Act 45 of 1965
- Conditions of Employment Act, 75 of 1997
- Conservation of Agricultural Resources Act 43 of 1983
- Constitution of South Africa No 108 of 1996
- Environment Conservation Act 73 of 1989
- Extension of Security of Tenure Act 62 of 1997
- Hazardous Substances Act 15 of 1973
- Health Act No 63 of 1977
- Labour Relations Act 66 of 1995
- Land Reform (Labour Tenants) Act 3 of 1996
- National Building Regulations and Building Standards Act 103 of 1977
- National Environmental Management: Biodiversity Act 10 of 2004
- National Environmental Management Act 107 of 1998
- National Environmental Management: Air Quality Act 39 of 2004
- National Heritage Resources Act 25 of 1999

- National Road Traffic Act 93 of 1996 – GNR 225 of 17 May 2000
- National Veld and Forest Fire Act 101 of 1998
- National Water Act 36 of 1998
- Nature Conservation Ordinance Act 19 of 1974
- Noise Control Regulations GN R 154 in Government Gazette No. 13717 of 10 January 1992
- Occupational Health and Safety Act of 1994
- The Hazardous Substances Act 115 of 1973
- Local bylaws
- Provincial legislation

PART A: CONSTRUCTION PHASE ENVIRONMENTAL MANAGEMENT PROGRAMME (CEMPr)

Basic Assessment

Proposed Construction and Operation of a Solar Photovoltaic Facility and Associated Infrastructure, on a Portion of Farm 713, Hopefield, Sundays River Valley Municipality

September 2022

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Part A CONSTRUCTION PHASE ENVIRONMENTAL MANAGEMENT PROGRAMME (CEMPr)

During the Construction Phase, land will be prepared (levelled, erosion measures and stormwater management implemented) for the construction of the proposed Solar PV Facility, as well as the installation of associated infrastructure (e.g. battery storage facility, underground cables, and overhead powerline). The individual solar panels will be arranged in multiple rows and mounted on metal frames fixed onto concrete foundations. It will further entail the rehabilitation of any disturbed areas on site.

The vegetation clearing, site preparation, levelling and landscaping will be done both by hand and with the aid of suitable earth moving equipment (excavators, bulldozers, TLBs, etc.).

Environmental impacts associated with the Construction Phase of the development, as well as the appropriate mitigation actions, have been identified using specialist input for the various components of the affected environment provided in the BA Report.

A.1 MANAGEMENT ACTIONS

The management actions outlined below indicate the actions to be taken to minimise the potential negative impacts that this phase may have on the environment, as well as measures to enhance the potential benefits.

Impact	Mitigation
Terrestrial Biodiversity	
Establishment of an Ecological inappropriate Fire Regime	• Open fires must not be allowed on site other than in designated areas where vegetation has been cleared (e.g. personnel rest area). • No open fires should be allowed on windy days.
Promotion of colonization and growth of Alien Invasive Species	• In areas disturbed by the construction tasks, as well as surrounding areas adjacent to these, perennial or woody alien species should be periodically removed and destroyed.
Management of Stormwater runoff	• Appropriate measures to be implemented in order to manage stormwater runoff from the PV facility.
Aquatic Biodiversity	
Potential hydrological process impacts on the drainage systems due to increased runoff (erosion and sedimentation)	• Bare soil surfaces must be protected against erosion using appropriate erosion control measures. • Stormwater management to capture and disperse runoff must be implemented during the construction and operation phase.
Promotion of colonization and growth of Alien Invasive Species	• An Alien Vegetation Management Plan must be developed and implemented during and post-construction.
Potential impacts on the surrounding environment	• A Rehabilitation Plan must be developed and implemented when required (if applicable) • The construction footprint must be clearly delineated • Construction activities must be limited to the approved project footprint. • Any construction site camp and material stockpile areas must be established in already disturbed areas more than 32m from water storage/stock dams, irrigation canal and drainage lines surrounding the site. • Construction must not commence until necessary approvals/permissions have been obtained from the relevant departments. • ECO should be appointed for monitoring of conditions in the EMPr.
Generation and storage of hazardous substances	• All hazardous substances and hazardous waste must be stored in impermeable structures or containers placed in secondary impermeable bunded structures 110% the volume of the primary structure.

	• All hazardous substances and hazardous waste should be placed more than 32m from water storage/stock dams, irrigation canal and drainage lines surrounding the site. • Emergency response plan must be drawn up to deal with any hazardous spillages/accidental leakages. • A spill kit must be available on site during the construction phase. • A drip tray must be used under all generators and any construction vehicles (when on site and not in use).
Generation of sanitation waste during the construction phase	• All chemical toilets/ablution facilities must be properly secured so that they cannot be windblown, be serviced regularly and should be placed more than 32m from water storage/stock dams, irrigation canal and drainage lines surrounding the site.
Erosion	
Changes to topography and drainage characteristics due to earth works	• Storm water should be controlled so as to not cause runoff to adjacent areas. • No erosion or sediment should be allowed to end up in drainage lines • Appropriate erosional measures should be put in place (i.e., erosional stop boards)
Erosion of areas that are denuded or disturbed but not hardened	• The development footprint should clearly be demarcated an no disturbance should occur outside of demarcated areas. • A stormwater management plan must be designed and implemented for the Construction and Operational phases of the project. • The correct use and installation of storm water management structures is essential. • All denuded areas should have backing boards or similar structures to prevent soil erosion. • Furthermore, the growth and coverage of these areas by non-woody indigenous vegetation, such as grasses, should be encouraged, managed and promoted. • Denuded areas should be monitored regularly during the rainy season, or following heavy rainfall events, for signs of erosion, and these to be addressed if identified. • Erosion control and construction disturbance should be an important monitoring facet falling under the control of an Environmental Control Officer (ECO), who should be appointed to implement the environmental management plans (EMP's) during the construction phase of this project.
Socio-economic	
Dust generation during the construction phase	• Limit disturbance outside the construction footprints. • Erosion protection measures to be placed on disturbed areas in case of heavy rainfall events during construction. • Topsoil and soil stockpiles must be covered, wetted or otherwise stabilised to prevent wind erosion and dust generation. • A water cart or sufficient watering equipment must be available to wet soils during windy days if wind-blown sand and dust becomes a problem. • Disturbed areas should be rehabilitated in parallel with construction completion • Erosion to monitored by an Environmental Control Officer (ECO) on a regular basis during construction

Noise and disturbance during the construction phase	• Limit activities, as far as possible, to working hours (i.e. 8am-5pm weekdays). • Encourage labourers to not make unnecessary noise. • A complaints register must be kept to document complaints and the corrective action taken.
Several temporary employment and skills development opportunities will be created during the construction phase	• Local labour must be sourced as far as possible, to maximise the economic benefits for the local community.
Risk to human health and safety due to open excavations and earth moving machinery during the construction phase	• All footprints, excavations, storage areas, materials lay-down areas, stockpile area, and labourers rest areas must be clearly demarcated or fenced off before any construction activities commence on site. • All activities must be limited to the demarcated area. • Open excavations must be kept free of water. • Access to the site must be controlled. • Entry points and access routes to the site must be clearly marked and traffic limited to those areas as far as possible. • Speed travelled by vehicles must be kept to a minimum and speed limits enforced. • Conduct a safety reminder talks with personnel prior to commencement of construction.
Runaway bush fires during the construction phase	• At the site, exotic tree and shrub species must be eradicated and all litter removed. • No open fires should be allowed on the site, except in a designated controlled area. • No fires to be left unattended. • Suitable firefighting equipment should be available on site.
General health and safety risks associated with construction personnel activities on site	• Construction personnel must not be allowed to light fires on site. • Construction personnel may not stay on site after working hours or set up temporary residences. • Ablution facilities must be provided to construction personnel to prevent ablutions being performed in public. • Litter bins must be provided at the construction footprint for waste generated by construction personnel. • Litter bins must be emptied on a weekly basis at a minimum and waste disposed of at an appropriately licensed waste disposal facility.
Waste	

Generation of waste during the construction phase	• No waste from construction or otherwise, may be disposed of on site. • No construction phase waste to be stockpiled on site. • All waste may be temporarily sorted at site before being suitably disposed of at an appropriately licensed and registered waste disposal facility. • Collection of waste to be contracted to an approved contractor and disposed of at an appropriately licensed site. Safe disposal certificate to be obtained and kept as a record. • Adequate litter drums or other suitable containers must be located on site and emptied on a regular basis at a minimum and waste disposed of at an appropriately licensed waste disposal facility. • Appropriate ablutions facilities to be provided on site. If portable toilets are utilised these must be emptied timeously. • Environmental Control Officer (ECO) to perform frequent audits in the waste storage area.
Generation of hazardous waste during the construction phase	• Hazardous waste from construction activities to be separated and stored in acceptable receptacles and disposed to an appropriately licenced site. • Hazardous waste to be classified, Safety Data Sheets to be compiled and waste manifest to record the generation, transporting and disposal of the waste. • Initial waste classification to be performed on all hazardous waste generated. • Environmental Control Officer to perform frequent audits in the waste storage area. • Monthly waste disposal record must be kept of all waste disposed. • Spill response plans and equipment should be available to deal with emergency situations that can arise during the management of waste. • All staff should be trained in the correct handling, storage and disposal of hazardous wastes.
Generation of sanitation waste during the construction phase	• Suitable potable sanitation facilities must be provided and maintained for the labourers during the construction phase. • Ensure weekly maintenance of sanitation facilities. • Enter into a contract agreement with a service provider to regularly collect and dispose of sanitary waste at an authorized sewerage treatment works.
Heritage	
Impacts on potential undiscovered archaeological material or artefacts on site.	• It is recommended that in the unlikely event that any archaeological materials are exposed during the development, it should be reported immediately to the nearest museum/archaeologist or to the EC Provincial Heritage Resources Authority (ECPHRA) so that a systematic and professional investigation can be undertaken. • If any evidence of archaeological sites or artefact, graves or other heritage resources are found during development or construction, ECPHRA and an accredited professional archaeologist or must be alerted immediately. • Site foremen should be informed before vegetation clearing commences on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites: i.e. human skeletal material, stone artefacts, fossil bone, stone features and historical artefacts or features • If the newly discovered heritage resources prove to be of archaeological significance a phase 2 rescue operation might be necessary at the cost of the developer. Sufficient time must be allowed to remove / collect such material. • The developer must finance the costs should additional studies be required as outlined above. The onus is also on the developer to ensure that this agreement is honoured in accordance with the National Heritage Act No. 25 of 1999.

Paleontology	
Impacts on potential undiscovered palaeontological material on site.	• Should substantial fossil remains be exposed during vegetation clearing and site preparation, the ECO should safeguard these, preferably in situ, and alert EC Provincial Heritage Resources Authority (ECPHRA) as soon as possible so that appropriate action (e.g. recording, sampling or collection) can be taken by a professional palaeontologist. • If any evidence of palaeontological fossils, graves or other heritage resources are found during development, ECPHRA and an accredited professional palaeontologist must be alerted immediately. • The palaeontologist will need to apply beforehand for a collecting permit from ECPHRA for which an approved depository for any fossil material collected will need to be designated (eg Albany Museum, Grahamstown). • Sufficient time must be allowed to remove/collect such material.
Traffic	
Impact on Provincial Roads	• Keep construction and earth-moving vehicles on site during construction phase.
Visual	
Potential impacts on the surrounding environment	• Development footprints should be demarcated and clearing to occur within demarcated areas

A.2 ROLES AND RESPONSIBILITIES

The ultimate responsibility for the effective implementation of the EMPr lies with the applicant (holder of Environmental Authorisation (EA)), in this case The Venter Wildlife Trust. Responsibility may be delegated to Project Managers, Construction Managers or Environmental Officers appointed by the applicant, during any stage of the development. The delegation of environmental responsibility will be determined by the institutional hierarchy of the organisation.

The applicant will appoint a Project Manager for the Construction Phase of the proposed development. The *Project Manager* will be responsible for the *implementation of the EMPr* during the *Construction Phase* of the development.

An independent *Environmental Control Officer (ECO)* should be appointed to oversee the *implementation of the EMPr* during the *Construction Phase* of the project. The ECO will be responsible for overseeing the implementation of, and monitoring compliance with, the conditions set out in the EA, as well as the Construction Environmental Management Programme (CEMPr). This monitoring role may be supplemented by an internal Site Environmental Officer (SEM) or Site Officer, that will remain on site during the Construction Phase.

Table 1. Hierarchy of responsibility in the implementation of the EMPr.

Project manager Name: Contact number:	• Overall responsibility for management of the development. • Is familiar with the contents of the BA Report, EMPr and the conditions of the EA. • Ensures that policy, legislative and relevant environmental documentation is available to the Construction Manager. • Liaises with Construction/ Site Manager on a regular basis to address any environmental issues (compliance, mitigation, disciplinary action) that may arise.
Construction/ Site Manager Name: Contact number:	• Selects and appoints contractors. • Is familiar with the institutional environmental policies and Codes of Practice. • Is familiar with the BA Report, EMPr, EA, and relevant legislation. • Ensures that the information in the BA Report, EMPr, EA, and relevant legislation is communicated to contractors. • Ensures that contractors are familiar with institutional Codes of Conduct for contractors. • Ensure that environmental policies, legislation and guidelines are adhered to. • Monitor implementation of the EMPr by conducting regular site visits and meetings.
Environmental Control Officer Name: Contact number:	• Responsible for *overseeing and monitoring* the *implementation of the EMPr* during the Construction Phase. • Is familiar with the BA Report, EMPr, EA, and relevant legislation. • Monitors compliance with the EMPr during the operational phase through annual environmental audits. • Report non-compliance or appropriate remedial action.

Site Manager /Site Environmental Officer Name: Contact number:	• Is familiar with the BA Report, EMPr, EA, and relevant legislative requirements. • Ensures compliance with the EMPr and EA conditions. • Is familiar with and ensure compliance with the relevant internal institutional policy, and procedural guidelines. • Ensures compliance with the relevant institutional policy, and procedural guidelines. • Ensures compliance with the legislative requirements. • Implements the EMPr during the operational phase of the development by employing prescribed mitigation and management measures. • Conducts environmental monitoring protocols at the facility. • Conducts regular inspections of the facility in order to monitor compliance with the EMPr. • Takes remedial or disciplinary action where required.

Should ownership of the project change, any EA granted in respect of the development must be transferred to the new owner, upon notification of the Department (DEDEAT). The EMPr, EA and Conditions of Approval remain binding on the new owner/ operator of the development.

A.3 ENVIRONMENTAL PERFORMANCE MONITORING

Environmental Performance Monitoring has been defined as the activities implemented to measure environmental changes resulting from a particular development or activity (Davy & Paradine 1996). These include anticipated and unexpected changes in the environment. Any change from baseline conditions must initiate remedial action, or a change in mitigation or management approach. Performance monitoring could include both the collection of physical data, as well as input from potentially affected neighbours or Interested and Affected Parties (I&APs).

A.3.1 Baseline data

Environmental Performance Monitoring includes the gathering of baseline data with which the future environmental conditions can be compared. It should be noted that the development footprint falls within already modified areas.

The following baseline information, where currently not available, must be obtained before site preparation commences:

Extent and location of alien invasive plants on site.
Extent and location of erosion features on site.

Collection of baseline information will ultimately be the responsibility of the applicant. However, these tasks can be delegated to the Site Environmental Manager (SEM) or Site Officer.

A.3.2 Interested and affected parties

Neighbours and parties affected by the development must be afforded opportunity to comment on problems and impacts that they may experience as a result of the development, during the Construction Phase of the project. A complaints register must be kept which details such comments, as well as the intervention initiated to address the comment or complaint, where appropriate. These comments will be used to adapt and improve existing mitigation measures.

A.3.3 Monitoring

During the construction phase the following must be monitored:

Regular monitoring of the compliance with the conditions of approval as given in the EA, as well as the recommendations contained in the EMPr.
Monthly monitoring of the extent and location of alien invasive plants on the site.
Weekly monitoring of the extent and location of erosion around the development footprints.
Weekly conducting of environmental awareness training sessions with the construction personnel.
Daily monitoring of fresh bedrock for significant fossil material and of excavated material for any archaeological material.

Information gathered during monitoring exercises, as well as the action taken, or operational adjustments made; must be recorded and these reports made available at the request of the DEDEAT.

A.4 LEGAL ENFORCEABILITY

This EMPr is likely to be a condition of the EA, should authorisation for the activity be granted. As such it is a legally binding agreement between the applicant, as well as all his/ her sub-contractors, and the DEDEAT. The EMPr must be included in the contracts (tender documents or otherwise) entered into by the owner/ developer and any subcontractors. This will ensure that sub-contractors have a legal obligation to abide by the conditions set out in the EMPr. Should it be found that additional codes of conduct for contractors need to be included in this EMPr, this must be done at the first review opportunity.

A.5 IMPLEMENTATION SCHEDULE AND REPORTING

The management measures outlined for the Construction Phase of the development will take effect as soon as earthworks on the site is initiated, while the collection of baseline monitoring information must start prior to the commencement of construction activities.

Erosion and possible water leak monitoring, heritage monitoring, alien plant management and stakeholder input reports will be kept as outlined in Section A.3.3 above and be made available at the request of the DEDEAT.

Environmental audit reports, as well as reviewed amended EMPr reports will be kept up to date so that they can be made available at the request of the DEDEAT.

A.6 AUDIT PROCEDURE AND EMPR REVIEW SCHEDULE

The environmental audit is systematic, objective investigation of the environmental information of a development to determine to what extent they conform to the environmental standards set out in the EMPr and EA.

During the Construction Phase, the audit reports, as produced by the ECO after periodic site visits, will serve as the auditing mechanism. A schedule for site audits in the Construction Phase must be agreed upon during the appointment of the ECO. The ECO must comment on environmental impacts that are not adequately mitigated, as well as mitigation measures that are not effective, and suggest appropriate further management actions. These comments must be included in an amended CEMPr (Construction Phase EMPr) that must be made available to the DEDEAT on request.

A.7 ENVIRONMENTAL EDUCATION

Environmental education must be provided as part of the environmental induction process for the labourers that will be employed on site, prior to the commencement of the vegetation clearing and site preparation phase. The key requirements of the BA Report, EMPr and EA will be included in the material which is presented to personnel during the formal environmental induction process.

Environmental induction will be facilitated by the SEM, or Site Manager/ Farm Manager if no SEM is appointed for the site.
No personnel will be allowed to work at the site without having passed through the environmental induction process.
Labourers will be updated continually on pertinent environmental and safety issues during weekly Toolbox Talks by the SEM or Site Manager/ Farm Manager.
Appropriate signage will be used to inform personnel of environmental conduct in specific areas.

Environmental induction training must include at a minimum:

- Designation of workers rest areas and sanitation facilities.
- Clarification of the meanings of warning signage used at the site.
- Appropriate sanitation and waste disposal practices.
- Procedures to be followed if heritage artefacts are discovered.

A.8 REFERENCES

DEAT (2004) Environmental Management Plans, Integrated Environmental Management, Information Series 12, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

A. Davy & Paradine, P. 1996. Environmental Performance Monitoring and Supervision. Environmental Assessment Source Book – Update. World Bank Environment Department. Pp. 8.

PART B: OPERATION PHASE ENVIRONMENTAL MANAGEMENT PROGRAMME (OEMPR)

Basic Assessment

Proposed Construction and Operation of a Solar Photovoltaic Facility and Associated Infrastructure, on a Portion of Farm 713, Hopefield, Sundays River Valley Municipality

September 2022

TABLE OF CONTENTS

Part B OPERATIONAL PHASE ENVIRONMENTAL MANAGEMENT PROGRAMME (OEMPr)

During its Operational Phase, the Solar PV Facility will continue its daily purpose of producing electricity to the Eskom grid.

Potential negative impacts associated with the Operational Phase are limited mainly to impacts on the local resources and infrastructure associated therewith, as well as the natural resources.

Environmental impacts associated with the Operational Phase of the development, as well as the appropriate mitigation actions, have been identified using specialist input for the various components of the affected environment provided in the BA Report.

B.1 MANAGEMENT ACTIONS

The management actions outlined below, indicate the actions to be taken to minimise the potential negative impacts that the operation of the development may have on the environment, as well as measures to enhance the potential benefits.

Impact	Mitigation
Terrestrial Biodiversity	
Promotion of colonization and growth of Alien Invasive Species	• In areas disturbed by the construction tasks, as well as surrounding areas adjacent to these, perennial or woody alien species should be periodically removed and destroyed. • Monitoring is suggested on an annual basis and clearing to be done as required.
Changes to topography and drainage characteristics due to earth works	• Appropriate measures to be implemented in order to manage stormwater runoff from the PV facility.
Aquatic Biodiversity	
Changes to the local hydrological regime, with possible increases in surface flows during the operational phase	• No run-off should be allowed to leave the site directly. These areas should be contained using berms/ swales or ponds as part of a stormwater management plan (SWMP). These areas will then attenuate the flows, while reducing the creation of any surface water flows presently not found within the site. • Sediment traps and stilling basins should also be included into the SWMP where steep areas that are susceptible to erosion encountered.
Promotion of colonization and growth of Alien Invasive Species	• An Alien Vegetation Management Plan must be developed and implemented during and post-construction.
Erosion	
Erosion of areas that are denuded or disturbed but not hardened	• A stormwater management plan must be designed and implemented for the Construction and Operational phases of the project. • The correct use and installation of storm water management structures is essential. • Denuded areas should be monitored regularly during the rainy season, or following heavy rainfall events, for signs of erosion, and these to be addressed if identified. • The site must be inspected on a regular basis (quarterly and after a heavy rainfall event) for any erosion on site, and any erosion must be rectified immediately through fill and compaction. • The disturbed areas must be revegetated with local grass species to assist with erosion protection.
Dust	

Impacts of dust on the Solar PV efficiency	• Dust must be removed regularly from the panels.
Visual	
Glint and Glare	• Maintain solar panel in a good working order and replace any broken or cracked panels • Clean Regularly to remove foreign contaminants

B.2 ROLES AND RESPONSIBILITIES

The ultimate responsibility for the effective implementation of the EMPr lies with the applicant (owner/ developer) of the property at the time of the initiation of development, who, in this case would be the Venter Wildlife Trust. Responsibility may be delegated to Environmental Officers, or Farm/ Project Managers, representing contractors or the applicant on the site during any stage of the development. The delegation of environmental responsibility will be determined by the institutional hierarchy of the organisation.

During the Operational Phase of the development the implementation of the Operational Phase Environmental Management Programme (OEMPr) and the conditions of the EA, as well as environmental compliance monitoring, will be the responsibility of an internal Environmental Officer or a Site/ Farm Manager appointed by the Venter Wildlife Trust. ***Should ownership of the project change, any EA granted in respect of the development must be transferred to the new owner, upon notification of the Department (DEDEAT).*** The EMPr, EA and Conditions of Approval remain binding on the new owner/ operator of the development.

B.3 ENVIRONMENTAL PERFORMANCE MONITORING

Environmental Performance Monitoring has been defined as, the activities implemented to measure environmental changes resulting from a particular development or activity (Davy & Paradine 1996). These include anticipated and unexpected changes in the environment. Any change from baseline conditions must initiate remedial action, or a change in mitigation or management approach. Performance monitoring could include both the collection of physical data, as well as input from potentially affected neighbours or affected parties.

B.3.1 Baseline data

Environmental Performance Monitoring includes the gathering of baseline data with which the future environmental conditions can be compared.

Baseline data gathered prior to commencement of the Construction Phase, will be used to compare environmental conditions on the site during the Operational Phase of the development, to past (pre-development) conditions. It should be noted that the development footprint falls within already modified areas.

B.3.2 Interested and Affected parties

Neighbours and parties affected by the development must be afforded opportunity to comment on problems and impacts that they may experience as a result of the development, during the Operational Phase of the project. A complaints register must be kept which details such comments, as well as the intervention initiated to address the comment or complaint, where appropriate. These comments will be used to adapt and improve existing mitigation measures.

B.3.3 Monitoring

Once the facility becomes operational the following must be monitored:

- Annual monitoring of the extent and location of alien invasive plants.
- Quarterly monitoring of the extent and location of erosion features around the development footprint (or after heavy rainfall events).

Information gathered during monitoring exercises, as well as the action taken, or operational adjustments made; must be recorded and these reports made available at the request of the DEDEAT.

It is anticipated that the person responsible for the implementation of the OEMPr will also be responsible for environmental monitoring and record keeping for the duration of the project lifetime.

B.4 LEGAL ENFORCEABILITY

This EMPr is likely to be a condition of the EA, should authorisation for the activity be granted. As such it is a legally binding agreement between the applicant, as well as all his/ her sub-contractors, and the DEDEAT. The EMPr must be included in the contracts (tender documents or otherwise) entered into by the owner/ developer and any subcontractors. This will ensure that subcontractors have a legal obligation to abide by the conditions set out in the EMPr. Should it be found that additional codes of conduct for contractors need to be included in this EMPr, this must be done at the first review opportunity.

B.5 IMPLEMENTATION SCHEDULE AND REPORTING

The management measures outlined for the Operational Phase of the development will take effect as soon as the facility becomes operational (i.e. once the Solar PV Facility has been constructed and associated infrastructure installed).

Erosion management, alien plant management and stakeholder input reports will be kept as outlined in Section B.3.3 above and be made available at the request of the DEDEAT.

Environmental audit reports, as well as reviewed amended EMPr reports will be kept up to date so that they can be made available at the request of the DEDEAT.

B.6 AUDIT PROCEDURE AND EMPR REVIEW SCHEDULE

Once the Solar PV Facility is operational, the landowner must comply with all statutory legislation, as well as all of the recommendations as set out in the Basic Assessment Report. An annual audit must be conducted by a suitably qualified independent ECO, appointed by the landowner during the Operational Phase. These audits must assess the effectiveness of existing management and mitigation measures, and compliance with the OEMPr and conditions of the EA. The findings of the audit reports must feed into the EMPr ensuring that management and mitigation measures are adjusted and updated to ensure that impacts are managed effectively and efficiently. Audit reports must be made available to DEDEAT, at their request.

B.7 ENVIRONMENTAL EDUCATION

Environmental education must be provided as part of the environmental induction process for the labourers that will be employed on site during the Operational Phase of the development.

Environmental induction will be facilitated by the SEM or Site Manager if no SEM is appointed for the site.

Environmental induction training must include the relevant requirements of the BA Report, EMPr and EA, and must include at a minimum:

- Quarterly erosion monitoring.
- Annual alien invasive species inspection and removal.

Weekly toolbox talks must comment on environmental issues on which non-compliance has been noted during periodic audits.

B.8 REFERENCES

DEAT (2004) Environmental Management Plans, Integrated Environmental Management, Information Series 12, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

A. Davy & Paradine, P. 1996. Environmental Performance Monitoring and Supervision. Environmental Assessment Source Book – Update. World Bank Environment Department. Pp. 8.

Appendix One – Identification of Archaeological Features and Material from Inland Areas: Guidelines and Procedures for Developers

Human Skeletal material

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general human remains are buried in a flexed position on their side, but are also found buried in a sitting position with a flat stone capping. Developers are requested to be on alert for the possibility of uncovering such remains.

Freshwater mussel middens

Freshwater mussels are found in the muddy banks of rivers and streams and were collected by people in the past as a food resource. Freshwater mussel shell middens are accumulations of mussel shell and are usually found close to rivers and streams. These shell middens frequently contain stone tools, pottery, bone, and occasionally human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m^2 in extent, should be reported to an archaeologist.

Large stone cairns

They come in different forms and sizes, but are easy to identify. The most common are roughly circular stone walls (mostly collapsed) and may represent stock enclosures, remains of wind breaks or cooking shelters. Others consist of large piles of stones of different sizes and heights and are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning is not fully understood, however, some are thought to represent burial cairns while others may have symbolic value.

Stone artefacts

These are difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been distributed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologists notified.

Fossil bone

Fossil bones may be found embedded in geological deposits. Any concentrations of bones, whether fossilized or not, should be reported.

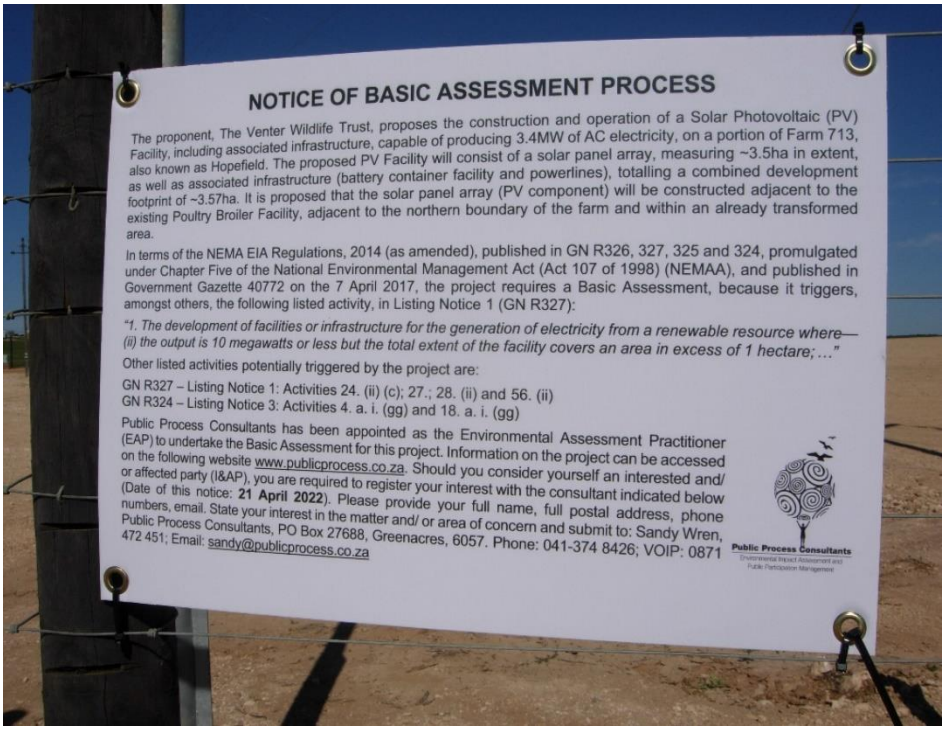
Historical artefacts or features

These are easy to identify and include foundations of buildings or other construction features and items from domestic and military activities.

APPENDIX G: OTHER INFORMATION

APPENDIX G (i): SITE NOTICE BOARD AND NEWSPAPER ADVERTISEMENT

The site notice board placed at the entrance to Farm 713 (33°25'26.84"S; 25°38'59.28"E).



Close-up of the site notice board placed at the entrance to Farm 713.

LEGAL NOTICES

NOTICE OF BASIC ASSESSMENT PROCESS

—

The project proponent, The Venter Wildlife Trust, proposes the construction and operation of a Solar Photovoltaic (PV) Facility, capable of producing 3.4MW of AC electricity, on a portion of Farm 713, known as Hopefield, in the Sundays River Valley Municipality. The proposed PV facility will consist of a solar panel array, measuring ~3.5ha in extent, as well as associated infrastructure (battery container facility and powerlines), totalling a combined development footprint of ~3.57ha.

In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment, because it triggers, amongst others, the following listed activities, in Listing Notice 1 (GN R327):

"1. The development of facilities or infrastructure for the generation of electricity from a renewable resource where—

(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;..."

Other listed activities potentially triggered by the project are:

GN R327 – Listing Notice 1: Activity 24. (ii). (c); 27. and 28. (ii)

GN R324 – Listing Notice 3: Activities 4. a. i. (gg) and 18. a. i. (gg)

Public Process Consultants has been appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment for this project. Information on the project can be accessed on the website www.publicprocess.co.za. Should you consider yourself an interested and/ or affected party (I&AP), you are required to register your interest with the consultant indicated below during the comment period, which extends from 21 April 2022 to 24 May 2022. Please provide your full name, full postal address, phone numbers, email and state your interest in the matter and/ or area of concern and submit to: Sandy Wren, Public Process Consultants, PO Box 27688, Greenacres, 6057. Phone: 041-374 8426; VOIP: 0871 472 451; Email: sandy@publicprocess.co.za

Newspaper advertisement placed in "The Herald" on the 21 April 2022

APPENDIX G (ii): DATABASE OF I&APS

THE I&AP DATABASE HAS BEEN SENT DIRECTLY TO THE COMPETENT AUTHORITY AND WILL NOT BE INCLUDED IN THIS REPORT IN ORDER TO COMPLY WITH THE PROTECTION OF PERSONAL INFORMATION ACT (ACT NO. 14 OF 2013) (POPIA)

PROJECT ANNOUNCEMENT AND REGISTRATION PHASE

- **EMAIL: NOTICE OF INTENTION TO COMMENCE WITH BA PROCESS TO DEDEAT**

From: Emily Whitfield
Sent: Thursday, April 21, 2022 1:08 PM
To: [redacted]
Cc: Sandra Wren; Dayalan Govender; Charmaine Struwig; JP Hechter
Subject: RE: NOTICE OF INTENTION TO COMMENCE WITH A BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A NEW SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON PORTION OF FARM 713, KNOWN AS HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY
Attachments: Disco PV - BID - final - 21Apr2022.pdf; Disco 2 PVs - Locality Map - final - 14Apr2022.jpg; Disco PVs - DEDEAT - BAR Notification - final - 21April2022.pdf; Disco 2 PVs - Comment Form - final - 21April2022.pdf

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041-3748426
Email sandy@publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273

21 April 2022

Attention: Mr Andries Struwig
[redacted]

Dear Sir,

RE: NOTICE OF INTENTION TO COMMENCE WITH A BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A NEW SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON PORTION OF FARM 713, KNOWN AS HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY

In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, this serves as notification to the competent authority, in this case, the Provincial Department of Economic Development, Environmental Affairs and Tourism, Sarah Baartman Region, that a Basic Assessment Process is being conducted on behalf of The Venter Wildlife Trust (the project proponent), for the proposed construction of a new Solar Photovoltaic Facility on a portion of Farm 713, known as Hopefield, Sundays River Valley Municipality.

PROJECT PROPONENT

The Venter Wildlife Trust

PROJECT NAME

Disco 2 Solar Photovoltaic Facility: Proposed Construction of a Solar Photovoltaic Facility and Associated Infrastructure, on a portion of Farm 713, known as Hopefield, Sundays River Valley Municipality.

PROJECT LOCALITY

Farm 713 is located ~ 7km north of Sunland and approximately 8.5km north-west of Addo, in the Sundays River Valley Municipality. The Farm can be accessed via the DR02006 gravel road (Enon Road), at its intersection with the Slagboom road (MN50605). The nearest boundary of the Addo Elephant National Park is approximately ~5.4km from the boundary of the farm and ~7.6km from the proposed development footprint. The attached locality map provides an overview of the location of the proposed development.

BRIEF PROJECT DESCRIPTION

The proponent, The Venter Wildlife Trust, proposes the construction and operation of a new Solar Photovoltaic (PV) Facility, including associated infrastructure, capable of producing 3.4MW of AC electricity on a portion of Farm 713, also known as Hopefield, Sundays River Valley Municipality. The Farm measures ~554ha in extent and is currently zoned Agriculture 1. Farm 713 is a working farm and is currently used for commercial production of citrus and a Poultry Broiler Facility. The PV facility will consist of a solar panel array, measuring approximately 3.5ha in extent, as well as associated infrastructure (battery container facility and powerlines), for a total development footprint of ~3.57ha. It is proposed that the solar panel array (PV component) will be constructed adjacent to the existing Poultry Broiler Facility, adjacent to the northern boundary of the farm and within an already transformed area. Therefore, it is not anticipated that any indigenous vegetation will be removed for the proposed development. The PV facility will be grid-tied meaning electricity produced at the facility will be fed into the Eskom grid as part of a Wheeling Agreement with the electricity utility. In addition to the solar PV area, electrical cables must be installed from the PV panels and the battery container facility to the existing Eskom transformers on site, as well as to an MV (Medium Voltage) point. The exact footprint size and location of the various project components will be confirmed through this assessment process. For more detail on the proposed development, please see the accompanying Background Information Document.

APPLICABLE LEGISLATION

The Basic Assessment process is being undertaken in terms of the NEMA EIA Regulations, 2014 (as amended): GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017. The need for a Basic Assessment is triggered by the inclusion of activities listed in Listing Notice 1 (GN R327), namely:

"1. The development of facilities or infrastructure for the generation of electricity from a renewable resource where—
(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;…"

Other listed activities potentially triggered by the project are:
GN R327 – Listing Notice 1: Activity 24. (ii). (c); 27.; 28. (ii) and 56 (ii)
GN R324 – Listing Notice 3: Activities 4. a. i. (gg) and 18. a. i. (gg)

Public Process Consultants has been appointed by The Venter Wildlife Trust (the proponent), as the Environmental Assessment Practitioner to undertake the Basic Assessment, including Public Participation. The purpose of this letter is to notify the competent authority of the intention to submit an application for Environmental Authorisation in respect of the above project, as well as commence with the Basic Assessment process for the proposed project.

Please find attached with this correspondence the following documentation:

- An electronic copy of the Background Information Document
- Locality Map
- Comment Form

All I&APs and affected/ Juristic Organs of State and State Departments registered on the project database for the above project will be informed of the intention to commence with a Basic Assessment process and the legislated 30-day comment period.

We trust that you will find the above in order. Please do not hesitate to contact Sandy, JP or Emily at the contact details above should you have any comments or queries with regards to this submission.

Regards,

Sandy Wren
Environmental Assessment Project Leader

Regards,
Emily Whitfield (BSc Hons)

Public Process Consultants
120 Diaz Road
Adcockvale
Gqeberha
Phone: 041 374 8426 / Cell: 083 233 5612
VOIP - 0871 472 451
Website: www.publicprocess.co.za

- **LETTER 1 TO I&APS – NOTICE OF BASIC ASSESSMENT**

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426; VOIP 087 147 2451
Email sandy@publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273

21 April 2022

Dear Interested and Affected Party / Organ of State / State Department

RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY

In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (as amended), you have been identified as an interested and/ or affected party (I&AP) for the above proposed project. The project proponent, The Venter Wildlife Trust, proposes the construction and operation of a Solar Photovoltaic (PV) Facility, including associated infrastructure, capable of producing 3.4MW of AC electricity, on a portion of Farm 713, known as Hopefield, in the Sundays River Valley Municipality.

In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment (BA), because it triggers, amongst others, the following listed activity, in Listing Notice 1 (GN R327):

"1. The development of facilities or infrastructure for the generation of electricity from a renewable resource where—
(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;"

Public Process Consultants has been appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment Report process for this project. In order to ensure that any issues and/ or concerns you may have, are included in the **Consultation Basic Assessment Report**, you are kindly requested to submit your comments to the Environmental Assessment Practitioner indicated above, during the comment period, which extends from the **21 April 2022 to 24 May 2022.**

Availability of Information

To assist you with the submission of any comments you may have, please find attached to this correspondence, a **Background Information Document**, a **Comment Form** and a **Locality Map**. If at any stage your contact details change it is the responsibility of the I&AP to notify the EAP of such changes. Information can also be accessed via the following link: https://publicprocess.co.za/active-projects/36-disco-2-pv

Please refer to the accompanying BID for an explanation of how compliance with the requirements of the Protection of Personal Information Act 4 of 2013 (POPIA) is being ensured.

We look forward to your input and participation in this process. Should you have any comments or queries regarding the above please do not hesitate to contact Sandy Wren, JP Hechter or Emily Whitfield using the contact details provided above.

Yours sincerely

SANDY WREN
EIA PROJECT LEADER

- **EMAIL TO I&APS – LETTER 1: NOTICE OF BASIC ASSESSMENT**

From: Emily Whitfield
Sent: Thursday, April 21, 2022 1:14 PM
Cc: Sandra Wren
Subject: RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY
Attachments: Disco 2 PVs - Comment Form - final - 21April2022.pdf; Disco 2 PVs - Let1 - final - 21April2022.pdf; Disco PV - BID - final - 21Apr2022.pdf; Disco 2 PVs - Locality Map - final - 14Apr2022.jpg

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426; VOIP 087 147 2451
Email sandy@publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273

21 April 2022

Dear Interested and Affected Party / Organ of State / State Department

RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY
In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (as amended), you have been identified as an interested and/ or affected party (I&AP) for the above proposed project. The project proponent, The Venter Wildlife Trust, proposes the construction and operation of a Solar Photovoltaic (PV) Facility, including associated infrastructure, capable of producing 3.4MW of AC electricity, on a portion of Farm 713, known as Hopefield, in the Sundays River Valley Municipality.

In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment (BA), because it triggers, amongst others, the following listed activity, in Listing Notice 1 (GN R327):

"1. The development of facilities or infrastructure for the generation of electricity from a renewable resource where—
(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;"

Public Process Consultants has been appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment Report process for this project. In order to ensure that any issues and/ or concerns you may have, are included in the **Consultation Basic Assessment Report**, you are kindly requested to submit your comments to the Environmental Assessment Practitioner indicated above, during the comment period, which extends from the **21 April 2022 to 24 May 2022.**

Availability of Information

To assist you with the submission of any comments you may have, please find attached to this correspondence, a **Background Information Document**, a **Comment Form** and a **Locality Map**. If at any stage your contact details change it is the responsibility of the I&AP to notify the EAP of such changes. Information can also be accessed via the following link: https://publicprocess.co.za/active-projects/36-disco-2-pv

Please refer to the accompanying BID for an explanation of how compliance with the requirements of the Protection of Personal Information Act 4 of 2013 (POPIA) is being ensured.

We look forward to your input and participation in this process. Should you have any comments or queries regarding the above please do not hesitate to contact Sandy Wren, JP Hechter or Emily Whitfield using the contact details provided above.

Yours sincerely

SANDY WREN
EIA PROJECT LEADER

Regards,
Emily Whitfield (BSc Hons)

Public Process Consultants
120 Diaz Road
Adcockvale
Gqeberha
Phone: 041 374 8426 / Cell: 083 233 5612
VOIP - 0871 472 451
Website: www.publicprocess.co.za

Public Process Consultants
Environmental Impact Assessment and Public Participation Management

- **COMMENT FORM MAILED WITH LETTER 1**

BASIC ASSESSMENT PROCESS

Pre-Application Comment and Registration Form

Proponent:	The Venter Wildlife Trust
Project Name:	Disco 2 Solar Photovoltaic Facility
Project Description:	Proposed Construction of a new Solar Photovoltaic Facility on a portion of Farm 713, also known as Hopefield, Sundays River Valley Municipality.
Primary Listed Activity:	GN R327 (Listing Notice 1) Activity No. 1(ii)

Return Completed Reply Form to:

Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 – 374 8426, VOIP 087 147 2451 or Email sandy@publicprocess.co.za

Complete all Relevant Sections Below and Return by: 24 May 2022

Please provide your full contact details:

FIRST NAME:	*SURNAME:*
ORGANISATION:	*TITLE/ POSITION:*
POSTAL ADDRESS:	
CODE:	
PHONE:	*FAX:*
CELL:	*EMAIL:*

Would you like to register as an interested and affected party? (please tick the appropriate box)

YES	
NO	

NOTE:
- You are required to register as an I&AP in order to receive further correspondence regarding the EIA Process.
- Please refer to the accompanying Background Information Document for an explanation of how compliance with the requirements of the Protection of Personal Information Act 4 of 2013 (POPIA) is being ensured.

Please clearly state any interest you may have in the project and/ or list issues, comments, or questions you may have (use additional pages if required).

- **BACKGROUND INFORMATION DOCUMENT MAILED WITH LETTER 1**

BASIC ASSESSMENT PROCESS

Disco 2 Solar Photovoltaic Facility: *Proposed Construction of a Solar Photovoltaic Facility and Associated Infrastructure, on a portion of Farm 713, Hopefield, Sundays River Valley Municipality.*

Public Process Consultants
Environmental Impact Assessment and Public Participation Management

BACKGROUND INFORMATION DOCUMENT, April 2022

INTRODUCTION

The project proponent, The Venter Wildlife Trust, proposes the construction and operation of a Solar Photovoltaic (PV) Facility, including associated infrastructure, capable of producing 3.4MW of AC electricity, on a portion of Farm 713, known as Hopefield, in the Sundays River Valley Municipality. The farm measures approximately ~554ha in extent and is currently zoned Agriculture 1. Farm 713 is a working farm and is currently used for commercial production of citrus and a Poultry Broiler Facility.

The proposed PV facility will consist of a solar panel array, measuring approximately 3.5ha in extent, as well as associated infrastructure (battery container facility and powerlines), totalling a combined development footprint of ~3.57ha. The PV facility will be grid tied meaning electricity produced at the facility will be fed back into the Eskom grid as part of a Wheeling Agreement with the electricity utility. It is proposed that the solar panel array (PV component) will be constructed adjacent to the existing Poultry Broiler Facility, adjacent to the northern boundary of the farm and within an already transformed area. Therefore, it is not anticipated that any indigenous vegetation will be removed for the proposed development.

In addition to the solar PV area, electrical cables must be installed from the PV panels and the battery container facility to the existing Eskom transformers on site, as well as to an MV (Medium Voltage) point. The exact footprint size and location of the various components of the PV facility will be confirmed through this assessment process.

In terms of the NEMA EIA Regulations, 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment Report (BAR). The proponent has appointed Public Process Consultants as the independent Environmental Assessment Practitioner (EAP) to undertake this BAR assessment, including public participation for this project.

PROJECT LOCALITY

Farm 713 is located ~ 7km north of Sunland and approximately 8.5km north-west of Addo, in the Sundays River Valley Municipality. The farm can be accessed via the DR02006 gravel road (Enon Road), at its intersection with the Slagboom road (MN50605). The nearest boundary of the Addo Elephant National Park is approximately ~5.4km from the boundary of the farm and ~7.6km from the proposed development footprint. The attached locality map provides an overview of the location of the proposed development (see attached locality map).

HOW CAN I PARTICIPATE IN THIS ENVIRONMENTAL ASSESSMENT PROCESS?

In terms of regulation 42(b) of Government Notice R326, Interested and Affected Parties (I&APs) are to request in writing, that their names be placed on the register of I&APs. To register on the database, complete the comment and registration form included with this correspondence or submit your contact details (via email), stating your full name, address and contact numbers, to the consultant indicated in this documentation. In terms of regulation 43(1), a registered I&AP is entitled to comment in writing on all reports and plans submitted as part of the Public Participation Process and raise any issues which may be of significance to the consideration of the application. Additionally, I&APs are required to disclose any direct business, financial, personal or other interest which they may have in the approval or refusal of the application. By registering on the project database, you will be notified as and when information on the project is available for I&AP review and comment.

Compliance with the Protection of Personal Information Act 4 of 2013

The Protection of Personal Information Act 4 of 2013 (POPIA) was enacted to give effect to the constitutional right to privacy by safeguarding personal information processed by a responsible party. You have been identified as a potential Interested and Affected Party (I&AP) for this assessment process. As required by Regulation 42 of the NEMA EIA Regulations, 2014 (as amended), your name and interest in this assessment process, as well as your contact information (e.g., telephone number, email address and postal address) will be placed on a register of I&APs for the duration of the assessment process, which must be submitted to the competent authority, DEDEAT (Sarah Baartman Region). The I&AP register will not be included in the reports which will be released for public review, nor will it be provided to any other third parties without your explicit consent. However, please be aware that, in terms of Regulation 4 (1) of the National Appeal Regulations, 2014, the I&AP register must be supplied to any individual who lodges an appeal against an Environmental Authorisation. Therefore, if an individual appeals the Environmental Authorisation, should one be granted, Public Process Consultants will be legally required, to supply the appellant with the I&AP register, including your contact information, as outlined above. Should you not want your name to be included in the I&AP register, please specifically request to be de-registered. In which case you will no longer receive correspondence regarding this assessment process. In compliance with Regulation 44 of the EIA Regulations, any information contained in comments made during the assessment process must be included in the reports that are made available for public review. However, this will not include your personal contact information. Therefore, please note that should you wish to remain on the register and/or make comments during the assessment process it will be accepted

that you have **given consent for your name and interest in the assessment to be included in reports and for your contact information to be provided to DEDEAT as well as an appellant, should an appeal be lodged.**

WHAT DOES THIS DOCUMENT TELL YOU?

This document provides you, as an I&AP, with background information on the proposed Solar Photovoltaic Facility development, as well as the Basic Assessment and Public Participation Process. It indicates how you can become involved in the assessment process, receive information and raise issues that may interest and/ or concern you. The sharing of information forms an important component of the Public Participation Process and provides you with the opportunity to become actively involved in the EIA Process from the outset. The input received from I&APs together with scientific and technical investigations assists the competent authority, in this instance the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), Sarah Baartman Region, with their decision-making.

WHAT DOES THE PROJECT ENTAIL?

It is the intention of the proponent to construct and operate a 3.4MW solar Photovoltaic (PV) facility, including associated infrastructure, on a portion on Farm 713. The PV facility will consist of a solar panel array, with an anticipated footprint of ~3.5ha and associated infrastructure (i.e., battery container facility and power cables), totalling a combined development footprint of ~3.57ha. In addition to the solar PV area, electrical cables must be installed from the PV panels and the battery container facility to the existing Eskom transformers on site, as well as to an MV (Medium Voltage) point.

Associated with the proposed PV Facility are the following project activities:

Preparation of the site, levelling, runoff control measures, and stormwater management
Installation of the solar Photovoltaic array (panels) (~3.5ha)
Establishment of battery container facility, and possible installation of inverter in container (~300m^2)
Installation of underground cables connecting the PV facility with existing transformers on the farm
Establishment of 22kV overhead private powerline (~2.2km) connecting the PV facility with an existing MV point
Establishment/ expansion of internal access roads
Securing the facility including erection of a fence

The location and size of the preferred development footprints will be determined through specialist and technical input, authority consultation, as well as consultation with I&APs. However, it is proposed that the facility and associated components will be constructed within a portion of the farm that has already been transformed and therefore it is anticipated that no additional indigenous vegetation will be cleared in order to accommodate the various components described above.

ALTERNATIVES AND SITE SELECTION

A key component of the EIA Process is the identification and assessment of reasonable and feasible alternatives. The following alternatives have been identified and will be considered in the assessment process:

- No-go alternative
- Layout/ footprint alternatives
- Alternatives as identified by I&APs

Reasonable and feasible alternatives as raised by I&APs, specialists and the technical team will be considered in the assessment process.

OVERVIEW OF THE SCOPING AND ENVIRONMENTAL IMPACT ASSSESSMENT PROCESS

In terms of the NEMA EIA Regulations 2014 (as amended), published in GN R326, 327, 325 and 324, promulgated under Chapter Five of the National Environmental Management Act (Act 107 of 1998) (NEMAA), and published in Government Gazette 40772 on the 7 April 2017, the project requires a Basic Assessment, and Environmental Authorisation is required prior to the commencement of any activities on site. The table below lists potential listed activities in GN R327, 325 and 324, which trigger the need for a Basic Assessment. A cautious approach has been adopted towards the identification of listed activities. Where there is currently uncertainty with regards to the applicability of a listed activity, it has been included in the table below.

EIA Regulations (2014), as amended	Project Component
GN R327 (Listing Notice 1)	
"1. The development of facilities or infrastructure for the generation of electricity from a renewable resource where— *(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;*	It is proposed that the solar photovoltaic facility will be constructed with a capacity to produce ~3.4MW of AC electricity. It is proposed that the footprint of the PV array area will be ~3.55ha in extent and, including associated infrastructure, will total a combined development footprint of ~3.57ha. **This listed activity will require Environmental Authorisation**
"24. The development of a road— *(ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;* *but excluding a road—*	It is anticipated that the PV facility will require the construction of internal roads in order to gain access to the project components and solar panels for maintenance and cleaning purposes. The internal access roads are anticipated to range between 4 and 8 meters in width, and the combined length of the roads

(c) which is 1 kilometre or shorter."	could exceed 1 kilometer in length. The exact dimensions of internal roads will be confirmed through the assessment process. **This listed activity may require Environmental Authorisation.**
"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— "	The total development footprint for the PV Facility, including associated infrastructure, is estimated to be ~3.57ha. The PV facility is proposed to be constructed on a portion of Farm 713, adjacent to the northern boundary within existing cleared areas, and therefore, it is not anticipated that additional indigenous vegetation will be required to be cleared for the development, however, this will be confirmed by the terrestrial biodiversity specialist. **The applicability of this listed activity will be determined through this assessment process**
"28. Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: *(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;"*	The PV facility will be grid-tied as part of a wheeling agreement with Eskom and will provide electricity security for existing operations on the farm. The farm is currently utilized for agriculture (citrus, and a Poultry Broiler Facility) and the solar PV facility might be considered to be an "industrial" development. The farm falls outside of an urban area. The combined development footprint is proposed to be bigger than 1 hectare (~3.57ha). **This listed activity may require Environmental Authorisation.**
"56. The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre— *(ii) where no reserve exists, where the existing road is wider than 8 metres;"*	It is anticipated that the PV facility will require internal roads in order to gain access to the project components and solar panels for maintenance and cleaning purposes. These may tie in with existing internal access roads provided for the Poultry Broiler facility. Therefore, existing internal access roads for the Broiler facility may be expanded to connect to the PV facility, and the combined length may exceed 1 kilometer in length. The exact dimensions of internal roads for the PV facility will be confirmed through the assessment process. **The applicability of this listed activity will be determined through the assessment process.**
GN R324 (Listing Notice 3)	
"4. The development of a road wider than 4 metres with a reserve less than 13,5 metres. ***a. Eastern Cape*** *i. Outside urban areas:* *(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve, excluding disturbed areas;*	It is anticipated that the PV facility will require internal roads in order to gain access to the project components and solar panels for maintenance and cleaning purposes. It is expected that the internal roads will range between 4 and 8 meters in width. The area proposed for development is in the Eastern Cape, falls outside of an urban area and within 7.6 kilometers of the nearest boundary of the Addo Elephant National Park. **The applicability of this listed activity will be determined through the assessment process.**
"18. The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. ***a. Eastern Cape*** *i. Outside urban areas:* *(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;*	It is anticipated that the PV facility will require internal roads in order to gain access to the project components and solar panels for maintenance and cleaning purposes. These may tie in with existing internal access roads provided for the Poultry Broiler facility. Therefore, existing internal access roads for the Broiler facility may be expanded to connect to the PV facility, and the combined length may exceed 1 kilometer in length. The area proposed for development is in the Eastern Cape, falls outside of an urban area and within 7.6 kilometers of the nearest boundary of the Addo Elephant National Park. The exact dimensions of internal roads for the PV facility will be confirmed through the assessment process.

	The applicability of this listed activity will be determined through the assessment process.

The applicability of all the listed activities indicated above will be determined through the assessment process. The listed activities require Environmental Authorisation from the DEDEAT, prior to the commencement of any activities on the site.

The Basic Assessment Process (BA) needs to show the competent authority, DEDEAT, and the project proponent, what the consequences of their choices will be in biophysical, social and economic terms. Public involvement forms an important component of this process, by assisting in the identification of issues and alternatives to be evaluated. The Basic Assessment Process being implemented can be divided into the following phases, namely:

- **Pre-Application Phase**
  - Notification To DEDEAT
  - Project Announcement and Registration of I&APs (30 days) (**We Are Here**)
  - Preliminary Specialist input
- **Application and Basic Assessment Phase**
  - Submission of Application Form for Environmental Authorisation to the DEDEAT
  - Consultation Basic Assessment Report Review (30 days)
  - Submission of Final Basic Assessment Report to the DEDEAT
- **Decision Making and Appeal Period**
  - Notice to I&APs of decision and appeal period

To meet the timeframes as prescribed in the EIA Regulations 2014 (as amended), specialist studies to be included as part of this assessment process will commence in parallel to the application phase. The following specialist studies are proposed to be undertaken for this assessment:

- Terrestrial Biodiversity Compliance Statement
- Aquatic Biodiversity Compliance Statement
- Desktop Visual Impact Assessment

PHASE 1: PRE-APPLICATION PHASE (*CURRENT STAGE*)

Project Announcement and Registration of I&APs

The first stage in the process entails notification to the DEDEAT, as well as interested and affected parties (I&APs) of the intention to proceed with the Basic Assessment Process. Identified I&APs are provided with a Background Information Document (BID) on the project, a locality map and a comment form. An advertisement will be placed in a local newspaper and a site notice board will be erected at the site. I&APs are required to register their interest in the project to receive further project information. I&APs will be provided with a **30-day** period in which to register their interest on the project database and raise any issues for inclusion in the Consultation Basic Assessment Report (CBAR).

In terms of the NEMA EIA Regulations, 2014 (as amended), the objective of the Basic Assessment Report is to amongst others, through a conservative process.

Determine policies and legislation relevant to the activity
Identify alternatives considered
Describe the needs and desirability of the proposed alternatives
Undertake an impact and risk assessment process focusing on the Geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the site
Based on the impact assessment determine the prefer alternative, identify, suitable mitigatory measures and any residual risks that need to be managed or monitored

PHASE 2: APPLICATION AND BASIC ASSESSMENT PHASE

Application form and Consultation Basic Assessment Report

In parallel with the compilation of and submission of the Application Form, the CBAR will be compiled, which will include a Comments and Responses Trial – Indicating the issues and concerns raised by I&APs during the 30-day project announcement period (PHASE 1: Pre-Application Phase).

Subsequent to the submission of the Application Form to the competent authority, the CBAR will be released for a minimum, legislated 30-day comment period. All registered I&APs will be notified in writing of the opportunity to comment. In order to assist I&APs with their understanding of the project and to facilitate the identification of issues for inclusion in the Final Basic Assessment Report (FBAR), I&APs will be provided with an executive summary of the CBAR, as well as a comment form. Copies of the report will also be made available on the project website www.publicprocess.co.za.

Final Basic Assessment Report submission

The FBAR, including the Comments and Responses Trail and EMPr, will be compiled for submission to the competent authority (DEDEAT: Sarah Baartman District) for their consideration. Where a BA is applied to an application, *the applicant must within 90 days of receipt of the application by the competent authority, submit to the competent authority a BA Report, inclusive of specialist studies, which have been subjected to a 30-day Public Participation Process.* This BA Report should include all comments received during the 30-day comment period. All I&APs on the project database will be notified in writing of the submission of the FBAR.

PHASE 3: DECISION MAKING AND APPEAL PERIOD

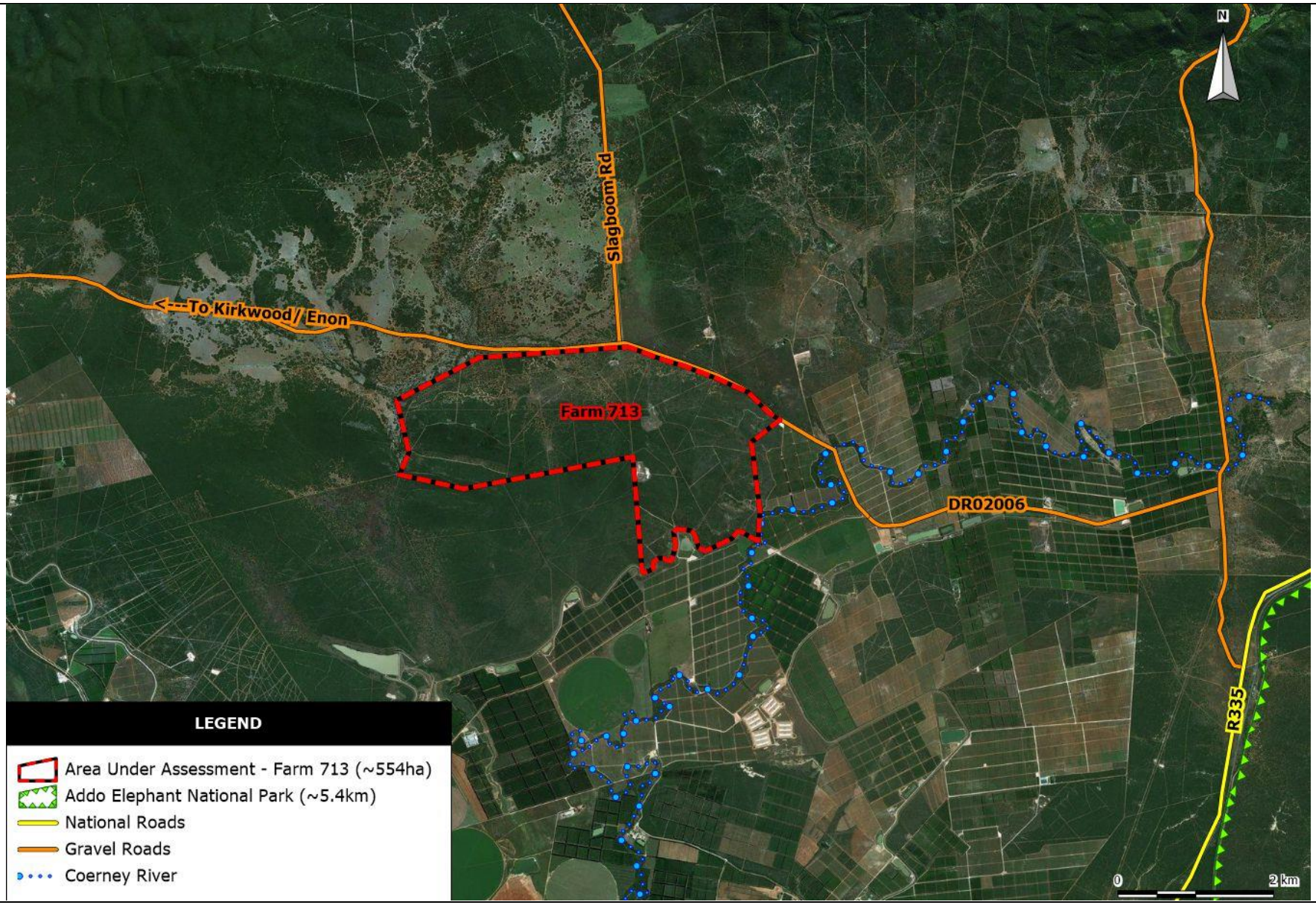
The competent authority must, within 107 days of receipt of the BA Report, grant of refuse Environmental Authorisation. The applicant must, within 14 days of the date of the decision, notify all registered I&APs of the decision and provide them access to the decision and reasons for the decision and reasons for the decision, as well as indicate the manner of appeal.

WHAT IS YOUR ROLE AS AN I&AP?

1. I&APs are required to respond to the letters of notification and/ or newspaper advertisements and register their interest on the project database.
    - By emailing or mailing a comment form to the Environmental Impact Assessment Practitioner (EAP) indicated below.
    - By registering your interest in the project, you will be kept informed throughout the Scoping and EIA Process and will be notified of any opportunities to comment.
2. I&APs are required to state their area of interest and/ or concern in the matter.
    - By emailing or mailing a comment form to the EAP indicated below.
    - By telephonically contacting the EAP if you have a query, comment, or require further project information.
    - By reviewing the Draft Reports and submitting any comments/ issues within the specified comment periods.

WHO SHOULD YOU CONTACT?

Sandy Wren,
Public Process Consultants
PO Box 27688,
Greenacres, 6057.
Phone 041-374 8426;
Email: sandy@publicprocess.co.za
Information on the project can be downloaded from the following website: www.publicprocess.co.za



Locality of Farm 713, Hopefield, in relation to major roads, towns and the Addo Elephant National Park, in the Sundays River Valley Municipality.

PROJECT ANNOUNCEMENT AND REGISTRATION PHASE

From: Howard Blane <[redacted]>
Sent: Thursday, April 21, 2022 1:35 PM
To: Emily Whitfield <emily@publicprocess.co.za>
Subject: RE: RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY

Good Afternoon Emily

Eskom is an affected and interested party with regards this application.

Regards

Howard Blane
Land & Right Manager
Eskom Dx – East London

From: Siqiti, Khulile <[redacted]>
Sent: Tuesday, May 3, 2022 10:49 AM
To: Emily Whitfield; Moore, Randall
Cc: Sandra Wren
Subject: RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY

Hi Emily,

Thank you very much.

Regards

From: Moore, Randall <[redacted]>
Sent: Monday, April 25, 2022 8:57 AM
To: Siqiti, Khulile <[redacted]>
Cc: Emily Whitfield <emily@publicprocess.co.za>; Sandra Wren <sandy@publicprocess.co.za>
Subject: FW: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY

Hello Khulile

Please register as an I&AP. The site is adjacent to DR02006 and will have to be maintained during the construction phase

Randall Moore
District Roads Engineer
SARAH BAARTMAN DISTRICT

From: Gcinile Dumse <[redacted]>
Sent: 03 May 2022 09:55 AM
To: Sandra Wren <sandy@publicprocess.co.za>
Subject: DLSM COMMENTS PROPOSED SOLAR PHOTOVOLTANIC FACILITIES

Good Morning Sandy

Please find the attached comments for proposed Disco 2 and Middledrift Solar Photovoltanic facilities.

Regards

Gcinile P. Dumse
Designation: Resource Auditor (Umphicothi)
District: Nelson Mandela Metro & Sara Baartman DM
Agriculture, Land Reform & Rural Development
Directorate: Land & Soil Management
[redacted]

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BASIC ASSESSMENT PROCESS

Pre-Application Comment and Registration Form

Proponent: The Venter Wildlife Trust

Project Name: Disco 2 Solar Photovoltaic Facility

Project Description: Proposed Construction of a new Solar Photovoltaic Facility on a portion of Farm 713, also known as Hopefield, Sundays River Valley Municipality.

Primary Listed Activity: GN R327 (Listing Notice 1) Activity No. 1(ii)

Return Completed Reply Form to:

Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 – 374 8426, VOIP 087 147 2451 or Email sandy@publicprocess.co.za

Complete all Relevant Sections Below and Return by: 24 May 2022

Please provide your full contact details:

FIRST NAME: GCINILE	*SURNAME:* DUMSE
ORGANISATION: DALRRD	*TITLE/ POSITION:* Resource Auditor
POSTAL ADDRES [redacted]	
CODE: [redacted]	
PHONE: [redacted]	*FAX:*
CELL:	*EMAIL:* [redacted]

Would you like to register as an interested and affected party? (please tick the appropriate box)

YES	✓
NO	

NOTE:

- You are required to register as an I&AP in order to receive further correspondence regarding the EIA Process.
- Please refer to the accompanying Background Information Document for an explanation of how compliance with the requirements of the Protection of Personal Information Act 4 of 2013 (POPIA) is being ensured.

Please clearly state any interest you may have in the project and/ or list issues, comments, or questions you may have (use additional pages if required).

agriculture, land reform & rural development
Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

Directorate: Land and Soil Management
***Postal Address*: Private Bag X 04, TECOMA, East London, 5214** [redacted]

Tel: 0[redacted] **ax:** 0[redacted] **-mail:** G[redacted]
Enquiries: G. P. Dumse **Ref:** 13.10.6.2/Hopefield **Date:** 28 April 2022

Public Process Consultants
PO Box 27688
Greenacres
6057

Proponent: The Venter Wildlife Trust

Email: sandy@publicprocess.co.za

Dear Ms S. Wren

BASIC ASSESSMENT PROCESS, PROPOSED CONSTRUCTION OF A DISCO 2 SOLAR PHOTOVOLTANIC FACILITY ON A PORTION OF FARM 713, KNOWN AS HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY, EASTERN CAPE

The top soil must be removed on all area where physical disturbance may occur, kept separate from the overburden and stockpiled for later rehabilitation. The indigenous grass species that already exist on the site must be used in re-vegetation.

The soil erosion prevention should be carried out progressively and the area must be rehabilitated after the construction activities. A soil erosion plan for monitoring and rehabilitation of erosion events must be in place. The appropriate erosion mitigation measures must form part of this plan to prevent and reduce the risk of any potential erosion.

The weeds control management plan should be developed and maintained to control any declared weeds and invasive alien plants on proposed development site and the immediately surroundings. The control and eradication of declared weeds and invader plants must be done in situ.

Regards,

G P Dumse
Resource Auditor: Sara Baartman & Nelson Mandela Metro
pp. Executive Officer
(Act 43 of 1983)

From: Sandra Wren
Sent: 25 May 2022 10:30 AM
To: Zinzile Mtotywa
Cc: Emily Whitfield; Babalwa Layini; JP Hechter
Subject: RE: RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY
Attachments: Disco 2 - Layout - draft - 30Mar2022.kmz; Farm 713 Boundary.kmz

Hi Zinzile

We acknowledge receipt of your comment below and will ensure that it is included in the Basic Assessment Report for submission to DEDEAT for decision making.

As per our telephonic discussion of this morning please find attached two .kmz files, as follows:

- Farm 713 boundary
- Disco 2 – Layout – draft 30March2022

The mapping software that we use, Manifold, does not have the latest google earth imagery, so I can understand your request for a site visit. We should have georeferenced Manifold with the latest google earth imagery. To provide you with a better understanding of the current state of the site I have attached the .kmz's in google earth which indicates the location of the PV Facility on Farm 713 and gives a much better idea with regards to state of the proposed development footprint. It is highly unlikely that this footprint will change as part of the purpose of the PV facility is to provide electricity to the existing chicken houses on site as well as farm dams. As mentioned this as a relatively small PV Facility for the farmers use on his farm, approximately 3.4 MW and a footprint size of ~3.6 ha.

If you have any queries please don't hesitate to give me a call. We can confirm a site visit during the next stage of the assessment process when the specialist studies have been completed (vegetation compliance statement).

Regards

Sandy Wren (*BA Honours: Development Theory*)
Registered Environmental Assessment Practitioner (No: 2019/1242)
Public Process Consultants
120 Diaz Road, Adcockvale, PE, 6001

PO Box 27688, Greenacres, 6057
Phone - 041 374 8426
VOIP - 0871 472 451
Cell - 082 4909 828
sandy@publicprocess.co.za
www.publicprocess.co.za

From: Zinzile Mtotywa <[redacted]>
Sent: 24 May 2022 09:02 PM
To: Sandra Wren <sandy@publicprocess.co.za>
Cc: Emily Whitfield <emily@publicprocess.co.za>; Babalwa Layini <[redacted]>
Subject: RE: RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY

Good evening Ms . Wren

Please find attached herein is a form to register as I&AP for the project as given in the subject box herein above.

Kind regards

Zinzile Mtotywa
Cell: [redacted]

From: Emily Whitfield <emily@publicprocess.co.za>
Sent: Tuesday, 03 May 2022 16:01
To: Zinzile Mtotywa <[redacted]>; Babalwa Layini <[redacted]>
Cc: Sandra Wren <sandy@publicprocess.co.za>
Subject: FW: RE: NOTICE OF BASIC ASSESSMENT PROCESS: PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE ON A PORTION OF FARM 713, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY

Dear Mr. Zinzile Mtotywa,

We have been informed by Ms. Layini that you should be registered on our I&AP databases as the representative for the department of Forestry. Please see below for the email correspondence sent on 21 April 2022 notifying all I&APs of the Basic Assessment Process being conducted on behalf of the Venter Wildlife Trust for the proposed Solar PV facility on a portion of Farm 713, Hopefield.
The project announcement and registration period extends from 21 April 2022 to 24 May 2022.

Regards,
Emily Whitfield (BSc Hons)
Public Process Consultants
120 Diaz Road
Adcockvale
Gqeberha
Phone: 041 374 8426 / Cell: 083 233 5612
VOIP - 0871 472 451
Website: www.publicprocess.co.za

Public Process Consultants
Environmental Impact Assessment and Public Participation Management

BASIC ASSESSMENT PROCESS

Pre-Application Comment and Registration Form

Proponent:	The Venter Wildlife Trust
Project Name:	Disco 2 Solar Photovoltaic Facility
Project Description:	Proposed Construction of a new Solar Photovoltaic Facility on a portion of Farm 713, also known as Hopefield, Sundays River Valley Municipality.
Primary Listed Activity:	GN R327 (Listing Notice 1) Activity No. 1(ii)

Return Completed Reply Form to:

Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 – 374 8426, VOIP 087 147 2451 or Email sandy@publicprocess.co.za

Complete all Relevant Sections Below and Return by: 24 May 2022

Please provide your full contact details:

FIRST NAME: ZINZILE	*SURNAME:* MTOTYWA
ORGANISATION: DFFE (FORESTRY)	*TITLE/ POSITION:* ASSISTANT DIRECTOR
POSTAL ADDRESS: [redacted]	
CODE: [redacted]	
PHONE: [redacted]	*FAX:*
CELL: [redacted]	*EMAIL:* [redacted]

Would you like to register as an interested and affected party? (please tick the appropriate box)

YES	X
NO	

NOTE:

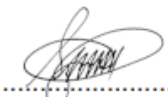
- You are required to register as an I&AP in order to receive further correspondence regarding the EIA Process.
- Please refer to the accompanying Background Information Document for an explanation of how compliance with the requirements of the Protection of Personal Information Act 4 of 2013 (POPIA) is being ensured.

Please clearly state any interest you may have in the project and/ or list issues, comments, or questions you may have (use additional pages if required).

According to the locality map of the project in question, it does however suggest that the site in question might be covered in natural vegetation.
Participation in a determined EIA process will therefore, offer DFFE the opportunity to have access to the reports and specialist studies that will form part of the studies to the completion of the process.
The department's main interest in this regard, pertains to the implementation and compliance to the National Forests Act, Act 84 of 1998 as amended.

A site visit will therefore, be an additional part of our participation to assist the process.

Kind regards



.....
Signature

Date: 24/05/2022

REGISTRATION FORMS FROM MEETINGS HELD

Meeting with representatives of the Department of Forestry, Fisheries and the Environment: Forestry

PROJECT NAME: Disco 2(PV)Site visit - Basic Assessment (DFFE)
DATE: 13 July 2022
TIME START: 12:30 **TIME END:** 13:00

FULL NAME	COMPANY	CELL	EMAIL	SIGNATURE
JP Mechter	PPC	[redacted]		
B. Layini	DFFE			
Z. Mfotywa	DFFE			
E. Whitfield	PPC			

APPENDIX G (v): EAP'S CV

CURRICULUM VITAE (CV)
SANDRA JANE WREN

Name of Firm:	***Public Process Consultants cc.***
Name of Staff:	**SANDY** Jane Wren
Position:	Sole Member (100% ownership)
Profession:	Public Participation Process Specialist and Environmental Impact Assessment Management
Specialisation:	Public participation process design and management for Strategic Environmental Assessments (SEA), Environmental Impact Assessments (EIA's), Policy Development Processes. Client, community liaison and report writing. Environmental Impact Assessment Management.
Languages:	English, excellent speaking, reading, and writing Afrikaans, good speaking, reading and writing

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KEY QUALIFICATIONS

Sandy Wren is a BA graduate from the University of Port Elizabeth (UPE) majoring in Political Science, Sociology and Industrial and Organisational Psychology (**1992**).
Sandy has BA Honours Degree in Development Theory (**2003**) which included courses in Environmental Management and Impact Assessment for which she obtained distinctions.
Project Management for Local Government co-sponsored by the Economic Development Institute of the World Bank, the Universities of Durban/ Westville, Stellenbosch, The Western Cape and Witwatersrand (**1993**)
Confident Communication - Mast Training Consultants (**1995**)
Management by Objectives

PROFESSIONAL EXPERIENCE

From Current

May 1997 to PRESENT Public Process Consultants (Sole Owner/ Manager)

In May 1997, Sandy opened Public Process Consultants, which initially specialised in the management of public participation for Environmental Impact Assessments (EIA's), Strategic Environmental Impact Assessments (SEA's) and Policy Development for Local, Provincial as well as National Government. Public Process Consultants is a balanced team offering extensive experience in the design and management of Environmental Impact Assessments coupled with expertise in and sensitivity towards the biophysical environment as well as the need for social and economic development. Public Process Consultants offer above average report writing and administration skills. As the sole owner and Manager of Public Process Consultants, Sandy is responsible for the following with regards to Environmental Impact Assessments:

Client liaison, review of project description in order to determine relevant listed activities for Basic Assessment and/ or Environmental Impact Assessment as well as integrated applications (Waste License)
Review of relevant biodiversity planning frameworks, site review and identification of relevant specialist assessments for EIA
Develop a detailed project description in consultation with the client in order to determine and identify relevant listed activities requiring environmental authorisation.
Review of relevant legislation applicable to an Assessment
Develop terms of reference for specialist consultants and appointment of specialists
Compile Scoping and EIA Report as well as Basic Assessments, including public participation
Review of relevant specialist assessments
Review of EMPr
Liaison and consultation with relevant competent authority for decision making
Plan, manage and coordinate public participation process for Environmental Assessments

Identify I&APS
Liaison with I&APs
Record keeping of all communication with I&APs

May 2000 to June 2004 Sandy & Mazizi Consulting cc. (50% Owner/ Manager)

In order to meet the requirements for Black Economic Empowerment Sandy Wren established Sandy and Mazizi Consulting with her former employee Mazizi Msutu. This provided Mr Msutu with a 50% equal shareholding in the business. The services formerly provided by Public Process Consultants continued to be provided by Sandy and Mazizi Consulting cc. The main focus of the company was in the area of social involvement in the various stages of development with its majority expertise in public participation in EIA's, SEA's, and policy development processes. During this period Sandy developed experience and expertise in the management of Environmental Impact Assessments. The company was closed in 2004 for Mr Msutu to persue further business opportunities.

April 1995 to March 1997 Regional Director, Idasa Eastern Cape

As Regional Director of IDASA Sandy gained extensive experience in project management, co-ordination, training and facilitation of various interest groups, levels of government, community organisations, and other structures within civil society. Sandy while at Idasa covered the following projects:

- *Facilitation of the establishment of non-racial local government structures in the Eastern Cape*
- *Administrative co-ordination of the development of a regional economic development plan*
- *Conference co-ordination*
- *Voter Education Training and Co-ordination*
- *Community Courts Conference co-ordination*
- *Community facilitation for Local Government Structure Plans*
- *Public Participation process design and management*
- *Public participation for the Strategic and Environmental Impact Assessments (SEA) for the Coega IDZ and Ngqura Harbour as well as EMPr for the mining of Coega Kop Quarry*
- *Public Participation for an Integrated Development Plan for Walmer/ Gqebera.*

January 1993 – April 1995 Regional Coordinator, Idasa Eastern Cape
1994 Senior Coordinator, Idasa Eastern Cape

In 1993 I was employed as Regional Coordinator by Idasa (Institute for Democracy in SA). In 1994 I was appointed to the level of Senior Coordinator in the Eastern Cape Office, although my responsibility was that of acting Director. My duties as a regional/ senior coordinator were:

- Coordinate all projects, seminars, workshops, conferences and Township Tours
    - This entailed budgeting, liasing with hotels, guest speakers, flight bookings, programme development, media liaison and participant liaison.
- Manage education and training sessions
- Recruit, induct, train, supervise and coordinate staff activities
- Prepare budget plans and activity plans for all projects undertaken
- Edit and write monthly newsletter as well as brochure

Areas of involvement: Local Government, Housing, Economic Development, Affirmative Action, Poverty Relief, Community Courts and Voter Education

1991 Vehicle Sales, Avis Rent a Car

Responsible for the sale of vehicles to trade and the public as they were retired as rental vehicles

1992 Sales, Pierre's Diamonds, St Thomas, US Virgin Islands, Caribbean

Responsible for the design and sale of precious stones to passing trade.

ENVIRONMENTAL IMPACT ASSESSMENT PRACTITIONER EXPERIENCE

Scoping and Environmental Impact Assessments
As the owner and lead EAP on Environmental Impact Assessments, Sandy has the following responsibilities for the project listed below:

- Review project description in line with relevant EIA regulations to determine if Basic Assessment or Scoping and EIA is to be applied to an application.
- Site visit and review of biodiversity planning frameworks, google earth imagery
- Identify relevant specialist assessments to be undertaken as part of the EIA
- Develop and manage the project budget and request quotations from specialists, for submission to client for approval
- Liaise with all members of the project team, namely, decision making authority, organs of state, I&APs, project applicant, Town Planners, Project Engineers, Technical Team members (Architects, Irrigation Specialists, Planting Plan specialists)
- Include an outline of the public participation process to be followed for assessment
- Appoint all specialists
- Manage and initiate the Scoping Process, draft Scoping Reports
- Public Consultation
    - Identify I&APs
    - Newspaper Advertisements, site notice board
    - Information distribution to I&APs (CD's, hard copies of reports, website, presentations where required)
    - Manage correspondence to and from I&APs
    - Datebase development and maintenance
    - Tracking and responding to issues raised
- Identify legislation relevant to a project application
- Review issues raised in order to determine if additional specialist studies may be required.
- Identify and assess reasonable and feasible alternatives
- Liaison with relevant organs of state (Local, Provincial and National)
- Appointment of specialists, review of specialist assessments, synthesise recommendations into the EMPr, specialist studies include:
    - Aquatic
    - Vegetation
    - Archaeological
    - Palaeontological
    - Visual
    - Bulk Services (domestic water, effluent management, internal roads and stormwater management)
    - Traffic Assessment
    - Soil Suitability
    - Other as identified through the relevant assessment e.g. Security Risk Assessment
- Compile Draft EIA and Final for submission to decision making authority
- Notify I&APs of the appeal period
- Responding to Appeals received, where appropriate

Service Station at Humerail, Port Elizabeth

- Morton Bay, Humerail, Port Elizabeth, a multi-purpose commercial property development

Brookes Hill Caravan Park, Humewood Port Elizabeth
Quarter Mile Oval Racing Track, Schoenmakerskop Sports Centre (stock car racing track)
Expansion and upgrading of Smart Stone, Victoria Drive, Port Elizabeth
Construction of a Wedding Venue on the Sardinia Bay Road
Residential development of Arlington Race Course, Victoria Drive
Residential development of varying densities, Walmer Heights, Port Elizabeth
Proposed Amanzi Country Estate (Lifestyle and eco estate) consisting of a golf course, hotel, residential units (approx 900), equestrian facilities, cricket field and various heritage components
Proposed Coega Ridge Development consisting of low to high density housing as well as light industrial, commercial and retail facilities
Upgrade of Sewer Pump Station No 1 and construction of a new 1500 meter pipeline, Hankey
Winterhoek Park Ext, Uitenhage (residential development)
Zeekoei River residential and mixed use development, Humansdorp
EIA for a new residential development at Goedemoedsfontein, Seaview, Port Elizabeth
EIA for a Residential and Mixed Use Development, Erf 325 Fairview Port Elizabeth
EIA for SA Breweries, Biogas Storage Facility, NMBM
EIA for a residential development, Willow Tree Country Estate, Sunlands
EIA for NiRoVe Paint Stripping, Perseverance, NMBM
EIA for the Weston Waste Water Treatment Works, Weston, Hankey
EIA for Landrost, clearing of agricultural land for Habata Boerdery

EIA for Portion 62 of 10, Little Chelsea, residential development
EIA for Riverbend Citrus, clearing of agricultural land for San Miguel Fruits SA
EIA for Venter Fert, Composting and Fertiliser Processing Plant for Venter Boerdery
EIA for Intsomi Citrus, clearing of agricultural land for San Miguel Fruits SA
EIA for Langbos Citrus, clearing of agricultural land
EIA for Scheepersvlakte Farms, clearing of agricultural land
EIA for Falcon Ridge, clearing of agricultural land, Habata Boerdery
EIA for Sylvania, clearing of agricultural land for San Miguel Fruits SA
EIA for Ikamva Lethu, clearing of agricultural land for Ikamva Lethu PTY Ltd
EIA for Dunbrody, clearing of agricultural land for Unifrutti SA
EIA for Portion 15 of Farm 203, clearing of agricultural land, for Habata Boerdery

Basic Assessments
As the owner and lead EAP on Environmental Impact Assessments, Sandy has the following responsibilities for the project listed below:

- Review project description in line with relevant EIA regulations to determine if Basic Assessment is to be applied to an application.
- Site visit and review of biodiversity planning frameworks, google earth imagery
- Identify relevant specialist assessments to be undertaken as part of the EIA
- Develop and manage the project budget and request quotations from specialists, for submission to client for approval
- Liaise with all members of the project team, namely, decision making authority, organs of state, I&APs, project applicant, Town Planners, Project Engineers, Technical Team members (Architects, Irrigation Specialists, Planting Plan specialists)
- Include an outline of the public participation process to be followed for assessment
- Appoint all specialists
- Manage and initiate the Assessment Process
- Public Consultation
    - Identify I&APs
    - Newspaper Advertisements, site notice board
    - Information distribution to I&APs (CD's, hard copies of reports, website, presentations where required)
    - Manage correspondence to and from I&APs
    - Database development and maintenance
    - Tracking and responding to issues raised
    - Site visit with I&APs and organs of state
- Identify legislation relevant to a project application
- Review issues raised in order to determine if additional specialist studies may be required.
- Identify and assess reasonable and feasible alternatives
- Liaison with relevant organs of state (Local, Provincial and National)
- Appointment of specialists, review of specialist assessments, synthesise recommendations into the EMPr, specialist studies include:
    - Aquatic
    - Vegetation
    - Archaeological
    - Palaeontological
    - Visual
    - Bulk Services (domestic water, effluent management, internal roads and stormwater management)
    - Traffic Assessment
    - Soil Suitability
    - Other as identified through the relevant assessment e.g. Security Risk Assessment
- Compile and review Draft and Final Basic Assessment for submission to decision making authority
- Notify I&APs of the appeal period
- Responding to Appeals received, where appropriate

Residential Development, Erf 325 Theesecombe, Port Elizabeth
Installation of additional Nitrogen tanks at Umicore, Port Elizabeth
Borehole, water pipeline and power line, Glenconnor
Upgrading of Bulk Stormwater Infrastructure, a Portion of Macon Road Lorraine
Above Ground Fuel Storage Facilities, Rocklands Factory, Uitenhage
Community Centre, Nomathamsanqua, Addo

Residential and mixed use development of Erf 1846, Perridgevale
Borehole, water pipeline and power line, Glenconnor
Installation of additional Nitrogen tanks at Umicore, Port Elizabeth
Theesecombe erf 325, new residential development
Theesecombe erf 722, new residential development
Theesecombe erf 2377, new residential development
the Upgrading of Bulk Stormwater Infrastructure, a Portion of Macon Road Lorraine
Upgrading of Bulk Stormwater Infrastructure, Summerstrand, NMBM
Installation of minor stormwater infrastructure, Cluster H, Kwanobuhle, Uitenhage, Cluster B, Kuyga, Cluster A, Wells Estate and Khayamnandi, installation of stormwater infrastrucutre.
Citrus Packhouse, Blinkwater, Fort Beauford
Above Ground Fuel Storage Facilities, Rocklands Factory, Uitenhage
Various Basic Assessments for the establishment of new Broiler House facilities for Rocklands Poultry (Loerie, Nooidgedacht, Kirkwood, Boshfontein, Accurate, Lakeside and Altona)
Residential Development, Arcadia, Humansdorp, Kouga Municipality
Residential Development, Weston, Hankey, Kouga Municipality
Photovoltaic Solar Energy Project, Graff Reinet
Installation of Water Supply, Glenconner
New Agricultural Development for Habata Boerdery,
- Oliphantskop
- Logan Braes
- Falcon Ridge
- Badlands (Portion 8, Portion 16 and Portion 17)

Establishment of a Technical High School, Jeffreys Bay, Kouga Municipality
Municipal Housing Development, Alicedale, Makana Local Municipality
Erf 3231 Fairview, new residential Development
New Agricultural development, Nooidgedacht Citrus
New Broiler House Facilities, Venter Boedery
New Agricultural Development, Luthando Farm
Farm Dam Expansion, Kuduskloof, Venter Boerdery
Ponders Packhouse Expansion, San Miguel Fruits SA
Stormwater Upgrade, Summerstrand for the NMBM

Special Public Participation Experience
Sandy has been responsible for the management of the public participation component for the Strategic and Environmental Impact Assessment listed below. This has entailed primary responsibility for all components relating to the public participation process and co-authoring, where relevant, the applicable assessment, the has entailed.

Development of an appropriate public participation process, to include, where relevant community consultation, determine if public meetings are required
Develop and manage the project budget for the PPP
Identification of an initial database of I&APs
Notification to I&APs through all stages of the assessment process, including distribution of hard copies of the reports, CD's, uploading files to the project website
Site notice board and newspaper advertisements
Develop presentations to synthesise the findings of the PP input received for presentation to e.g. Coega ELC, NMBM and other state departments
Develop presentations to present the findings of an assessment process to I&APs
Responding to and tracking of issues raised by IA&Ps
Documenting and report writing for the public participation process
Identification of issues raised by I&APs which may require additional specialist assessment, inclusion in a specialist assessment and / or project amendment and bring these to the attention of the EAP

- SEA for the Coega Industrial Development Zone and Harbour (1997)

EIA for the proposed IDZ and Harbour, East London

- EIA EC Incinerators (Medical Waste Incinerator)
- Closure and Rehabilitation of Ibhayi Waste Disposal Site
- License Application for Arlington Waste Disposal Site
- EIA Proposed Regional General and Hazardous Waste Processing Facility, Eastern Cape
- EIA Identification of a new 400kV Powerline from Poseidon Substation to Grassridge Substation
- EIA for the Rezoning of the Core Development Area, Coega IDZ

- EIA for the Port of Ngqura
- EMPR for the Mining of Coega Kop Quarry
- SEA for the expansion of the Greater Addo Elephant National Park
- EIA for the N2 Wild Coast Toll Road Project from East London to Durban
- EIA for the proposed Pechiney Aluminium Smelter at the Coega IDZ
- EIA for the proposed Madiba Bay Leisure Park
- EIA for the proposed Liquid Natural Gas (LNG) to Power Project, Coega
- EIA for the proposed extension of the Port of Ngqura.
- Public Facilitation of the Addo, Wilderness and Tsitsikamma Management Plans for SANParks
- Proposed establishment of a Marine Protected Area for Addo
- EIA for the Mainstream Wind Energy Project Jeffreys Bay
- EIA for the Ubuntu Wind Energy Project, Jeffreys Bay
- EIA for the Banna ba Pifhu Wind Energy Project, Humansdorp
- EIA for the Electrawinds Wind Energy Project, Coega Industrial Development Zone
- EIA for the Marine Pipeline Servitude in the Coega Industrial Development Zone
- EIA for the Bulk Liquid and Storage Handling Facility Coega Industrial Development Zone
- EIA for the Ngura Manganese Terminal
- Basic Assessment for Landside Infrastructure Port of Nqura
- Public Participation for an Air Quality Management Plan for the Eastern Cape Province

Amendment Applications

- Residential Development, Erf 2686 Parsonsvlei
- Residential Development, Erf 2687Parsonsvlei
- Agni Steels SA, Steel Recycling Plant, Coega Industrial Development Zone
- Erf 325 Fairview, Residential Development, Fairview Suburban Estates Company Ltd

Section 24 G Applications

- Portion 8 of Farm 203, expansion of an existing farm dam
- Portion 23 of Farm 104 Swanepoels Kraal and the Remainder of Farm 650, Kirkwood, SRVM, clearing of vegetation

- **EAPASA Registration Certificate:**

Environmental Assessment Practitioners Association of South Africa

Registration No. 2019/1242

Herewith certifies that

Sandra Jane Wren

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2022

Expires: 28 February 2023

Chairperson

Registrar

SAQA

APPENDIX G (vi): AUTHORITY CONTACT DETAILS

THE DATABASE CONTAINING THE CONTACT DETAILS OF RELEVANT AUTHORITIES HAS BEEN SENT TO THE COMPETENT AUTHORITY DIRECTLY AND WILL NOT BE INCLUDED IN THE BASIC ASSESSMENT REPORT IN ORDER TO COMPLY WITH THE PROTECTION OF PERSONAL INFORMATION ACT (ACT NO. 14 OF 2013) (POPIA)

APPENDIX G (vii): PROOF OF NOTIFICATION TO LANDOWNER

THE APPLICANT OF THE PROPOSED PROJECT IS THE LANDOWNER.

APPENDIX G (viii): DETAILS OF SPECIALISTS AND DECLARATION OF INTEREST

- **AQUATIC BIODIVERSITY SPECIALIST**

Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT, ENVIRONMENTAL AFFAIRS & TOURISM

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 6 January 2021.

PROJECT TITLE

DISCO 2 SOLAR PHOTOVOLTAIC FACILITY – PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE, ON A PORTION OF FARM 713, HOPEFIELD, SUNLAND, SUNDAYS RIVER VALLEY MUNICIPALITY

SPECIALIST [1]	JS Environmental Consulting		
Contact person:	Ms Jaclyn Smith		
Postal address:	P.O Box 19176, Tecoma, East London		
Postal code:	5214	Cell:	072 555 0464
Telephone:		Fax:	
E-mail:	info@jsenvironmental.co.za		
Professional affiliation(s) (if any)	SACNASP Professional Natural Scientist (No. 120693)		

Project Consultant:	Public Process Consultant		
Contact person:	Sandy Wren		
Postal address:	PO Box 27688, Greenacres		
Postal code:	6057	Cell:	082 490 9828
Telephone:	041 374 8426 / 087 1472 451	Fax:	
E-mail:	sandy@publicprocess.co.za		

[1] Curriculum Vitae (CV) attached

Version 2 January 15 2021

4.2 The SPECIALIST

I, **Ms Jaclyn Smith** , declare that –

General declaration:

- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the specialist

JS Environmental Consulting (Pty) Ltd
Name of company

18/08/2022
Date

Signature of the Commissioner of Oaths

18/08/2022
Date

CA(SA)
Designation

Official stamp (below).

COMMISSIONER OF OATHS
Ref. 941/62
MARK S. FORSTER
CHARTERED ACCOUNTANT
Membership No. 20077382
Date: 18/08/2022
Certified A True Copy Of The Original

Annexure 1

CV

CURRICULUM VITAE

JACLYN SMITH *Pr.Sci.Nat*

ENVIRONMENTAL CONSULTANT

CONTACT

Cell:
072 555 0464

Email:
info@jsenvironmental.co.za

Postal address:
P.O. Box 19176
Tecoma
East London
5214

EDUCATION

2010-2012
Rhodes University
BSc Geology and
Environmental Science

2013-2014
Nelson Mandela University
BSc (Hons) Geology

COURSES

2018
EIA Course
Rhodes University

2018
Tools for Wetland Assessment
– Certified Competent
Rhodes University

PROFESSIONAL REGISTRATION

Registered Professional Natural Scientist with South African Council for Natural Scientific Professions
(Reg No. 120693)

EXPERTISE

I have seven years' experience in environmental consulting. I have experience in managing and undertaking Environmental Impact Assessments (EIA) and Aquatic and Wetland Assessments as well as extensive experience in the following areas:

Public Participation: Managing and undertaking the public participation process in support of EIA's including public meetings and community and stakeholder engagement.

Water Use Licencing: Undertaking numerous water use licence applications with a Section 21 (a), (b), (c), (e), (f), (g) and (i) component.

Specialist studies: Preparation of reports and field assessments for vegetation impact assessments and waste management assessments.

Auditing: Construction and operation compliance audits for road and infrastructure upgrades as well as housing developments throughout the Eastern Cape.

Permit applications: Preparation of applications for removal of protected plant and tree species to DEDEAT and DAFF as well as demolition permit applications to ECPHRA.

EMPLOYMENT

Terreco Environmental cc 2015-2017
Environmental Consultant

CES – Coastal and Environmental Services (Pty) Ltd 2017-2019
Environmental Consultant

CONSULTING EXPERIENCE

Environmental Impact Assessments

- Construction of the new Sipetu River Bridge, Eastern Cape. 2014.
  - Basic Assessment Report Process
- Tsomo Bulk Sanitation Upgrade, Eastern Cape. 2014-2016.
  - Basic Assessment Report Process
- Thynk Retail One (Pty) Ltd Road and Services to Portion 9 of Farm 809, Quenera North, East London. 2017-2018.
  - Basic Assessment Report Process
- Rec-Oil Used-Oil Recycling Facility in Wilsonia, East London. 2017 to 2019.
  - Scoping and Environmental Impact Reports in support of Environmental Authorisation and Waste Licence Applications

CONSULTING EXPERIENCE

- Proposed Infrastructure Developments in the SANBI Kwelera National Botanical Garden, Eastern Cape. 2017 to 2019.
  - Basic Assessment Process
- Nottinghill Farm NEMA Section 24G Application, Eastern Cape. 2017 to 2018.
  - Section 24G application

Aquatic and Wetland Impacts Assessments

- Amalinda Downs Development, Amalinda, East London. 2018.
- Villa Rosa Development, Eastern Cape. 2017.
- Hope Village Development, Gauteng. 2018.
- Cambridge West Housing Development, Eastern Cape. 2019.
- Boulders WEF Powerline, Western Cape. 2019.
- Mbhashe Access Roads Upgrade, Mbhashe Local Municipality, Eastern Cape. 2019.
- MBSA Clarkebury Road Upgrade, Eastern Cape. 2019.
- Kei Road Housing Development, Eastern Cape. 2017.
- Tsomo WWTW Upgrade, Eastern Cape. 2019.
- Willowvale and Idutywa Informal Settlement Upgrades. 2020.
- Ventnor Dam, Tarkastad. 2020.
- BCMM Ward 46 Road and Culvert Upgrade. 2020.
- Dordrecht Sports Field Upgrade. 2020.

Water Use Licencing and Risk Assessments

- Alice pipelines and road upgrade, Eastern Cape. 2019.
- Amatolaville Primary School, Stutterheim, Eastern Cape. 2018.
- SKG Properties Bengal Heights Development, Amalinda, East London. 2017.
- Yellowwoods River Sewer Pipeline Crossing, Eastern Cape. 2019.
- Qwabi Bridge Widening, Eastern Cape. 2018.
- Mdantsane Pedestrian Bridges, Eastern Cape. 2019.

Permit applications

- MBSA J-Site, East London, Eastern Cape. 2016.
  - ECPHRA Demolition permit applications
- Mjanyana and Nessie Knight Hospital Upgrades, Eastern Cape. 2014.
  - ECPHRA Demolition permit applications
- Blind River Bridge Repairs, East London, Eastern Cape. 2014.
  - DAFF Protected plant permit application
- SKG Voestalpine Development, ELIDZ, East London, Eastern Cape. 2019.
  - Vegetation assessment and DAFF and DEDEAT plant relocation permits

Construction and Operation Compliance Auditing

- SANRAL Upgrade of the R72 from Openshaw Village to Birah River, Eastern Cape. 2017 to 2019.
- Wavecrest Hotel Expansion, Eastern Cape. 2018 to 2019.
- Kidds Beach Retirement Village, Eastern Cape. 2018.
- Da Gama annual external Water Use Licence Audit, Eastern Cape. 2018.
- Coffee Bay Quarry Works and Rehabilitation, Eastern Cape. 2015-2016.
- Coffee Bay to Zithulele Hospital Road and Bridge Upgrade, Eastern Cape. 2015-2016.
- Clippety Clop Housing Development. Eastern Cape. 2015-2016.
- Fynbos and Ndancama Housing Development, Eastern Cape. 2014-2017.

- **TERRESTRIAL BIODIVERSITY SPECIALIST**

Province of the EASTERN CAPE
ECONOMIC DEVELOPMENT, ENVIRONMENTAL AFFAIRS & TOURISM

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 6 January 2021.

PROJECT TITLE

DISCO 2 SOLAR PHOTOVOLTAIC FACILITY – PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE, ON A PORTION OF FARM 713, HOPEFIELD, SUNLAND, SUNDAYS RIVER VALLEY MUNICIPALITY

SPECIALIST [1]	Jamie Pote		
Contact person:			
Postal address:	Postnet Suite 57, Private Bag X13130, Humewood, Port Elizabeth, South Africa		
Postal code:	6013	Cell:	
Telephone:		Fax:	
E-mail:	jamiepote@live.co.za		
Professional affiliation(s) (if any)			

Project Consultant:	Public Process Consultant		
Contact person:	Sandy Wren		
Postal address:	PO Box 27688, Greenacres		
Postal code:	6057	Cell:	082 490 9828
Telephone:	041 374 8426 / 087 1472 451	Fax:	
E-mail:	sandy@publicprocess.co.za		

[1] Curriculum Vitae (CV) attached

4.2 The SPECIALIST

I, **Jamie Pote** , declare that –

General declaration:

- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (**delete whichever is not applicable**)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the specialist

N/A.

Name of company

20/07/2022

Date

7183 6016

Signature of the Commissioner of Oaths

2022 07 20

Date

SERGEANT

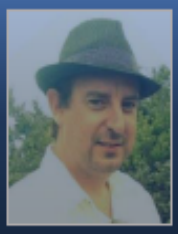
Designation

Official stamp (below).

SUID-AFRIKAANSE POLISIEDIENS
VISPOL
2022 -07- 20
VISPOL COMMUNITY SERVICE CENTRE

Annexure 1

CV



Jamie Pote

BIODIVERSITY ADVISOR, ECOLOGIST AND ENVIRONMENTAL SCIENTIST

CONTACT

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Linkedin.com

Jamiepote

Bluesky-SA

EDUCATION

Bachelor of Science
Rhodes University
2002 (Botany & Environmental Science)

Bachelor of Science (Honours)
Rhodes University
2003 (Botany)

Professional Natural Scientist
SACNASP: 2016 (Ecological Science)

SERVICES

Terrestrial Biodiversity Specialist Assessments
IFC PS6 Biodiversity & Critical Habitat Assessments
Terrestrial Biodiversity Compliance Statements
Geographic Information Systems
Environmental Management Plans & Programmes
Environmental Compliance & Monitoring
Independent Environmental & Ecological reviews
Bioremediation, Restoration & Rehabilitation Plans
Permit and License applications (Flora & Fauna)
Flora Search & Rescue Plans & Relocations
Invasive Alien Plant Control & Management Plans
Environmental & Mining Applications

ABOUT ME

18 years broad professional experience in Biodiversity, Ecological and Vegetation Assessments on over 250 projects in southern, western and central Africa. Environmental Assessment Practitioner on over 50 projects in the mining, infrastructure, housing and agricultural sectors. Environmental monitoring and auditing on over 50 civil infrastructure and construction projects. Have managed all aspects of projects from inception through to implementation. Advanced GIS mapping tools and Analysis.

EXPERIENCE AND CLIENTS

Key Sectors

- *Wind, Solar Energy Facilities*
- *Infrastructure and Housing*
- *Agriculture and Forestry*
- *Mining and Industrial*

Key Projects

- *Over 250 independent Biodiversity/Ecological Assessments throughout southern, western and central Africa.*
- *Basic Assessments, Mining applications and compliance monitoring on over 50 projects for various clients including the Eastern Cape Department of Roads and Public Works, Department of Transport and the South African National Roads Agency (SANRAL) throughout the Eastern Cape, including over 300 individual borrow pits.*
- *South-End Precinct Mixed Use Development for Mandela Bay Development Agency - Environmental application, Ecological assessments and Pre-Construction compliance.*
- *Coega Development Corporation IDZ projects – Ecological assessments, Flora search & rescue and Construction monitoring.*
- *Environmental applications, construction monitoring and auditing for a wide range of projects, including infrastructure and housing clients.*
- *Various agricultural expansion and infrastructure projects.*
- *Various wind and solar energy and associated infrastructure projects.*
- *Numerous infrastructure projects including electrical, water and roads.*
- *Various Environmental Management and Rehabilitation Plans.*

PROJECT EXPERIENCE

PERFORMANCE STANDARD BIODIVERSITY AND CRITICAL HABITAT ASSESSMENTS (IFC PS6)

- DBSA Environmental & Social Safeguards Standards 9: Biodiversity Conservation and Sustainable Management Assessment: The Ilitha Fibre Project, Ethekwini 2021
- Critical Habitat & Biodiversity Assessment - Roggeveld Wind Energy Project 2020
- Biodiversity Assessment for Kalukundi Copper/Cobalt Mine, Democratic Republic of Congo 2008

TERRESTRIAL BIODIVERSITY ASSESSMENTS AND COMPLIANCE STATEMENTS

- Terrestrial Biodiversity Assessment (Addo Offices) 2021
- Terrestrial Biodiversity Assessment (Blaauwater Farms) 2021
- Terrestrial Biodiversity Assessment (Buffelshoek Farm, Loerie) 2021
- Terrestrial Biodiversity & Aquatic Assessment & Review (Falcon Ridge Dam) 2021
- Terrestrial Biodiversity Assessment (Gubenxa Valley Deciduous Fruit) 2021
- Terrestrial Biodiversity Assessment (Little Chelsea Mixed-use) 2021
- Terrestrial Biodiversity Compliance Statement (Maidenhead Farm) 2021
- Terrestrial Biodiversity Review, Mulilo Total Hydra Storage Project Grid Interconnection 2021
- Terrestrial Biodiversity Compliance Statement (Lahlangubo River Bridge) 2021
- Terrestrial Biodiversity Assessment (Mbashe access roads - 3 sites) 2021
- Terrestrial Biodiversity Assessment (Burlington Farm Citrus Development, Cookhouse) 2020
- Terrestrial Biodiversity Compliance Statement: CHDM Cluster 9 Phase 3D Pipeline 2020
- Terrestrial Biodiversity Review, Mulilo Total Hydra Storage Project BESS 2020
- Terrestrial Biodiversity Assessment (Mbashe housing projects, Dutywa & Willowvale) 2020
- Terrestrial Biodiversity Assessment (Helpmekaar Dam, Tarkastad) 2020
- Terrestrial Biodiversity Assessment (Herbertsdale pipeline, Mossel Bay) 2020
- Terrestrial Biodiversity Assessment (Keurbooms Erf 155, Keurboomstrand) 2020
- Terrestrial Biodiversity Assessment (Lowmar Hydroelectric Project, Cradock) 2020
- Terrestrial Biodiversity Assessment (Mossel Bay Gas Power Plant) 2020
- Terrestrial Biodiversity Assessment (Erf 1820, Mthatha) 2020
- Terrestrial Biodiversity Assessment (Newlyn Manganese Terminal, Coega SEZ) 2020
- Terrestrial Biodiversity Assessment Thornhill Phase 2 Sanitation Link 2020

ENERGY PROJECTS (WIND FARM AND PHOTOVOLTAIC INFRASTRUCTURE)

- Preliminary Biodiversity Screening and GIS mapping for Balekani Photovoltaic Solar Project (SZ) 2020
- Preliminary Biodiversity Screening and GIS mapping for Sihhoye Photovoltaic Solar Project (SZ) 2020
- Preliminary Biodiversity Screening and GIS mapping Mpaka Photovoltaic Solar Project (SZ) 2020
- Preliminary Biodiversity Screening and GIS mapping for Chiwelwa Hydroelectric project (ZM) 2020
- Ecological Assessment for Vermaak Boerdery Hydro Turbine (Cookhouse), Eastern Cape 2020
- Ecological Assessment for Windcurrent Wind Farm, Eastern Cape 2012
- Ecological Assessment for Universal Windfarm, NMB (ZA) 2011
- Ecological Assessment for Inca Energy Windfarm, Northern Cape 2011
- Ecological Assessment for Broadlands Photovoltaic Farm, Eastern Cape 2011
- Botanical Assessment for Electrawinds Windfarm Coega, NMB 2010
- Botanical Assessment and Open Space Management Plan for Mainstream WEF Phase 2, Eastern Cape 2010

SPECIALISED ECOLOGICAL REPORTS AND REVIEWS

- Rebels Vlei Riparian delineation 2021
- Buck Kraal Dam Rehabilitation Plan Review 2020

- Rehabilitation Plan for Hitgeheim Farm (Farm 960), Sunland, Eastern Cape 2017
- Green Star Rating Ecological Assessment for SANRAL office, Bay West City, NMBM 2015
- Section 24G Assessment and Rehabilitation Plan for Bingo Farm, Eastern Cape 2014
- Mapping and Ecological services for Congo Agriculture, Republic of Congo 2013
- Rehabilitation Plan for Nieu Bethesda, Eastern Cape 2011
- Mapping of pipeline for Kenton Water Board, Eastern Cape 2010
- Rehabilitation Plan for N2 Upgrade - Coega to Colchester, NMB 2010
- Representative for landowner group for Seaview burial Park, NMB 2010
- Botanical Sensitivity Analysis for LSDF, Greenbushes-Hunters Retreat, NMB 2008
- Forestry Rehabilitation Assessment Report for Amahlathi Forest Rehabilitation, Eastern Cape 2007
- Botanical & Riparian Assessment for Orange River Weirs-Boegoeberg, Douglas Dam and Sendelingsdrif, Northern Cape 2006
- Botanical Assessment for State of the Environment Report for Chris Hani District Municipality SoER, Eastern Cape 2003

ROAD AND RAILWAY INFRASTRUCTURE PROJECTS

- Terrestrial Biodiversity Assessment for Newlyn Mn Terminal & conveyor (CDC IDZ), NMB 2021
- Ecological Assessment for CDC IDZ Mn Terminal, conveyor and railway line, NMB 2013
- Ecological Assessment Review for Penhoek Road widening, Eastern Cape 2012
- Ecological Assessment for R61 road widening, Eastern Cape 2012
- Botanical Assessment for Chelsea RD - Walker Drive Ext., NMB 2010
- Botanical Assessment for Motherwell - Blue Water Bay Road, NMB 2010
- Ecological Assessment for Port St John Road, Eastern Cape 2010
- Botanical Basic Assessment for Bholani Village Rd, Port St Johns, Eastern Cape 2009
- Botanical Report, EMP and Rehab Plan for Coega-Colchester N2 Upgrade, NMB 2009
- Botanical Assessment for Manganese Conveyor Screening Report, NMB 2008
- Ecological Assessment for Road Layout for Whiskey Creek- Kenton, Eastern Cape 2006

MINING PROJECTS

- Ecological Assessment for Bochum Borrow Pits, Limpopo 2013
- Ecological Assessment and Mining and Rehabilitation Plan for Greater Soutpansberg Mining Project, Limpopo (3 proposed Mines) 2013
- Ecological Assessment for Thulwe Road Borrow Pits, Limpopo 2013
- Ecological Assessment and Mining and Rehabilitation Plan for Baghana Mining, Ghana 2010
- Botanical Assessment for Zwartenbosch Quarry, Eastern Cape 2008
- Botanical description & map production for Quarry - Rudman Quarry, Eastern Cape 2008
- Botanical Basic Assessment, Rehab Plan & Maps for Borrow Pit - Rocklands/Patensie, Eastern Cape 2008
- Botanical Assessment & Maps for Sandman Sand Gravel Mine, Eastern Cape 2008
- Botanical Assessment & GIS maps for Shamwari Borrow Pit, Eastern Cape 2008
- Detailed Botanical Assessment, EMP and Rehab Plan for Kalukundi Copper/Cobalt Mine, Democratic Republic of Congo 2008
- Botanical Assessment, Rehab Plan & Maps for Borrow Pit Humansdorp/Oyster Bay, Eastern Cape 2008
- Botanical Assessment, Rehab Plan & Maps for AWRM - Cala, Eastern Cape 2008
- Botanical Assessment, Rehab Plan & Maps for AWRM - Camdeboo, Eastern Cape 2008
- Botanical Assessment, Rehab Plan & Maps for AWRM - Somerset East, Eastern Cape 2008
- Botanical Assessment, Rehab Plan & Maps for AWRM - Nkonkobe, Eastern Cape 2008
- Botanical Assessment, Rehab Plan & Maps for AWRM - Ndlambe, Eastern Cape 2008
- Botanical Assessment, Rehab Plan & Maps for AWRM - Blue Crane Route, Eastern Cape 2008

- Botanical Assessment, EMP and Rehabilitation Plan for AWRM - Cathcart, Eastern Cape 2008
- Botanical Assessment, GIS maps and Rehab Plan for Mthatha Prospecting, Eastern Cape 2008
- Regional Botanical Map for mining prospecting permit, Welkom 2008
- Botanical Assessment for Scoping Report and Detailed Botanical Assessment and Rehab Plan for Elitheni Coal Mine, Eastern Cape 2007
- Botanical Assessment, Rehab Plan & Maps for Borrow Pit - Oyster Bay, Eastern Cape 2007
- Botanical Assessment, Rehab Plan & Maps for Borrow Pit - Bathurst/GHT, Eastern Cape 2007
- Botanical Assessment, Rehab Plan & Maps for Borrow Pit – Jeffreys Bay, Eastern Cape 2007
- Botanical Assessment, Rehab Plan & Maps for Borrow Pit - Storms River/Kareedouw, Eastern Cape 2007
- Biophysical Assessment for Humansdorp Quarry, Eastern Cape 2006
- Botanical Assessment, Rehab Plan & Maps for Quarry-Cathcart & Somerset East, Eastern Cape 2006
- Botanical Assessment, Rehab Plan & Maps for Quarry - Despatch Quarry, NMB 2006
- GIS Mapping & Botanical Assessment and Rehab Plan for Quarry - JBay Crushers, Eastern Cape 2006
- Botanical Assessment, EMP and Rehabilitation Plan for Polokwane Silicon Smelter, Limpopo 2006
- Application for Mining Permit for Bruce Howarth Quarry, Eastern Cape 2006

POWERLINE INFRASTRUCTURE PROJECTS

- Terrestrial Biodiversity Assessment for Paulputs WEF Grid connection, Pofadder, NC (ZA) 2021
- Terrestrial Biodiversity Assessment for Komas WEF Grid connection, Kleinsee, NC (ZA) 2021
- Ecological Assessment: Dieprivier-Karreedouw 132kV Powerline realignment, Kouga LM 2016
- Eskom Ecological Walkdown: Dieprivier-Karreedouw 132 kV Powerline, Kouga LM 2016
- Eskom Solar one Ecological Walkdown: Nieuwehoop 400 kV powerline, NC 2015
- Rehabilitation Plan and Auditing for Grassridge-Poseidon Powerline Rehab, Eastern Cape 2013
- Ecological Assessment for Dieprivier Karreedouw 132kV Powerline, EC 2012
- Flora and Fauna search and Rescue plan for Van Stadens Windfarm Powerline, NMB 2012
- Botanical Assessment for Dedisa-Grassridge Powerline, EC 2010
- Ecological Assessment for Grahamstown-Kowie Powerline, EC 2010
- Species of Special Concern Mapping Transmission Line for San Souci to Nivens Drift 132kV powerline, NMB 2009
- Botanical Assessment for Eskom Powerline - Albany-Kowie, EC 2009
- Botanical Assessment for Eskom 132 kV Dedisa Grassridge Power line-Coega, NMB 2006
- Botanical Assessment for Eskom Power line – Tyalara-Wilo, Eastern Cape 2006
- Botanical Assessment for Steynsburg - Teebus 132 kV powerline, Eastern Cape 2004

PIPELINE INFRASTRUCTURE PROJECTS

- Terrestrial Biodiversity Assessment for Thornhill Phase 2 Sanitation Link, Ndlambe, Eastern Cape 2020
- Botanical Assessment for Ngqamakhwe Regional Water Supply Scheme (Phase 3) 2018
- Ecological Assessment for Butterworth Emergency Bulk Water Supply Scheme 2017
- Ecological Assessment for Karringmelkspruit Emergency Bulk Water Supply (Lady Grey) 2017
- Ecological Assessment for Wanhoop-Willowmore Bulk Water Supply, Eastern Cape 2016
- Ecological Assessment for Steytlerville Bulk Water Supply, Eastern Cape (Phase 4) 2013
- Ecological Assessment for Steytlerville Bulk Water Supply, Eastern Cape (Phase 5) 2013
- Detailed Ecological Assessment for Suikerbos Pipeline, Gauteng 2012
- Basic Botanical Assessment for Wanhoop farm pipeline, Eastern Cape 2010
- Basic Botanical Assessment for Chatty Sewer, NMB 2010
- Species of Special Concern Mapping for Seaview Pipeline, NMB 2009
- Species of Special Concern Mapping for Chelsea Bulk Water Pipeline, NMB 2009
- Map Production for Russell Rd Stormwater, NMB 2008

- Basic Botanical Assessment for Albany Pipeline, Eastern Cape 2008
- Environmental Risk Assessment for Elands River pipeline, Eastern Cape 2007
- Detailed Botanical Assessment for Motherwell Pipeline, NMB 2007
- Detailed Botanical Assessment, GIS maps for Erasmuskloof Pipeline, Eastern Cape 2007
- Botanical & Floristic Report for Hankey pipeline, Eastern Cape 2006
- Detailed Botanical Assessment for Port Alfred water pipeline, Eastern Cape 2004

GENERAL INFRASTRUCTURE DEVELOPMENT PROJECTS

- Ecological Assessment for Amalinda crossing, BCM, Eastern Cape 2019
- Ecological Assessment for Cookhouse Bridge rehabilitation and temporary deviation, Eastern Cape 2019
- Ecological Assessment for Nelson Mandela University Access Road, NMB 2019
- Botanical Assessment for Zachtevlei Dam (Lady Grey), Eastern Cape 2017
- Botanical Assessment for Gcebula River bridge (Peddie), Eastern Cape 2017
- Botanical Assessment for Kouga Dam wall upgrade, Eastern Cape 2012
- Botanical Assessment for Jansenville Cemetery, Eastern Cape 2009
- Botanical Assessment for Radar Mast construction for South African Weather Service – BCM & NMB 2008
- Botanical Assessment and GIS mapping for golf course realignment for East London Golf Course, BCM, Eastern Cape 2007
- Botanical Assessment for PE Airport Extention, NMB 2006
- Botanical Assessment for Kidd's Beach Desalination Plant, BCM, Eastern Cape 2006

HOUSING DEVELOPMENT PROJECTS

- Terrestrial Biodiversity Assessment for Erf 1820 Mthatha, KSDM, Eastern Cape 2020
- Ecological Assessment for Erf 599 Walmer Mixed Use Development, Nelson Mandela Bay 2019
- Ecological Assessment Portion 21-23 and 41 of Farm 807, Gonubie, Buffalo City 2019
- Ecological Assessment for Emerald Sky Housing Project, BCMM 2019
- Ecological Assessment for Erf 14, Kabega, Port Elizabeth 2017
- Ecological Assessment for Fairwest Rental Housing, Port Elizabeth 2017
- Ecological Assessment for Hankey Housing, Kouga District Municipality 2015
- Ecological Assessment for Lebowakgoma Housing, Limpopo 2013
- Ecological Assessment for Giyani Development, Limpopo 2013
- Ecological Assessment for Palmietfontein Development, Limpopo 2013
- Ecological Assessment for Seshego Development, Limpopo 2013
- Botanical Assessment for Sheerness Road, BCM, Eastern Cape 2013
- Ecological Assessment for Ethembeni Housing, NMB 2012
- Ecological Assessment for Pelana Housing, Limpopo 2012
- Flora Search and Rescue Plan for Kwanobuhle Housing, Western Cape 2011
- Botanical Assessment for The Crags 288/03, Western Cape 2010
- Ecological Assessment Revision Report for Fairview Housing, NMB 2010
- Botanical Assessment, EMP and Open Space Management Plan for Hornlee Housing Development, Western Cape 2010
- Botanical Assessment for Little Ladywood, Western Cape 2010
- Botanical Assessment and Open Space Management Plan for Motherwell NU31, NMB 2010
- Botanical Assessment and Open Space Management Plan for Plett 443/07, Western Cape 2010
- Botanical Assessment for Willow Tree Farm, NMB 2010
- Botanical Assessment for Kouga RDP Housing, Eastern Cape 2009
- Botanical Assessment for Fairview Erf 1226 (Wonderwonings), NMB 2009

- Species List Compilation for Zeekoerivier Humansdorp, Eastern Cape 2009
- Botanical Assessment for Woodlands Golf Estate (Farm 858), BCM, Eastern Cape 2009
- Botanical Assessment for Plettenberg Bay - 438/4, Western Cape 2009
- Vegetation Assessment for Kwanokuthula RDP housing project, Western Cape 2008
- Site screening assessment for Greenbushes Site screening, NMB 2008
- Botanical Assessment for Fairfax development, Eastern Cape 2008
- Botanical Assessment for Plettenberg Bay Brakkloof 50&51, Western Cape 2008
- Botanical Assessment, GIS mapping for Theescombe Erf 325, NMB 2008
- Site Screening for Mount Road, NMB 2008
- Botanical Assessment for Greenbushes Farm 40 Swinburne 404, NMB 2008
- Botanical Assessment for Greenbushes 130, NMB 2008
- Botanical Assessment for Greenbushes Kuyga no. 10, NMB 2008
- Botanical Assessment for Plettenberg Bay - 438/24, Western Cape 2007
- Botanical Assessment for Plettenberg Bay - Olive Hills 438/7, Western Cape 2007
- Botanical Assessment for Gonubie Portion 809/9, BCM, Eastern Cape 2006
- Botanical Assessment for Glengariff Farm 723, BCM, Eastern Cape 2006
- Botanical Assessment for Gonubie Portion 809/10, BCM, Eastern Cape 2006
- Botanical Assessment for Gonubie Portion 809/4 & 5, BCM, Eastern Cape 2006
- Botanical Assessment for Plettenberg bay - Ladywood 438/1&3, Western Cape 2006
- Botanical Assessment and Rehab Plan for Winterstrand Desalination Plant, BCM 2006
- Botanical Assessment for Bosch Hoogte, NMB 2006
- Botanical Assessment for Plettenberg bay Farm 444/38, Western Cape 2006
- Botanical Assessment for Plettenberg Bay - 444/27, Western Cape 2006
- Botanical Assessment for Leisure Homes, BCM, Eastern Cape 2006
- Botanical Basic Assessment for Trailees Wetland Assessment, Eastern Cape 2005
- Botanical Assessment and Rehab Plan for Arlington Racecourse - PE, NMB 2005
- Botanical Assessment for Smart Stone, NMB 2005
- Botanical Assessment for Peninsular Farm (Port Alfred), Eastern Cape 2005
- Botanical Assessment for Mount Pleasant - Bathurst, Eastern Cape 2005
- Botanical Assessment and RoD amendments for Colchester Erven 1617 & 1618 (Riverside), NMB 2005
- Basic Botanical Assessment for Parsonsvlei 3/4, Eastern Cape 2005
- Botanical Assessment for Bridgemead – Malabar PE, NMB 2004

AGRICULTURAL PROJECTS

- Preliminary Biodiversity Screening for Chrisdelina Ranch Agricultural Project, Kizenga District • 2020
- Ecological Assessment for Vermaak Boerdery Hydro Turbine (Cookhouse)2020 2020
- Thornhill Eggland Specialist Ecological Assessment 2020
- Ecological Assessment for Citrus expansion on Hitgeheim Farm, Sunland, Eastern Cape 2015
- Ecological Assessment for Citrus expansion on farm 960, Patensie (AIN du Preez Boerdery) 2014
- Ecological Assessment for Doornkraal Pivot (Hankey), Eastern Cape 2014
- Ecological Assessment for Tzaneen Chicken Farm, Limpopo 2013
- Botanical Assessment and Open Space Management Plan for Kudukloof, NMB 2010
- Botanical Assessment and Open Space Management Plan for Landros Veeplaats, NMB 2010
- Botanical Assessment and Flora Relocation Plan for Wildemans Plaas, NMB 2006

GOLF ESTATE AND RESORT DEVELOPMENT PROJECTS

- Species List& Comments Report for Kidds Beach Golf Course, BCM, Eastern Cape 2009
- Botanical Assessment for Plettenberg Bay -Farm 288/03, Western Cape 2009
- Botanical Assessment for Rockcliff Golf Course, BCM, Eastern Cape 2008

- Botanical Assessment for Rockcliff Resort Development, BCM, Eastern Cape 2007
- Botanical Assessment, EMP and Rehabilitation Plan for Tiffendel Ski Resort, Eastern Cape 2006

MIXED USE DEVELOPMENT PROJECTS

- Ecological Assessment for South-End Precinct Mixed Use Development, Nelson Mandela Bay 2018
- Botanical Assessment, EMP and Open Space Management Plan for Bay West City, NMB 2010
- Botanical Assessment, GIS maps, Open Space and Rehab Plans for Fairview Erf 1082, NMB 2009
- Botanical Assessment and GIS maps for Utopia Estate PE, NMB 2008
- Botanical Assessment and GIS mapping for Madiba Bay Leisure Park, NMB 2007
- Botanical Assessment and GIS mapping for Madiba Bay Leisure Park, NMB 2007
- Botanical Basic Assessment for Cuyler Manor (Farm 320), Uitenhage, NMB 2007

BUSINESS AND INDUSTRIAL DEVELOPMENT PROJECTS

- Ecological Assessment for Parsonsvlei Erf 984 & 1134 Parsonsvlei, NMB 2020
- Mthatha Retails and Service Center 2020
- Ecological Assessment for Walmer Erf 11667 - Bidfood Warehousing Development, NMB 2020
- Ecological Assessment for Portion 87 of the Farm Little Chelsea No 10, NMB 2020
- Ecological Assessment for Bay West City ENGEN Service Station, NMB 2015
- Ecological Assessment for Green Star grading for SANRAL, NMB 2014
- Ecological Assessment for OTGC Tank Farm, NMB 2012
- Botanical Assessment and Open Space Management Plan for Petro SA Refinery, Coega IDZ, NMB 2010
- Botanical Assessment for Bluewater Bay Erf 805, NMB 2009
- Ecological Assessment for Bay West City, NMB 2007
- Botanical Assessment for Kenton Petrol Station, Eastern Cape 2005
- Botanical Assessment and RoD amendments for Colchester Petrol Station, NMB 2005

ECO-ESTATE DEVELOPMENT PROJECTS

- Botanical Re-Assessment of Swanlake Eco Estate, Aston Bay, Eastern Cape 2018
- Detailed Botanical Assessment and Open Space Management Plan for Olive Hills, Western Cape 2010
- Botanical Assessment and EMP for Zwartenbosch Road, Eastern Cape 2010
- Botanical Assessment - Poultry Farm for Coega Kammaskloof Farm 191, NMB 2008
- Botanical Assessment - Housing development for Coega Ridge, NMB 2008
- Botanical Assessment, Rehabilitation Plan, EMP and GIS maps for Amanzi Estate, NMB, 2008
- Botanical Assessment for Roydon Game farm, Queenstown, Eastern Cape 2007
- Botanical Assessment for Winterstrand Estate (Farm 1008), BCM, Eastern Cape 2007
- Botanical Assessment for Homeleigh Farm 820, BCM, Eastern Cape 2007
- Botanical Basic Assessment, Rehab Plan & Maps for Candlewood, Tsitsikamma, Western Cape 2007
- Botanical Assessment, EMP and Rehab Plan for Carpe Diem Eco development, Eastern Cape 2007
- Botanical Assessment, EMP and Rehabilitation Plan for Seaview Eco-estate, NMB 2006
- Botanical Assessment for Kidd's Beach portion 1076, BCM, Eastern Cape 2006
- Botanical Assessment for Palm Springs, Kidds Beach East London, BCM, Eastern Cape 2006
- Botanical Assessment for Nahoon Farm 29082, BCM, Eastern Cape 2006
- Botanical Assessment for Rosehill Farm, Eastern Cape 2005
- Botanical Assessment for Resolution Game Farm, Eastern Cape 2005
- Botanical Assessment for Gonubie Portion 809/11, BCM, Eastern Cape 2005
- Botanical Assessment for Kidd's Beach portion 1075, BCM, Eastern Cape 2005

FLORA AND FAUNA RELOCATION PLANS, PERMITS AND IMPLEMENTATION

- Flora Search and Rescue for Nelson Mandela University Phase 2 & 3 Residences, Eastern Cape 2020
- Flora Search and Rescue for Fairwest Housing Estate, Nelson Mandela Bay, Eastern Cape 2019
- Flora Search and Rescue for Utopia Estate, Nelson Mandela Bay, Eastern Cape 2019
- Flora Search and Rescue for Citrus expansion on Boschkraal Citrus Farm, Sunland, Eastern Cape 2018
- Flora Search and Rescue for Wanhoop pipeline, Willowmore, Eastern Cape 2018
- Flora Search and Rescue for Wilgekloof pipeline, Willowmore, Eastern Cape 2018
- Flora Search and Rescue for Citrus expansion on Hitgeheim Farm (Farm 960), Sunland, Eastern Cape 2017
- Flora Search and Rescue for Steytlerville Bulk Water Supply, Eastern Cape (Phase 5) 2016
- Flora Search and Rescue for Citrus expansion on Farm 960, Patensie (AIN du Preez Boerdery) 2016
- Flora Search and Rescue for Steytlerville Bulk Water Supply & WTW, Eastern Cape (Phase 4) 2015
- Flora and Fauna Search and Rescue for Riversbend Citrus Farm, NMB 2014
- Flora and Fauna Search and Rescue for Mainstream Windfarm, Eastern Cape 2013
- Flora Search and Rescue for Steytlerville Bulk Water Supply, Eastern Cape (Phase 1, 2 & 3) 2013
- Flora and Fauna Search and Rescue for OTGC Tank Farm, Coega IDZ, NMB 2013
- Flora and Fauna Search and Rescue for Jeffreys Bay School, Eastern Cape 2013
- Flora Search and Rescue Plan for Red Cap Wind Farm, Eastern Cape 2012
- Flora Relocation for Disco Poultry Farm, NMB 2010
- Flora Relocation for Mainstream Windfarm, Eastern Cape 2010

ENVIRONMENTAL MANAGEMENT PLANS

- Final Environmental Management Programme (EMPr) and Maintenance Management Plan for South End Precinct Mixed Use Zone, Nelson Mandala Bay Municipality 2020
- Final Environmental Management Programme (EMPr) for Coega Land-Based Aquaculture Development Zone (ADZ), Coega Industrial Development Zone (IDZ), Nelson Mandela Bay Municipality 2019
- Basic Botanical Assessment for Kromensee EMP (Jeffries Bay), Eastern Cape 2010
- Wetland Management Plan for NMB Portnet, NMB 2010
- Baseline Botanical Study, Vegetation mapping and EMP for Local Nature Reserve for Plettenberg Bay Lookout LNA, Western Cape 2009
- Biodiversity & Ecological Processes for Bathurst-Commonage, Eastern Cape 2006
- EMP for Kromensee EMP (Jeffries Bay), Eastern Cape 2006
- Floral Survey for Mbotyi Conservation Assessment, Eastern Cape 2005
- Identifying and Assessment on Aquatic Weeds for Pumba Private Game Reserve, Eastern Cape 2005

BASIC ASSESSMENT APPLICATION PROJECTS (DEDEAT)

- Basic Assessment Application for Parsonsvlei Erf 984 & 1134 Parsonsvlei 2020
- Construction of Deviation and Rehabilitation of Bridge along DR02481 road 2020
- Basic Assessment Application for Vermaak Boerdery Hydro Turbine (Cookhouse) 2020
- Basic Assessment Application for Walmer Erf 11667 Bidfood Warehousing Development 2020
- Basic Assessment Application for Portion 87 of the Farm Little Chelsea No 10 2020
- Basic Assessment Application for Nelson Mandela University Access Road, NMB 2019
- Basic Assessment, WULA and Borrow Pit/Quarry Mining Application, Clarkebury Rd, Idutywa 2019

- Basic Assessment Application for Erf 599 Walmer Mixed Use Development, Nelson Mandela Bay 2019
- Basic Assessment Application for Cookhouse Bridge rehabilitation and temporary deviation 2019
- Basic Assessment Application for Erf 14 Kabega, NMBM 2017

- Basic Assessment Application for Hankey Housing, Kouga District Municipality 2017
- Basic Assessment Application for Fairwest Rental Housing, Nelson Mandela Bay 2017
- Basic Assessment Application for Citrus expansion on Hitgeheim Farm, Sunland, Eastern Cape 2015
- Basic Assessment Application for Hankey Housing, Kouga District Municipality 2015
- Basic Assessment Application for Citrus expansion on farm 960, Patensie (AIN du Preez Boerdery) 2014
- Basic Assessment Application for South-End Precinct Mixed Use Development, Nelson Mandela Bay 2018

MINING PERMIT/ENVIRONMENTAL MANAGEMENT PROGRAMME APPLICATIONS (DMR)

- Mining BAR/EMP's for Blue Crane Route & Camdeboo LM 12 Borrow Pits – (DoT) 2019
- Mining BAR/EMP's for Elundini LM 6 Borrow Pits (DoT)
- Mining BAR/EMP's for Baviaans LM 6 Borrow Pits (DoT)
- Mining BAR/EMP's for Kouga & Koukamma LM 12 Borrow Pits (DoT)
- Mining BAR/EMP's for Sakhisizwe & Engcobo LM 12 Borrow Pits (DoT)
- Mining BAR/EMP's for Senqu LM 12 Borrow Pits (DoT)
- Mining BAR/EMP's for 24 Borrow Pits in 6 districts within the Eastern Cape– (SANRAL) 2018
- Mining BAR/EMP's for Ingquza Hill LM Borrow Pits – (SANRAL) 2017
- Mining BAR/EMP's for Baviaans LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Senqu LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Kouga/Koukamma LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Inkwanca (Enoch Mgijima) LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Kouga/Koukamma LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Sakhisizwe/Engcobo LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Raymond Mahlaba LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Camdeboo LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Elundini LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Emalahleni/Intsika Yethu LM Borrow Pits – (DRPW) 2017
- Mining BAR/EMP's for Nkonkobe LM Borrow Pits – (SANRAL) 2016
- Mining BAR/EMP's for Mbhashe LM Borrow Pits – (SANRAL) 2016
- Mining BAR/EMP's for Mbizana LM Borrow Pits – (SANRAL) 2016
- Mining BAR/EMP's for Senqu LM Borrow Pits – (SANRAL) 2016
- Mining BAR/EMP's for Elundini LM Borrow Pits – (SANRAL) 2016
- Mining BAR/EMP's for Emalahleni LM Borrow Pits – (SANRAL) 2016
- Mining BAR/EMP's for Emalahleni LM Borrow Pits – (DRPW) 2016
- Mining BAR/EMP's for Ikwezi/Baviaans LM Borrow Pits – (DRPW) 2016
- Mining BAR/EMP's for Chris Hani DM Borrow Pits - MR00716 (Tarkastad) (DRPW) 2015
- Mining BAR/EMP's for Chris Hani DM Borrow Pits – Intsika Yethu and Emalahleni (DRPW) 2015
- Mining BAR/EMP's for Joe Gqabi DM Borrow Pits – Senqu (DRPW) 2015
- Mining BAR/EMP's for Makana/Ndlambe LM Borrow Pits – Sarah Baartman (DRPW) 2015
- Mining BAR/EMP's for Amahlathi LM Borrow Pits – Amatole (DRPW) 2015
- Mining BAR/EMP's for Mbashe/Mqume LM Borrow Pits – Amatole (DRPW) 2015
- Mining BAR/EMP's for Sundays River Valley LM Borrow Pits – Sarah Baartman (DRPW) 2015
- Mining BAR/EMP's for Kouga LM Borrow Pits – Sarah Baartman (DRPW) 2015
- Mining BAR/EMP's for Chris Hani DM Borrow Pits - MR00716 (DRPW) 2014
- Mining BAR/EMP's for Chris Hani DM Borrow Pits - DR02581 (DRPW) 2014
- Mining BAR/EMP's for Chris Hani DM Borrow Pits - DR08041, DR08247, DR08248 & DR08504 (DRPW) 2014
- Mining BAR/EMP's for Chris Hani DM Borrow Pits - DR08599, DR08601 & DR08570 (DRPW) 2014
- Mining BAR/EMP's for Chris Hani DM Borrow Pits - DR08235, DR08551 & DR08038 (DRPW) 2014

- Mining BAR/EMP's for Alfred Nzo DM Borrow Pits - DR08092, DR08093 & DR08649 (DRPW) 2014
- Mining BAR/EMP's for Alfred Nzo DM Borrow Pits - DR08090, DR08412, DR08425, DR08129, DR08109, DR08106, DR08104 & DR08099 – Matatiele (DRPW) 2014

ENVIRONMENTAL COMPLIANCE AUDITING

- Environmental Compliance Audit (Habata Boerdery) 2021
- Environmental Compliance Audit (Sontule Farm) 2021

ENVIRONMENTAL MANAGEMENT, AUDITING, COMPLIANCE AND MONITORING PROJECTS

- Environmental Auditing Services Construction (Intsomi Citrus) 2021
- Environmental Auditing Services Pre-construction and Construction (Rocky Coast Farm) 2021
- Environmental Auditing Services (Middledrift Breeder Facility) 2021
- Coega Aquaculture Development Zone Environmental Compliance and Monitoring for Construction (24 Months) 2020
- Construction of NMU West End Student Residences Phases 1 & 3 Environmental Control Office (30 Months) 2020
- Environmental Auditing and construction monitoring for construction of Phase 1 River Park (South End Precinct) 2020
- Waste Management License audit for Bedford Recycling project 2020
- Auditing for Construction of Fairwest Village Housing Project 2019
- Auditing for Construction of Utopia Estate monthly auditing 2019
- ECO for DRPW IRM Road Maintenance projects, Baviaans LM 2019
- ECO for DRPW IRM Road Maintenance projects, Senqu LM 2019
- ECO for DRPW IRM Road Maintenance projects, Kouga/Koukamma LM 2019
- ECO for DRPW IRM Road Maintenance projects, Sakhisizwe/Engcobo LM 2019
- ECO for DRPW IRM Road Maintenance projects, Elundini LM 2019
- ECO for DRPW IRM Road Maintenance projects, Emalahleni/Intsika Yethu LM 2019
- ECO for Construction of Fairwest Village Housing Project 2019
- ECO for Construction of Utopia Estate Mixed Use Project 2019
- ECO for Construction of NMU West End Student Residences Phases 1 & 3 2019
- ECO for Construction of Eco-Pullets pullet rearing facility, Paterson 2018
- ECO for DRPW IRM Road Maintenance projects, Raymond Mahlaba LM 2018
- ECO for DRPW IRM Road Maintenance projects, Inkwanca (Enoch Mgijima) LM 2018
- ECO for Citrus expansion on Farm 960, Patensie (AIN du Preez Boerdery) 2017
- ECO for Citrus expansion on Hitgeheim Farm (Farm 960), Sunland, Eastern Cape 2017
- DEO for improvement of national route R67 section 5 from Whittlesea (km 0.00) to Swart Kei river (km 15.40) – Murray & Roberts 2017
- ECO for SANRAL RRP Road Maintenance projects, Mbizana LM 2017
- ECO and Botanical Specialist for the special maintenance of national route R61 Section 2 from Elinus Farm (km 42.2) to N10 (km 85.0) (SANRAL) 2016
- Environmental Control Officer (ECO): Construction of NSRI Slipway - Port Elizabeth Harbour 2016
- ECO for SANRAL RRP Road Maintenance projects, Mbashe LM 2016
- ECO for SANRAL RRP Road Maintenance projects, Nkonkobe LM 2016
- ECO for SANRAL RRP Road Maintenance projects, Mbizana LM 2016
- ECO for SANRAL RRP Road Maintenance projects, Senqu LM 2016
- ECO for SANRAL RRP Road Maintenance projects, Elundini LM 2016
- ECO and Environmental Management for closure of Bushmans River Landfill site 2016
- ECO for DRPW IRM Road Maintenance projects, Amahlathi Municipality 2015
- ECO for DRPW IRM Road Maintenance projects, Makana/Ndlambe Municipality 2015
- ECO for DRPW IRM Road Maintenance projects, Mbashe/Mqume Municipality 2015

- ECO for DRPW IRM Road Maintenance projects, Port St Johns, Mbizana, Ingquza Hill LM's 2015
- ECO for Riversbend Citrus Farm, NMB 2014
- ECO for Alfred Nzo DM Road resurfacing - DR08071, DR08649, DR08092, DR08418, DR08452, DR08015, DR08085, DR08639 & DR08073, Eastern Cape - MSBA 2014
- ECO Audits for Koukamma Flood Damage Road Repairs – Hatch Goba 2014
- EMP and ECO for Utopia Estate, NMB 2013
- Final EMPr submission for Seaview Garden Estate, NMB 2012
- ECO audits for NMB Road surfacing, NMB (multiple contacts) 2011
- EMPr submission and ECO for Seaview Garden Estate, NMB 2010
- ECO for Mainstream Windfarm wind monitoring mast installation, Eastern Cape 2010
- EMP and ECO for Sinati Golf Estate EMP, BCM, Eastern Cape 2009
- Flora Relocation Plan and Permit application for Wildemans Plaas, NMB 2006

ENVIRONMENTAL SCREENING PROJECTS

- Somerset East Stormwater Environmental Screening Report 2021
- Woodlands Diary Road Upgrade Environmental Screening Report, Kouga LM 2021
- Risk Assessment and Screening for proposed Heatherbank access road, NMB 2020
- Environmental Screening Report for Proposed Life Hospital parking expansion, NMB 2019
- Environmental Screening Report for Erf 984 & 1134 development, Parsonsvlei, NMB 2019
- Environmental Screening Report for proposed Khayalethu School, Buffalo City 2018
- Environmental Screening Report for Proposed Housing Development of Erf 8700, Kabega Park, NMB 2017
- Environmental Screening Report for Proposed Housing Development of Erf 14, Kabega Park, NMB 2017
- Environmental Screening Report for Proposed Fairwest Social Housing project, Fairview, NMB 2016
- Environmental Screening Report for Development of Little Chelsea No 25, NMB 2016
- Terrestrial Vegetation Risk Assessment for proposed Skietnek Citrus Farm development (Kirkwood) 2015
- Preliminary Environmental Risk Assessment: NSRI Slipway Port Elizabeth 2015
- Environmental Screening Report for Proposed Development of a Dwelling on Erf 899, Theescombe 2015
- Environmental Screening Report for Proposed Development on Erf 559, Walmer, Port Elizabeth 2015
- Environmental Screening Report for Proposed Housing Scheme Development of Erf 8709, Wells Estate 2015
- Environmental Screening Report for Development of Portion 10 of Little Chelsea No 87, NMB 2015

SECTION 24G APPLICATIONS

- 12 000 ML Dam constructed on farm 960, Patensie (MGM Trust) 2015
- Illegal clearing of 20 Ha of lands on Hitgeheim Farm, Sunland, Eastern Cape 2015

CONFERENCES AND PUBLICATIONS

- Pote, J., Shackleton, C.M., Cocks, M. & Lubke, R. 2006. *Fuelwood harvesting and selection in Valley Thicket*, South Africa. Journal of Arid Environments, 67: 270-287.
- Pote, J., Cocks, M., Dold, T., Lubke, R.A. and Shackleton, C. 2004. *The homegarden cultivation of indigenous medicinal plants in the Eastern Cape*. Indigenous Plant Use Forum, 5 - 8 July 2004, Augsburg Agricultural School, Clanwilliam, Western Cape.
- Pote, J. & Lubke, R.A. 2003. *The selection of indigenous species suitable for use as fuelwood and building materials as a replacement of invasive species that are currently used by the under-privileged in the*

Grahamstown commonage. Working for Water Inaugural Research Symposium 19 - 21 August 2003, Kirstenbosch. Poster presentation.

- Pote, J. & Lubke, R.A. 2003. *The screening of indigenous pioneer species for use as a substitute cover crop for rehabilitation after removal of woody alien species by WfW in the grassy fynbos biome in the Eastern Cape.* Working for Water Inaugural Research Symposium 19 - 21 August 2003, Kirstenbosch, South Africa.

OTHER RESEARCH EXPERIENCE

- Resource assessment of bark stripped trees in indigenous forests in Weza/Kokstad area (June 2000; Dr C. Geldenhuis & Mr. M. Kaplin).
- Working for Water research project for indigenous trees for woodlots (December 2000/January 2001; Prof R.A. Lubke, Rhodes University).
- Project coordinator and leader of the REFYN project – A BP conservation gold award: Conservation and Restoration of Grassy-Fynbos. A multidisciplinary project focusing on management, restoration and public awareness/education (2001 – 2002).
- Conservation Project Management Training Workshops: Royal Geographical Society, London 2001 – Fieldwork Techniques, Habitat Assessment, Biological Surveys, Project Planning, Public Relations and Communications, Risk Assessment, Conservation Education
- Selection and availability of wood in Crossroads village, Eastern Cape, South Africa. Honours Research Project 2002. Supervisors: Prof. R.A. Lubke & Prof. C. Shackleton.
- Floral Morphology, Pollination and Reproduction in Cyphia (LOBELIACEAE). Honours Research Project 2002. Supervisor: Mr. P. Phillipson.
- Forestry resource assessment of bark-stripped species in Amatola District (December 2002; Prof R.A. Lubke).
- Homegarden Cultivation of Medicinal Plants in the Amathole area. Postgraduate Research Project (2003-2005; Prof R.A. Lubke, Prof C.M. Shackleton and Ms C.M., Cocks).

- **VISUAL SPECIALIST**

Province of the EASTERN CAPE
ECONOMIC DEVELOPMENT, ENVIRONMENTAL AFFAIRS & TOURISM

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	

Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 6 January 2021.

PROJECT TITLE

DISCO 2 SOLAR PHOTOVOLTAIC FACILITY – PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE, ON A PORTION OF FARM 713, HOPEFIELD, SUNLAND, SUNDAYS RIVER VALLEY MUNICIPALITY

SPECIALIST [1]	Graham A Young Landscape Architect		
Contact person:	Mr Graham Young		
Postal address:	PO Box 331, Groenkloof		
Postal code:	0027	Cell:	082 462 1491
Telephone:		Fax:	
E-mail:	grahamyounglandarch@gmail.com		
Professional affiliation(s) (if any)	South African Council for Landscape Architects Professionals (SACLAP) Reg No. 87001		

Project Consultant:	Public Process Consultant		
Contact person:	Sandy Wren		
Postal address:	PO Box 27688, Greenacres		
Postal code:	6057	Cell:	082 490 9828
Telephone:	041 374 8426 / 087 1472 451	Fax:	
E-mail:	sandy@publicprocess.co.za		

[1] Curriculum Vitae (CV) attached

4.2 The SPECIALIST

I, **Graham Young** , declare that –

General declaration:

- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation **8** of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (**delete whichever is not applicable**)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.
- ~~I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the specialist

Graham Young Landscape Architect

Name of company

13 July 2022

Date

Signature of the Commissioner of Oaths

13 July 2022

Date

Member of CC.

Designation

Official stamp (below).

This is to certify that the Minister for Justice and Constitutional Development in terms of section 5 (1) of the Justices of the Peace and Commissioners of Oaths Act, 1963 (Act 16 of 1963), appointed

MENNO KLAPWIJK

as commissioner of oaths for the Republic of South Africa, while he holds the office as DIRECTOR OF CAVE KLAPWIJK AND ASSOCIATES cc

Reference Number: 9/1/3/2 PRETORIA

13/7/22.

Signature Date

Annexure 1 : CV

GRAHAM A YOUNG

LANDSCAPE ARCHITECT

PO Box 331, Groenkloof, 0027
Cell: 27 82 462 1491
grahamyounglandarch@gmail.com

VISUAL IMPACT ASSESSMENTS

Graham Young is a registered landscape architect with interest and experience in landscape architecture, urban design, and environmental planning. He holds degree in landscape architecture from the Universities of Toronto (BL) and Pretoria (ML). He has carried out visual impact assessments in Canada and throughout Africa, where he has spent most of his working life. He has served as President of the Institute of Landscape Architects of South Africa (ILASA) and as Vice President of the Board of Control for Landscape Architects. He is a Fellow of the ILASA and a professionally registered landscape architect in South Africa (SACLAP). He is Secretary General for the International Federation of Landscape Architect, Africa Region (IFLA Africa).

He runs his own practice, Graham A Young Landscape Architect (GYLA). A specialty is Visual Impact Assessments for which he has been cited with an Institute of Landscape Architects of South Africa (ILASA), Merit Award (1999). Aspects of this work also include landscape characterization studies, end-use reclamation studies for quarries and computer modelling and visualization. He has completed over 350 specialist reports for projects in South Africa, Canada and other African countries and conducted several specialist reports reviews. He has served as a specialist witness in legal cases involving visual impact issues. He helped develop the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (with Oberholzer 2005) and produced a research document for Eskom, *The Visual Impacts of Power Lines* (2009). In 2011 he produced *'Guidelines for involving visual and aesthetic specialists'* for the Aapravasi Ghat Trust Fund Technical Committee, who manage a World Heritage Site in Mauritius, along with the *Visual Impact Assessment Training Module Guideline Document* for the same client.

During his 40-year career he has received many ILASA (including an award for visual impact assessment) and other international design awards. He has written widely and presented on landscape architectural and visual impact issues and has had projects published both locally and internationally in design journals and books. He recently retired as a Senior Lecturer from the University of Pretoria, Department of Architecture, where he taught landscape architecture and urban design at post and undergraduate levels.

*** GYLA ***

- **ENGINEERING SPECIALIST – Synthesis Power Solutions**

Province of the EASTERN CAPE
ECONOMIC DEVELOPMENT, ENVIRONMENTAL AFFAIRS & TOURISM

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST IN TERMS OF REGULATIONS 12 AND 13 OF THE AMENDMENTS TO THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 AS AMENDED.

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Application for environmental authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amendments to the Environmental Impact Assessment Regulations, 2014. This form is valid as of 6 January 2021.

PROJECT TITLE

DISCO 2 SOLAR PHOTOVOLTAIC FACILITY – PROPOSED CONSTRUCTION OF A SOLAR PHOTOVOLTAIC FACILITY AND ASSOCIATED INFRASTRUCTURE, ON A PORTION OF FARM 713, HOPEFIELD, SUNLAND, SUNDAYS RIVER VALLEY MUNICIPALITY

SPECIALIST [1]	Synthesis: Power Solutions		
Contact person:	Mr. Brandon Polley		
Postal address:	14 Raleigh Street, Richmond Hill, Port Elizabeth		
Postal code:	6001	Cell:	083 235 2306
Telephone:		Fax:	
E-mail:	polleyb@gmail.com		
Professional affiliation(s) (if any)			

Project Consultant:	Public Process Consultant		
Contact person:	Sandy Wren		
Postal address:	PO Box 27688, Greenacres		
Postal code:	6057	Cell:	082 490 9828
Telephone:	041 374 8426 / 087 1472 451	Fax:	
E-mail:	sandy@publicprocess.co.za		

ZENOBIA OLIVIER
KOMMISSARIS VAN EDE / COMMISSIONER OF OATHS
EX-OFFICIO PROFESSIONAL ACCOUNTANT
MEMBERSHIP No. 45931
27 RODEAN STREET, ALGOA PARK, PORT ELIZABETH, 6001
REPUBLIC OF SOUTH AFRICA
081 588 9325
DATUM / DATUM 12 August 20 BLEK / PLACE Port Elizabeth

[1] Curriculum Vitae (CV) attached

4.2 The SPECIALIST

I, Brandon Polley , declare that –

General declaration:

- I act as the independent Specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence and is punishable in terms of section 24F of the Act.

ZENOBIA OLIVIER
KOMMISSARIS VAN EDE - COMMISSIONER OF OATHS
EX-OFFICIO PROFESSIONAL ACCOUNTANT
MEMBERSHIP No. 45931
27 RODEAN STREET, ALGOA PARK, PORT ELIZABETH, 6001
REPUBLIC OF SOUTH AFRICA
081 568 9525

DATUM/DATUM 12 August 2022 PLEK/PLACE Port Elizabeth

Disclosure of Vested Interest (delete whichever is not applicable)

- ~~I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Amendments to Environmental Impact Assessment Regulations, 2014 as amended.~~
- I have a vested interest in the proposed activity proceeding, such vested interest being:

  I am a Director and shareholder in the development company who is responsible for the sourcing and approving the technical selection of the facility, the appointment of the EPC contractor and the sourcing of funding for the project.

Signature of the specialist

Synthesis Power Solutions.

Name of company

12 August 2022

Date

Signature of the Commissioner of Oaths

ZENOBIA OLIVIER
KOMMISSARIS VAN EDE · COMMISSIONER OF OATHS
EX-OFFICIO PROFESSIONAL ACCOUNTANT
MEMBERSHIP No. 45931
27 RODEAN STREET, ALGOA PARK, PORT ELIZABETH, 6001
REPUBLIC OF SOUTH AFRICA
081 588 9325
DATUM / DATUM 12 August 2022 PLEK / PLACE Port Elizabeth

12 August 2022

Date

Professional Accountant

Designation

Official stamp (below)

Annexure 1

CV

Brandon Polley (Founder and director): After graduating from high-school, Brandon attended Teacher Training Tech, then worked as a game ranger and travelled. He spent two years learning cabinetmaking, then a further three years studying accounting through UNISA. Later, his love of hand-made things led him to start up a weaving factory and a joint-management role at a furniture factory. Brandon then joined JCI as an internal auditor for two and a half years, before becoming a branch accountant at Italtile. Over the next ten years, Brandon became proficient in imports and distribution, while developing the franchise model for CTM. In December 2000, he took over the highly successful CTM franchise store in Port Elizabeth. Since then, he has developed ten (10) Top T home improvement stores across the Eastern Cape while earning a reputation as an accomplished Irrigation, Small Stock and Game farmer. Over the last fourteen years, Brandon's keen interest in renewable energy has resulted in a firm partnership with Demetri Pappadopoulos, developing Electric Fish – a hydroelectric business on the Fish River irrigation scheme – and, more recently, Synthesis Power Solutions – their solar energy business aimed at commercial enterprises looking for affordable and reliable clean energy solutions throughout South Africa.

Demetri Pappadopoulos (Founder and partner): Demetri has a BA (Economics) and LLB from UCT. He was one of the original directors of Steers Holdings Ltd (now Famous Brands Ltd) and is one of the pioneers of SMME franchising in Africa. He has held directorships both locally and internationally on both the JSE and LSE. Demetri was a member of the NEPAD business foundation where he was chairman of the FMCG sector. He was co-founder of Helius Energy Plc in the UK, developed a Middelburg-based gas-fired plant with Investec and ADC Projects, as well as a Biomass Plant with Fusion Global Holdings and Sappi. In 2012, Demetri advised Exxaro in the formation of Cennergi, with whom he was instrumental in developing two fully operational wind farms totalling 224MW. Since 2004 Demetri has pursued his vision of building an African-born investment holding company.

Thomas Garner (Director): Thomas is a registered professional engineer, he studied mechanical engineering at the University of Pretoria and holds an MBA from the University of Stellenbosch Business School. He has over 30 years of experience in executive management, engineering, project management, operations, maintenance and business development within the Mining and Energy Sector of South Africa. He offers extensive expertise in business creation and management of high-quality growth opportunities in the Coal, Renewable Energy and Engineering fields. He was founding CEO of Cennergi, a South African based IPP that, at the time, was a 50/50 joint venture between Exxaro Resources and Tata Power. Cennergi developed, constructed, commissioned, and now operates, two large wind farms totalling 229 MW of installed capacity in the Eastern Cape. Thomas is also the Founding Chairman of the South African Independent Power Producers' Association and is a Fellow of the South African Academy of Engineering.

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DATUM / DATUM 12 August 2022 PLEK / PLACE Port Elizabeth

- **SPECIALIST IMPACT ASSESSMENT METHODOLOGY**

As per GN R326 Appendix 1, 3. (1) (h) the assessment of impacts must include the alternatives to be assessed within the preferred site, including the option of not proceeding with the activity. The impact assessment methodology has been aligned with the requirements for Basic Assessment Reports, as stipulated in GN R326 Appendix 1, 3. (1) of the 2014 EIA Regulations (as amended), which states the following:

"A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include—

(h) a full description of the process followed to reach the proposed preferred alternative within the site, including—

(v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be avoided, managed or mitigated;

(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;

(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

(viii) the possible mitigation measures that could be applied and level of residual risk;

(ix) the outcome of the site selection matrix;

(i) a full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including—

(i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and

(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;"

As per Guideline Document 5: Assessment of Alternatives and Impacts, the following methodology is to be applied to the prediction and assessment of impacts and risks. Potential impacts should be rated in terms of the direct, indirect and cumulative.

- **Direct** impacts are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
- **Indirect** impacts of an activity are indirect or induced changes that may occur as a result of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.
- **Cumulative** impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.
- **Spatial extent** – The size of the area that will be affected by the impact/ risk
  - Site specific
  - Local (<2 km from site)
  - Regional (within 30 km of site)
  - National
- **Consequence/ Intensity** –The anticipated severity of the impact/ risk
  - Extreme (extreme alteration of natural systems, patterns or processes, i.e. where environmental functions and processes are altered such that they permanently cease)

    - High (severe alteration of natural systems, patterns or processes i.e. where environmental functions and processes are altered such that they temporarily or permanently cease)
    - Medium (notable alteration of natural systems, patterns or processes i.e. where the environment continues to function but in a modified manner)
    - Low (negligible alteration of natural systems, patterns or processes i.e. where no natural systems/environmental functions, patterns, or processes are affected)
- **Duration** –The timeframe during which the impact/ risk will be experienced
    - Temporary (less than 1 year)
    - Short term (1 to 6 years)
    - Medium term (6 to 15 years)
    - Long term (the impact will cease after the operational life of the activity)
    - Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient)
- **Reversibility** – The degree to which the potential impacts/ risks can be reversed
    - Reversible
    - Partially Reversible
    - Irreversible
- **Irreplaceable loss of Resources** - The degree to which the impact/ risk may cause irreplaceable loss of resources
    - Replaceable
    - Partially Replaceable
    - Irreplaceable

Using the criteria above, the impacts will further be assessed in terms of the following:

- **Probability** –The probability of the impact/ risk occurring
    - Improbable (little or no chance of occurring)
    - Probable (<50% chance of occurring)
    - Highly probable (50 – 90% chance of occurring)
    - Definite (>90% chance of occurring)
- **Significance** – Will the impact/ risk cause a notable alteration of the environment?
    - Low to very low (the impact/risk may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making)
    - Medium (the impact /risk will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated).
    - High (the impact/risk will result in major alteration to the environment even with the implementation of the appropriate mitigation measures and will have an influence on decision-making)
    - Very high (the impact/impact will result in very major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision-making i.e. the project cannot be authorised unless major changes to the engineering design are carried out to reduce the significance rating).
- **Status** - Whether the impact/ risk on the overall environment will be positive, negative or neutral
    - “+” (positive - environment overall will benefit from the impact/risk).
    - “-“ (negative - environment overall will be adversely affected by the impact/risk).
    - “o” (neutral - environment overall will not be affected).
- **Confidence** – The degree of confidence in predictions based on available information and specialist knowledge
    - Low
    - Medium
    - High

Impacts, mitigatory measures and the monitoring of impacts will then be collated into the EMPr and these will include the following:

- 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.
- Identifying negative impacts and prescribing mitigation measures to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Positive impacts will be identified, and mitigation measures will be identified to potentially enhance positive impacts where possible.

Management Actions and Monitoring of the Impacts:

- 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, mitigatory measures will be identified to potentially enhance positive impacts.

The table below is to be used by specialists for the rating of impacts:

Table 1.1: Rating of impacts.

Nature of the Impact	**This should include a description of the proposed impact to indicate if the impact is a direct, indirect or a cumulative impact.**
Extent	Site specific, local, regional or national
Duration	Temporary, short term, medium term, long term or permanent
Consequence /Intensity	Extreme, High, medium or low
Probability	Improbable, probable, highly probable, definite
Degree of Confidence	Low, medium or High
Reversibility	Reversible, Partially Reversible, Irreversible
Irreplaceable Loss of Resources	Replaceable, Partially Replaceable, Irreplaceable
Status and Significance (without mitigation)	Low, medium or High indicating whether Positive (+), Negative (-) or Neutral (o)
Mitigation	Overview of mitigatory measures to mitigate potentially negative impacts or enhance potential positive impacts indicating how this mitigatory measure impacts on the significance of the impact
Status and Significance (after mitigation)	Low, medium or High indicating whether the status of the impact is Positive (+), Negative (-) or Neutral (o)

- Other aspects to be taken into consideration in the assessment of impact significance are:
- Impacts will be evaluated for the construction and operational phases of the project:
    - **NOTE**: No assessment of impacts during the decommissioning phase of the project is proposed. The relevant guidelines and rehabilitation requirements applicable at that time will need to be applied.
- Impacts will be evaluated with and without mitigation in order to determine the effectiveness of mitigation measures on reducing the significance of a particular impact; and
- The impact evaluation will, where possible, take into consideration the cumulative effects associated with this and other projects which are either developed or in the process of being developed in the local area.

The impact assessment will attempt to quantify the magnitude of potential impacts (direct and cumulative effects) and outline the rationale used. Where appropriate, National standards are to be used as a measure of the level of impact.

- **PHASE 1 HERITAGE IMPACT ASSESSMENT UNDERTAKEN ON A PORTION OF FARM 713, INCLUDING THE AREA THAT IS PROPOSED FOR THE PV DEVELOPMENT, HOPEFIELD, SUNDAYS RIVER VALLEY MUNICIPALITY – DR L. ROSSOUW**

Phase 1 Heritage Impact Assessment of Disco Chicks Farm 2 (Farm 713), Sundays River Municipality.

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Executive Summary

- A Phase 1 Heritage Impact Assessment was carried out on Farm 713 (Disco Chicks Farm 2), Sundays River Municipality where the applicant (Venter Wildlife Trust) intends to establish a poultry broiler housing facility and citrus orchards with associated infrastructure.
- The proposed development area is underlain by Kirkwood Formation bedrock, which is capped by a >1m - thick cover of Quaternary colluvium and residual soils of low palaeontological sensitivity.
- There are no indications of aboveground prehistoric structures, rock art, graves, graveyards or historical structures older than 60 years within the survey area.
- The survey has yielded number of stone tools distributed as contextually derived surface scatters at the site.
- The site is considered to be of low archaeological sensitivity.

Contents

Introduction

At the request of Public Process Consultants, a Phase 1 Heritage Impact Assessment was carried out on Farm 713 (Disco Chicks Farm 2), Sundays River Municipality where the applicant (Venter Wildlife Trust) intends to establish a poultry broiler housing facility and citrus orchards with associated infrastructure (**Fig. 1**). The survey is required as a prerequisite for new development in terms of the National Environmental Management Act and is also called for in terms of the National Heritage Resources Act 25 of 1999. The site visit and subsequent assessment took place in May 2013. The task involved identification of possible heritage sites or occurrences in the proposed zone, an assessment of their significance, possible impact by the proposed development and recommendations for mitigation where relevant.

Site information

Locality data

1:50 000 scale topographic map 3325 BC Coerney

1:250 000 scale geological map 3324 Port Elizabeth

Site Coordinates (**Fig 2**): A) 33°25'29.65"S 25°38'22.71"E

B) 33°25'27.27"S 25°38'59.16"E

C) 33°26'5.15"S 25°39'2.29"E

D) 33°26'10.06"S 25°38'26.98"E

The site is located on Disco Chicks Farm 2 (Farm 713) in the Sundays River Valley Municipality, which is situated directly off the gravel road between the R335 (Zuurberg Road) and the town of Kirkwood (**Fig. 2**). The farm is made up of undulating plains and low mountains and foothills. The site is located against a 20° - 30° slope and is covered with dense thicket dominated by trees, shrubs and succulents (**Fig. 3 & 4**).

The poultry facility will consist of 12 broiler houses while the citrus orchards will entail the clearing of approximately 90 hectares of vegetation and the establishment of agricultural activities, as well as associated infrastructure for agriculture production.

Construction Phase activities are anticipated to be as follows:

- Clearing of vegetation for the establishment of broiler houses and associated infrastructure (30 ha).
- Levelling of the site for the foundations for 12 broiler houses measuring 120 m x 15 m each.
- Clearing of vegetation from portions of the site proposed for agriculture (90 ha).
- Levelling and landscaping the site to provide runoff control.
- Establishment of internal roads to provide access to orchards.
- Establishment of a storage dam for irrigation water.
- Establishment of citrus trees.
- Establishment of a farm managers house.

Geology

The geology of the area has been described by McLachlan & McMillan 1976; Toerien and Hill 1989; Le Roux 2000 and Shone 2006). The study area forms part of the Algoa Basin which is represented by a succession of sediments of Late Jurassic to Cretaceous age (**Fig. 5**). These sediments are represented by a diverse sediment fill, comprising the Enon, Kirkwood and Sundays River Formations of the Uitenhage Group. The Disco Chicks site is entirely underlain non-marine sediments of the Kirkwood Formation (*J-Kk*) which in turn overlies the Enon Formation (*Je*) to the north. To the south, the Sundays River Frm. (*Ks*) overlies and grade laterally into the Kirkwood Frm. The

Kirkwood Formation *(J-Kk)* represents the largest surviving area of mid-Mesozoic sedimentation in South Africa and is estimated to be Late Jurassic - Early Cretaceous in age. It is highly fossiliferous and consists of porous and permeable, coarse- to medium-grained channel sandstones, silty overbank mudrocks and palaeosols, characterized by variegated hues of green, grey and red, which were accumulated as a result of fluvial sedimentation. Superficial sediments (Quaternary) at the site are made up of red-brown soils containing localized gravel clasts and calcrete profiles (**Fig. 6**).

Methodology

The site was surveyed by vehicle and on foot, using a Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera for recording purposes Relative surface distribution density of uncapped lithic material was calculated by conducting two 500m arbitrary transects across the study area. Relevant archaeological and paleontological information were assimilated for the report and integrated with data acquired during the on-site inspection.

Terms of reference for assessment

- Identify and map possible heritage resources;
- Determine and assess the potential impacts of the proposed development on potential heritage resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

Background

Palaeontology

There is a long history of vertebrate fossil collection from the Kirkwood Formation, beginning in 1845 with the discovery of a number of fragmentary bones including a partial skull with teeth now identified as the stegosaur *Paranthodon africanus* (Galton and Coombs, 1981). Several key fossil sites are found to the west of the present study area along the junction of the Bezuidenhouts, Wit and Sundays River near Dunbrodie and Blue Cliff Station, as well as near Kirkwood (Kirkwood Cliffs) (**Fig. 7**) Fossils

include a range of plant remains (fern, cycad and conifer taxa) and vertebrate bones, including those of large dinosaurs (McLachlan and Anderson 1976; Rich *et al.* 1983; Ross *et al.* 1999; de Klerk *et al.* 1998; de Klerk *et al.* 2000). Invertebrate fossils associated with the Kirkwood Frm. plant bed localities seem to be commonly associated with either fresh-water or estuarine conditions. Calcrete-rich palaeosols and palaeobotanical evidence within the Kirkwood alluvium indicate that semi-arid and warm climates prevailed at the time of its formation.

Archaeology

Earliest human habitation in the Sundays River Valley is indicated by the presence by bifacial stone tools, which are assigned to Early Stone Age. ESA bifaces that possibly dates back to between 1.5 million and 300 000 years ago, and younger, Middle Stone Ages flake-blade industries generally occur as contextually derived individual finds on the landscape or occasionally as capped assemblages within Quaternary alluvial deposits. Stone Age sites have been recorded along the Sundays River Valley near Addo and Kirkwood. The incidence of surface scatters usually declines further away from localized areas such as riverine or spring sites. At Amanzi Springs, west of Grassridge near Addo, ESA *in situ* artefacts were found along with well-preserved plant and faunal remains within spring sediments (Deacon 1970).

Cave and rock shelters in the adjacent mountains to the north and east frequently contain archaeological remains and rock art associated with San hunter-gatherers who inhabited the area during the last ten thousand years (Deacon 1976). The Melkhoutboom Cave, located in the Suurberg Mountains, is a Later Stone Age site that dates back 15000 years. Nearby rock paintings in the Suurberge confirm that this area was inhabited by San hunter-gatherers. Khoi pastoralists occupied the region some 2000 years ago and introduced domesticated animals and pottery to the region (Deacon 1984). Khoi pastoralist sites are often found close to the banks of large streams and rivers. Khoi groups who lived in the area during historical times include the Iqua, Damasqua and Gonaqua clans. The Suurberg area is also known for numerous skirmishes that took place between the Xhosa inhabitants, European settlers, British military and Khoi pastoralists during the 18th and 19th centuries and some historical remains related to these events may still be preserved.

Results of Survey

There are no bedrock (Kirkwood sandstones and mudrocks) exposed at the site. Test pits show that it is capped by a substantial Quaternary (superficial) overburden (**Fig. 8**) The foot survey was at times hampered by dense vegetation (**Fig. 9**), but several features, including artefacts were located in secondary context on the surface near open clearings and tracks (**Fig 10 & 11, Table 1**). The stone tools are mainly represented by large, irregular flakes, chunks and reduced pieces made from quartzite (**Fig. 12**). Investigation of exposed topsoils shows no evidence for the accumulation and preservation of intact fossil material within the Quaternary sediments covering the underlying sedimentary rocks.

Impact Statement and Recommendations

The proposed development area is underlain by Kirkwood Formation bedrock, which is capped by a >1m -thick cover of Quaternary colluvium and residual soils of low palaeontological sensitivity.

- As a result of the comparatively thick mantle of superficial sediments that blanket the affected area, potential palaeontological impact during the construction and operational phase of the development is considered to be improbable. There are no major palaeontological grounds to halt the proposed development.

There are no indications of aboveground prehistoric structures, or rock art within the survey area. There is no evidence of graves, graveyards or historical structures older than 60 years at the site. The survey has yielded number of stone tools distributed as contextually derived surface scatters at the site. The artefacts are not associated with any other archaeological material. Overall, the site is considered to be of low archaeological sensitivity.

- It is anticipated that potential archaeological impact during the construction as well as the operational phase of the development will affect material that are not significant enough to warrant surface collection as part of a Phase 2 procedure.

- However, although there are no major archaeological grounds to halt the proposed development it is noted that the archaeological assessment is based solely on surface visibility and evidence provided by existing soil cuttings.
- It is advised that any **in situ** archaeological material found during the course of excavation/ ground clearing activities should be reported to the relevant heritage resources authority (ECPHRA Contact details: Mr Sello Mokhanya, 74 Alexander Road, King Williams Town 5600; smokhanya@ecphra.org.zaso) and that possible intact finds may require further investigation and/or a rescue operation at the cost of the developer.

References

Deacon , H.J. 1970. The Acheulian occupation at Amanzi Springs, Uitenhage District, Cape Province. *Annals of the Cape Provincial Museums*. 8:89-189.

Deacon, H. J., 1976. Where hunters gathered: a study of Holocene Stone Age people in the Eastern Cape. *South African Archaeological Society Monograph Series* No. 1.

Deacon, J. (1984). Later Stone Age people and their descendants in southern Africa. In Klein, R. G. (ed.), *Southern African Prehistory and Paleoenvironments*, A. A. Balkema, Rotterdam, pp. 221-328.

De Klerk, W. J., G A. Forster, G F. Ross, S. D. Sampson, and A. Chinsamy. 1998. A review of recent dinosaur and other verte brate discoveries in the Early Cretaceous Kirkwood Formation in the Algoa Basin, Eastern Cape, South Africa. Journal of African Earth Sciences 27:55.

De Klerk, W. J., G A. Forster, S. D. Sampson, A. Chinsamy-Turan, and G F. Ross. 2000. A new coelurosaurian dinosaur from the early Cretaceous of South Africa. Journal of Vertebrate Paleontology 20:324-332.

Galton, P. M., and W. P. Coombs. 1981. Paranthodon africanus (Broom), a stegosaurian dinosaur from the Lower Cretaceous of South Africa. *Geobios* 14:299-309.

Le Roux, F.G. 2000. The Geology of the Port Elizabeth – Uitenhage area. *Geol. Surv. S. Afr.*

McClachlan, I.R. and Mcmillan, I.K. 1976. Review and stratigraphic significance of Southern Cape Mesozoic palaeontology. *Trans. Geol. Soc. S. Afr.* 79, 197-212.

Shone, R.W. 2006. Onshore post-Karoo Mesozoic deposits. In: Johnson, M.R., Anhaeusser, C.R. & Thomas, R.J. (Eds.) The geology of South Africa, pp. 541-552. Geological Society of South Africa.

Toerien, D.K. and Hill, R.S. 1989. The Geology of the Port Elizabeth Area. *Geol. Surv. S. Afr.*

Rich, T. H. V., R. E. Molnar, and P. V. Rich. 1983. Fossil vertebrates from the Late Jurassic or Early Cretaceous Kirkwood Formation, Algoa Basin, Southern Africa. *Transactions of the Geological Society of South Africa* 86:281-291.

Ross, G F., H.-D. Sues, and W. J. de Klerk. 1999. Lepidosaurian remains from the Lower Cretaceous Kirkwood Formation of South Africa. *Journal of Vertebrate Paleontology* 19:21-27.

Declaration

L. Rossouw does independent specialist consulting and is in no way connected with the proponents of the development, other than delivery of consulting services.

Figures & Tables

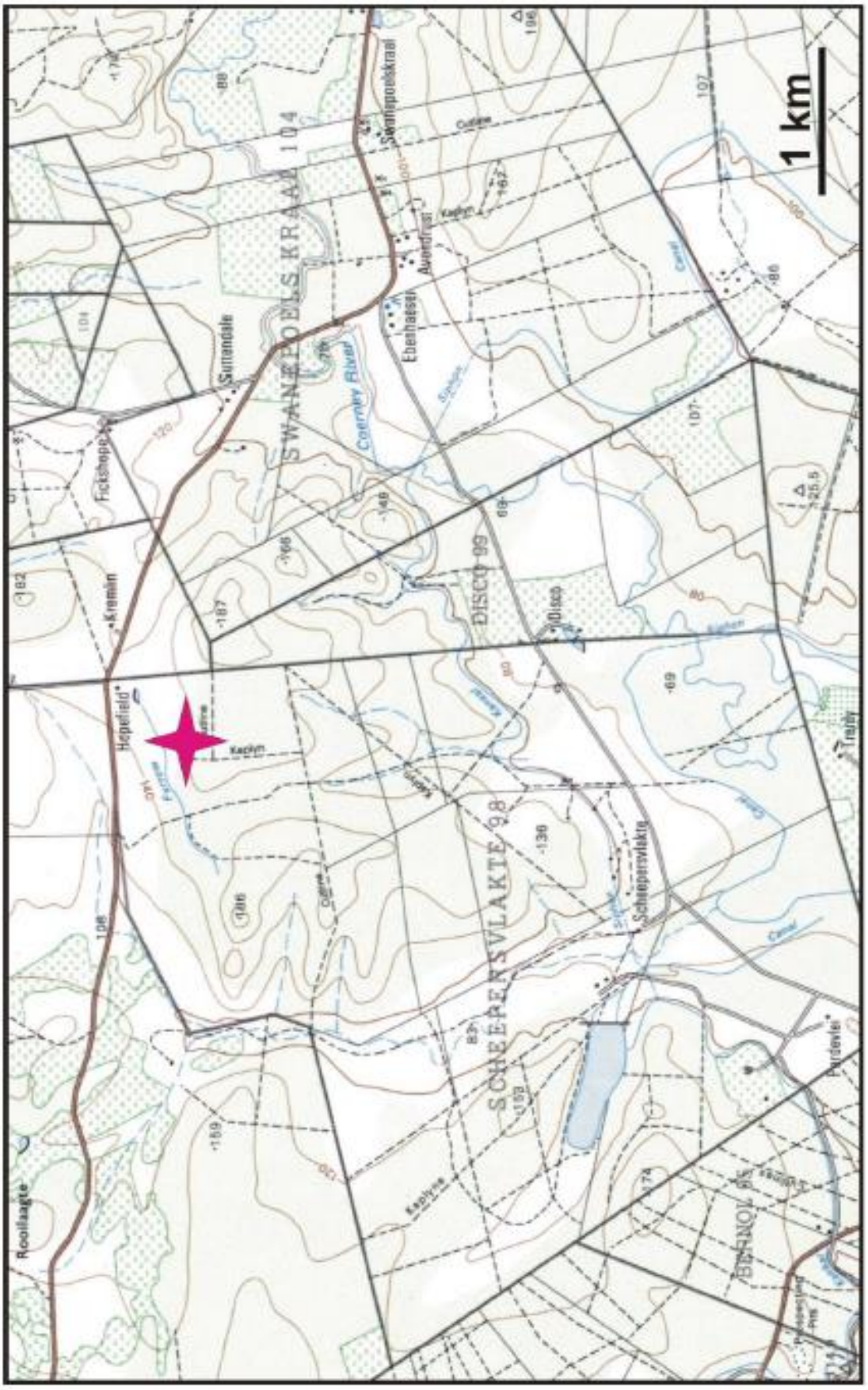


Figure 1. Portion of 1:50 000 topographical map of the locality (3325 BC Coerney).

Figure 2. Aerial view of Farm 713. The affected area is indicated by the dotted line.

Figure 3. The site is located against a 20° - 30° hillslope (above) and covered with dense thicket dominated by trees, shrubs and succulents (below).

Figure 4. Panoramic view of the site, looking northeast

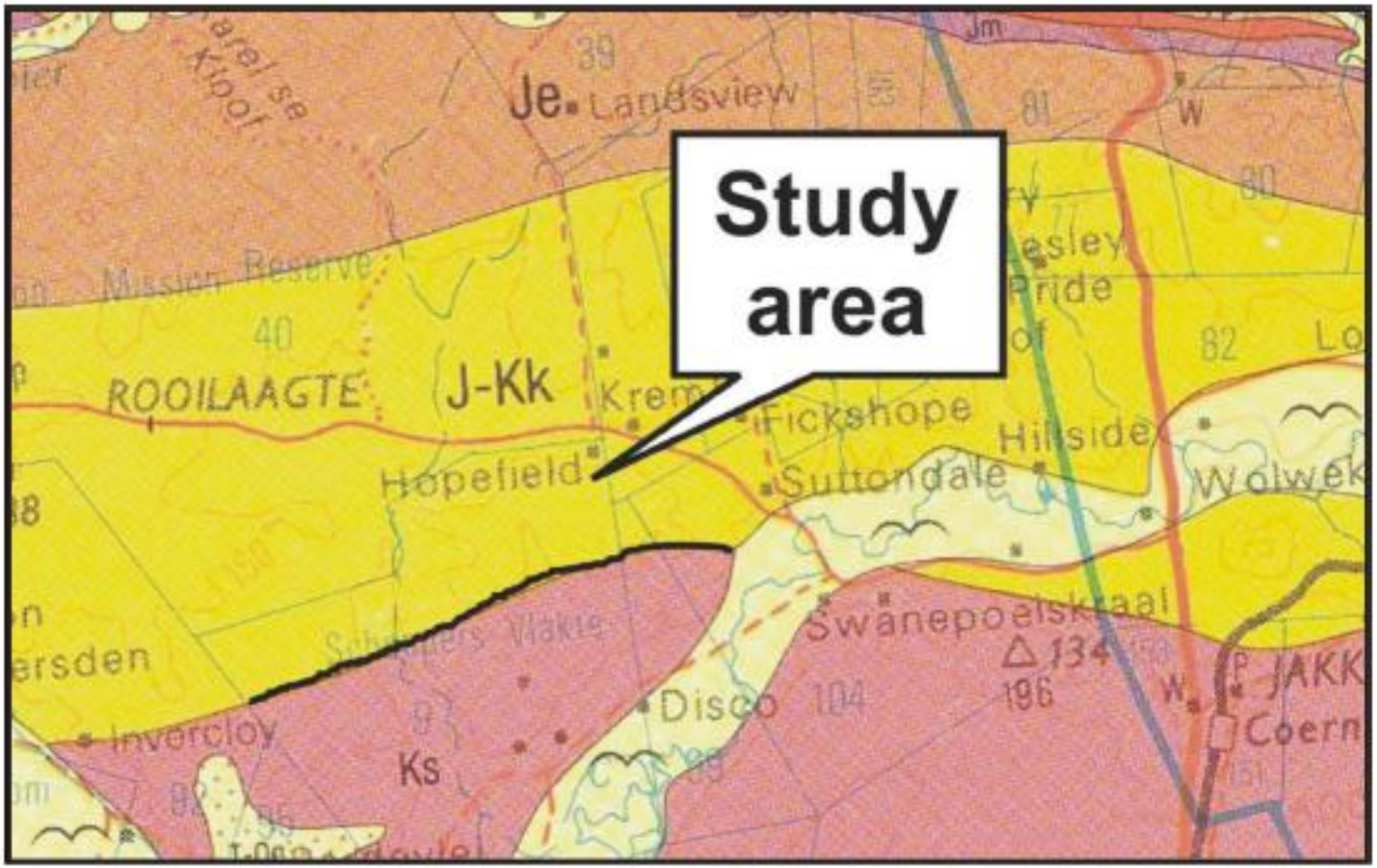


Figure 5. Portion of the 250 000 scale geological map 3324 Port Elizabeth illustrating the geology of the region. The Disco Chicks site is entirely underlain non-marine sediments of the Kirkwood Formation (J-Kk) which in turn overlies the Enon Formation (Je) to the north. To the south, the Sundays River Frm. (Ks) overlies and grade laterally into the Kirkwood Frm.

Figure 6. Superficial sediments (Quaternary) at the site are made up of red-brown soils containing localized gravel clasts and calcrete profiles.

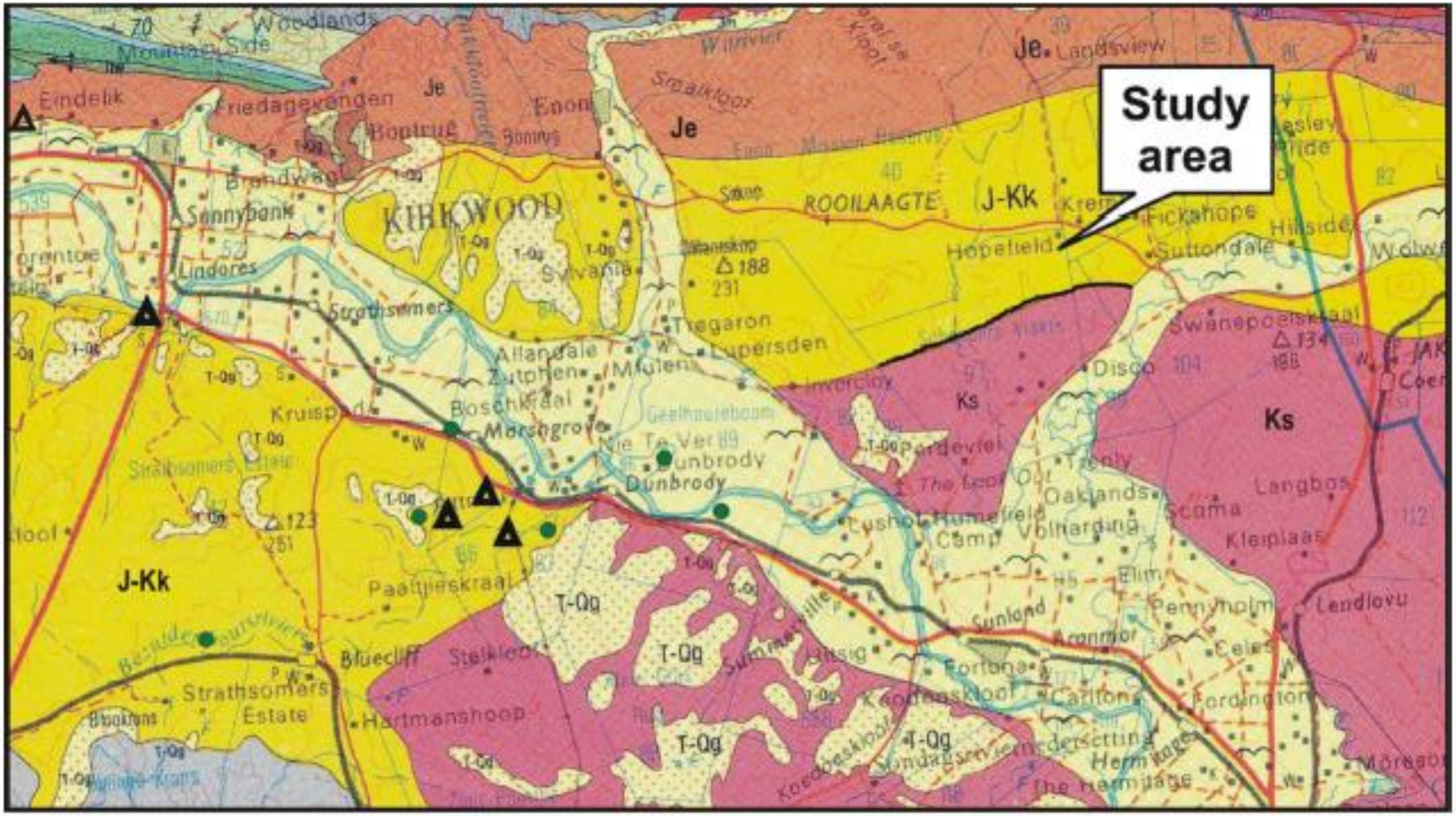


Figure 7. Portion of the 250 000 scale geological map with key palaeontological localities (3324 Port Elizabeth).

Figure 8. Test pits indicate that the site is capped by a >1m -thick mantle of Quaternary colluvium and residual soils of low palaeontological sensitivity.

Figure 9. The affected area is characterized by dense vegetation.

Figure 10. several features, including farm related (modern) structures such as workers' huts (above left) and dam walls (above right) are located near open clearings and tracks.

Figure 11. Surface scatters of individual stone tools occur in secondary context near open clearings.

Table 1. Features recorded during survey.

	Feature	Coordinates	
1	Homestead	33°25'31.33"S	25°38'55.73"E
2	Man-made dam	33°25'33.15"S	25°38'54.48"E
3	Dilapidated building	33°25'37.53"S	25°38'47.65"E
4	Man-made dam	33°25'39.17"S	25°38'33.78"E
5	Stone tool (surface find)	33°25'44.60"S	25°38'50.04"E
6	Stone tool (surface find)	33°25'43.08"S	25°38'53.47"E
7	Stone tool (surface find)	33°25'43.70"S	25°38'53.06"E
8	Stone tool (surface find)	33°25'46.15"S	25°38'42.44"E
9	Stone tool (surface find)	33°25'37.51"S	25°38'45.51"E
10	Stone tool (surface find)	33°25'38.71"S	25°38'42.27"E
11	Stone tool (surface find)	33°25'42.10"S	25°38'35.58"E
12	Stone tool (surface find)	33°25'44.16"S	25°38'37.87"E
13	Stone tool (surface find)	33°25'42.98"S	25°38'39.61"E
14	Stone tool (surface find)	33°25'47.96"S	25°38'40.14"E
15	Stone tool (surface find)	33°25'53.10"S	25°38'52.40"E
16	Stone tool (surface find)	33°26'0.13"S	25°38'54.22"E
17	Stone tool (surface find)	33°25'35.31"S	25°38'56.64"E

Figure 12. Stone tools are mainly represented by large, irregular flakes, chunks and reduced pieces made from quartzite.

Appendix 1: Survey Log.

Index	Elevation	Leg Length	Course	Position
1	100 m	22 m	330° true	S33 26 40.4 E25 39 21.4
2	103 m	7 m	5° true	S33 26 39.8 E25 39 20.9
3	103 m	118 m	11° true	S33 26 39.6 E25 39 21.0
4	103 m	118 m	351° true	S33 26 35.8 E25 39 21.8
5	103 m	7 m	356° true	S33 26 32.1 E25 39 21.1
6	104 m	11 m	350° true	S33 26 31.8 E25 39 21.1
7	105 m	6 m	334° true	S33 26 31.4 E25 39 21.0
8	106 m	16 m	329° true	S33 26 31.3 E25 39 20.9
9	107 m	7 m	344° true	S33 26 30.8 E25 39 20.6
10	107 m	20 m	329° true	S33 26 30.6 E25 39 20.5
11	109 m	27 m	307° true	S33 26 30.0 E25 39 20.1
12	111 m	65 m	297° true	S33 26 29.5 E25 39 19.3
13	115 m	8 m	297° true	S33 26 28.6 E25 39 17.1
14	115 m	31 m	296° true	S33 26 28.4 E25 39 16.8
15	117 m	31 m	299° true	S33 26 28.0 E25 39 15.7
16	121 m	8 m	297° true	S33 26 27.5 E25 39 14.6
17	121 m	23 m	295° true	S33 26 27.4 E25 39 14.4
18	122 m	15 m	298° true	S33 26 27.1 E25 39 13.6
19	123 m	23 m	297° true	S33 26 26.8 E25 39 13.1
20	125 m	35 m	298° true	S33 26 26.5 E25 39 12.3
21	128 m	31 m	294° true	S33 26 26.0 E25 39 11.1
22	129 m	15 m	309° true	S33 26 25.6 E25 39 10.0
23	130 m	17 m	316° true	S33 26 25.2 E25 39 09.5
24	133 m	32 m	302° true	S33 26 24.9 E25 39 09.1
25	137 m	28 m	304° true	S33 26 24.3 E25 39 08.0
26	140 m	21 m	303° true	S33 26 23.8 E25 39 07.1
27	142 m	7 m	300° true	S33 26 23.4 E25 39 06.4
28	143 m	13 m	306° true	S33 26 23.3 E25 39 06.2
29	144 m	19 m	298° true	S33 26 23.1 E25 39 05.8
30	146 m	19 m	295° true	S33 26 22.8 E25 39 05.2
31	148 m	18 m	336° true	S33 26 22.5 E25 39 04.5
32	151 m	21 m	359° true	S33 26 22.0 E25 39 04.2
33	153 m	30 m	357° true	S33 26 21.4 E25 39 04.2
34	154 m	65 m	356° true	S33 26 20.4 E25 39 04.1
35	156 m	40 m	356° true	S33 26 18.3 E25 39 04.0
36	160 m	8 m	356° true	S33 26 17.0 E25 39 03.8
37	160 m	25 m	356° true	S33 26 16.7 E25 39 03.8
38	163 m	17 m	356° true	S33 26 15.9 E25 39 03.8
39	164 m	52 m	356° true	S33 26 15.4 E25 39 03.7
40	167 m	133 m	355° true	S33 26 13.7 E25 39 03.6
41	171 m	73 m	355° true	S33 26 09.4 E25 39 03.1
42	175 m	10 m	353° true	S33 26 07.1 E25 39 02.9
43	175 m	68 m	355° true	S33 26 06.8 E25 39 02.9
44	176 m	2 m	7° true	S33 26 04.6 E25 39 02.7
45	177 m	1 m	85° true	S33 26 04.5 E25 39 02.7
46	175 m	0 m	192° true	S33 26 04.5 E25 39 02.7
47	178 m	1 m	174° true	S33 26 04.5 E25 39 02.7
48	176 m	1 m	196° true	S33 26 04.6 E25 39 02.7
49	176 m	2 m	284° true	S33 26 04.6 E25 39 02.7
50	176 m	1 m	348° true	S33 26 04.6 E25 39 02.6
51	175 m	26 m	354° true	S33 26 04.6 E25 39 02.6
52	178 m	80 m	355° true	S33 26 03.7 E25 39 02.5
53	178 m	162 m	355° true	S33 26 01.2 E25 39 02.2
54	181 m	130 m	356° true	S33 25 55.9 E25 39 01.7

55	181 m	61 m	354° true	S33 25 51.7 E25 39 01.3
56	179 m	21 m	337° true	S33 25 49.7 E25 39 01.1
57	178 m	57 m	349° true	S33 25 49.1 E25 39 00.8
58	176 m	6 m	357° true	S33 25 47.3 E25 39 00.4
59	176 m	25 m	353° true	S33 25 47.1 E25 39 00.4
60	174 m	24 m	359° true	S33 25 46.3 E25 39 00.3
61	172 m	62 m	356° true	S33 25 45.5 E25 39 00.2
62	168 m	18 m	356° true	S33 25 43.5 E25 39 00.1
63	166 m	45 m	357° true	S33 25 43.0 E25 39 00.0
64	163 m	74 m	355° true	S33 25 41.5 E25 38 59.9
65	160 m	37 m	355° true	S33 25 39.1 E25 38 59.7
66	157 m	17 m	0° true	S33 25 37.9 E25 38 59.5
67	157 m	21 m	344° true	S33 25 37.4 E25 38 59.6
68	156 m	11 m	319° true	S33 25 36.7 E25 38 59.3
69	157 m	64 m	324° true	S33 25 36.5 E25 38 59.1
70	154 m	74 m	339° true	S33 25 34.8 E25 38 57.6
71	153 m	21 m	331° true	S33 25 32.6 E25 38 56.6
72	154 m	1 m	64° true	S33 25 32.0 E25 38 56.2
73	153 m	3 m	75° true	S33 25 32.0 E25 38 56.2
74	153 m	1 m	220° true	S33 25 31.9 E25 38 56.3
75	153 m	3 m	46° true	S33 25 32.0 E25 38 56.3
76	153 m	3 m	155° true	S33 25 31.9 E25 38 56.4
77	153 m	1 m	64° true	S33 25 32.0 E25 38 56.4
78	153 m	5 m	234° true	S33 25 32.0 E25 38 56.5
79	154 m	2 m	241° true	S33 25 32.1 E25 38 56.3
80	154 m	3 m	219° true	S33 25 32.1 E25 38 56.2
81	153 m	2 m	178° true	S33 25 32.2 E25 38 56.2
82	153 m	2 m	30° true	S33 25 32.2 E25 38 56.2
83	155 m	1 m	339° true	S33 25 32.2 E25 38 56.2
84	154 m	0 m	44° true	S33 25 32.2 E25 38 56.2
85	154 m	2 m	301° true	S33 25 32.2 E25 38 56.2
86	155 m	1 m	206° true	S33 25 32.1 E25 38 56.2
87	154 m	3 m	9° true	S33 25 32.2 E25 38 56.1
88	154 m	1 m	72° true	S33 25 32.1 E25 38 56.2
89	151 m	0 m	242° true	S33 25 32.1 E25 38 56.2
90	155 m	3 m	86° true	S33 25 32.1 E25 38 56.2
91	153 m	3 m	174° true	S33 25 32.0 E25 38 56.3
92	154 m	14 m	230° true	S33 25 32.1 E25 38 56.3
93	155 m	3 m	142° true	S33 25 32.4 E25 38 55.9
94	155 m	23 m	182° true	S33 25 32.5 E25 38 56.0
95	154 m	12 m	192° true	S33 25 33.2 E25 38 56.0
96	154 m	2 m	306° true	S33 25 33.6 E25 38 55.9
97	153 m	22 m	175° true	S33 25 33.6 E25 38 55.8
98	154 m	1 m	175° true	S33 25 34.3 E25 38 55.9
99	155 m	19 m	157° true	S33 25 34.3 E25 38 55.9
100	155 m	1 m	212° true	S33 25 34.9 E25 38 56.1
101	155 m	7 m	5° true	S33 25 34.9 E25 38 56.1
102	155 m	8 m	351° true	S33 25 34.7 E25 38 56.1
103	154 m	3 m	333° true	S33 25 34.4 E25 38 56.1
104	155 m	10 m	359° true	S33 25 34.3 E25 38 56.0
105	155 m	2 m	347° true	S33 25 34.0 E25 38 56.0
106	153 m	13 m	340° true	S33 25 33.9 E25 38 56.0
107	154 m	7 m	12° true	S33 25 33.5 E25 38 55.8
108	153 m	21 m	2° true	S33 25 33.3 E25 38 55.9
109	155 m	8 m	44° true	S33 25 32.6 E25 38 55.9
110	142 m	0 m	198° true	S33 25 32.4 E25 38 56.1
111	156 m	0 m	241° true	S33 25 32.4 E25 38 56.1
112	161 m	0 m	172° true	S33 25 32.4 E25 38 56.1

113	154 m	0 m	130° true	S33 25 32.4 E25 38 56.1
114	154 m	2 m	44° true	S33 25 32.4 E25 38 56.1
115	153 m	11 m	354° true	S33 25 32.4 E25 38 56.2
116	154 m	1 m	123° true	S33 25 32.0 E25 38 56.1
117	153 m	15 m	285° true	S33 25 32.1 E25 38 56.2
118	153 m	45 m	264° true	S33 25 31.9 E25 38 55.6
119	153 m	54 m	235° true	S33 25 32.1 E25 38 53.9
120	153 m	55 m	232° true	S33 25 33.1 E25 38 52.2
121	153 m	11 m	206° true	S33 25 34.2 E25 38 50.5
122	153 m	0 m	287° true	S33 25 34.5 E25 38 50.3
123	152 m	20 m	210° true	S33 25 34.5 E25 38 50.3
124	152 m	54 m	234° true	S33 25 35.1 E25 38 49.9
125	154 m	24 m	248° true	S33 25 36.1 E25 38 48.2
126	153 m	1 m	329° true	S33 25 36.4 E25 38 47.4
127	153 m	27 m	237° true	S33 25 36.3 E25 38 47.3
128	153 m	50 m	240° true	S33 25 36.8 E25 38 46.5
129	154 m	58 m	253° true	S33 25 37.6 E25 38 44.8
130	154 m	69 m	277° true	S33 25 38.2 E25 38 42.6
131	154 m	79 m	280° true	S33 25 37.9 E25 38 40.0
132	152 m	10 m	243° true	S33 25 37.4 E25 38 37.0
133	152 m	1 m	7° true	S33 25 37.6 E25 38 36.6
134	153 m	5 m	91° true	S33 25 37.5 E25 38 36.6
135	153 m	3 m	328° true	S33 25 37.5 E25 38 36.9
136	153 m	3 m	213° true	S33 25 37.5 E25 38 36.8
137	152 m	22 m	327° true	S33 25 37.5 E25 38 36.7
138	151 m	27 m	289° true	S33 25 36.9 E25 38 36.3
139	151 m	12 m	310° true	S33 25 36.6 E25 38 35.3
140	150 m	2 m	331° true	S33 25 36.4 E25 38 34.9
141	151 m	8 m	340° true	S33 25 36.3 E25 38 34.9
142	149 m	4 m	352° true	S33 25 36.1 E25 38 34.8
143	149 m	2 m	349° true	S33 25 36.0 E25 38 34.8
144	149 m	8 m	13° true	S33 25 35.9 E25 38 34.7
145	147 m	1 m	181° true	S33 25 35.7 E25 38 34.8
146	148 m	3 m	295° true	S33 25 35.7 E25 38 34.8
147	148 m	2 m	215° true	S33 25 35.7 E25 38 34.7
148	147 m	3 m	156° true	S33 25 35.7 E25 38 34.6
149	149 m	7 m	146° true	S33 25 35.8 E25 38 34.7
150	148 m	10 m	157° true	S33 25 36.0 E25 38 34.9
151	149 m	8 m	163° true	S33 25 36.3 E25 38 35.0
152	149 m	5 m	142° true	S33 25 36.6 E25 38 35.1
153	150 m	2 m	120° true	S33 25 36.7 E25 38 35.2
154	150 m	27 m	106° true	S33 25 36.7 E25 38 35.3
155	150 m	14 m	118° true	S33 25 37.0 E25 38 36.3
156	151 m	5 m	156° true	S33 25 37.2 E25 38 36.8
157	151 m	8 m	189° true	S33 25 37.3 E25 38 36.9
158	152 m	6 m	191° true	S33 25 37.6 E25 38 36.8
159	152 m	12 m	167° true	S33 25 37.8 E25 38 36.8
160	152 m	19 m	181° true	S33 25 38.2 E25 38 36.9
161	153 m	11 m	125° true	S33 25 38.8 E25 38 36.8
162	154 m	4 m	233° true	S33 25 39.0 E25 38 37.2
163	154 m	1 m	341° true	S33 25 39.0 E25 38 37.1
164	154 m	3 m	352° true	S33 25 39.0 E25 38 37.0
165	153 m	14 m	5° true	S33 25 38.9 E25 38 37.0
166	152 m	11 m	341° true	S33 25 38.4 E25 38 37.1
167	153 m	2 m	99° true	S33 25 38.1 E25 38 36.9
168	152 m	2 m	62° true	S33 25 38.1 E25 38 37.0
169	152 m	1 m	43° true	S33 25 38.1 E25 38 37.1
170	152 m	5 m	343° true	S33 25 38.0 E25 38 37.1

171	152 m	6 m	353° true	S33 25 37.9 E25 38 37.1
172	151 m	8 m	334° true	S33 25 37.7 E25 38 37.1
173	151 m	3 m	229° true	S33 25 37.5 E25 38 36.9
174	151 m	2 m	225° true	S33 25 37.5 E25 38 36.8
175	151 m	2 m	274° true	S33 25 37.6 E25 38 36.8
176	152 m	42 m	255° true	S33 25 37.6 E25 38 36.7
177	153 m	20 m	219° true	S33 25 37.9 E25 38 35.1
178	154 m	40 m	189° true	S33 25 38.4 E25 38 34.6
179	156 m	1 m	22° true	S33 25 39.7 E25 38 34.4
180	155 m	17 m	14° true	S33 25 39.7 E25 38 34.4
181	155 m	23 m	151° true	S33 25 39.1 E25 38 34.6
182	157 m	39 m	144° true	S33 25 39.8 E25 38 35.0
183	158 m	35 m	149° true	S33 25 40.8 E25 38 35.9
184	160 m	21 m	148° true	S33 25 41.8 E25 38 36.6
185	162 m	12 m	158° true	S33 25 42.3 E25 38 37.0
186	163 m	8 m	248° true	S33 25 42.7 E25 38 37.2
187	163 m	15 m	158° true	S33 25 42.8 E25 38 36.9
188	165 m	49 m	176° true	S33 25 43.3 E25 38 37.1
189	168 m	95 m	180° true	S33 25 44.8 E25 38 37.3
190	172 m	71 m	176° true	S33 25 47.9 E25 38 37.2
191	172 m	91 m	174° true	S33 25 50.2 E25 38 37.4
192	170 m	11 m	176° true	S33 25 53.1 E25 38 37.8
193	170 m	3 m	17° true	S33 25 53.5 E25 38 37.8
194	170 m	34 m	355° true	S33 25 53.4 E25 38 37.9
195	170 m	52 m	351° true	S33 25 52.3 E25 38 37.7
196	170 m	47 m	351° true	S33 25 50.7 E25 38 37.4
197	172 m	0 m	205° true	S33 25 49.2 E25 38 37.2
198	171 m	6 m	99° true	S33 25 49.2 E25 38 37.2
199	171 m	39 m	87° true	S33 25 49.2 E25 38 37.4
200	171 m	117 m	90° true	S33 25 49.1 E25 38 38.9
201	171 m	125 m	90° true	S33 25 49.2 E25 38 43.5
202	172 m	73 m	91° true	S33 25 49.2 E25 38 48.3
203	172 m	45 m	89° true	S33 25 49.2 E25 38 51.2
204	173 m	4 m	78° true	S33 25 49.2 E25 38 52.9
205	173 m	27 m	90° true	S33 25 49.2 E25 38 53.1
206	172 m	2 m	260° true	S33 25 49.2 E25 38 54.1
207	174 m	21 m	84° true	S33 25 49.2 E25 38 54.1
208	174 m	68 m	91° true	S33 25 49.1 E25 38 54.9
209	178 m	14 m	90° true	S33 25 49.1 E25 38 57.5
210	179 m	56 m	91° true	S33 25 49.1 E25 38 58.1
211	181 m	14 m	97° true	S33 25 49.2 E25 39 00.2
212	182 m	4 m	267° true	S33 25 49.2 E25 39 00.8
213	182 m	1 m	354° true	S33 25 49.2 E25 39 00.6
214	181 m	4 m	98° true	S33 25 49.2 E25 39 00.6
215	183 m	6 m	95° true	S33 25 49.2 E25 39 00.8
216	182 m	8 m	234° true	S33 25 49.2 E25 39 01.0
217	182 m	3 m	324° true	S33 25 49.4 E25 39 00.7
218	182 m	74 m	323° true	S33 25 49.3 E25 39 00.7
219	178 m	30 m	322° true	S33 25 47.4 E25 38 59.0
220	175 m	11 m	322° true	S33 25 46.6 E25 38 58.3
221	174 m	26 m	320° true	S33 25 46.4 E25 38 58.0
222	172 m	6 m	305° true	S33 25 45.7 E25 38 57.4
223	172 m	6 m	18° true	S33 25 45.6 E25 38 57.2
224	172 m	4 m	207° true	S33 25 45.4 E25 38 57.3
225	171 m	14 m	133° true	S33 25 45.6 E25 38 57.2
226	172 m	58 m	144° true	S33 25 45.9 E25 38 57.6
227	177 m	39 m	143° true	S33 25 47.4 E25 38 58.9
228	179 m	30 m	144° true	S33 25 48.4 E25 38 59.8

229	181 m	19 m	95° true	S33 25 49.2 E25 39 00.5
230	182 m	1 m	23° true	S33 25 49.2 E25 39 01.2
231	181 m	14 m	204° true	S33 25 49.2 E25 39 01.2
232	182 m	6 m	303° true	S33 25 49.6 E25 39 01.0
233	181 m	4 m	289° true	S33 25 49.5 E25 39 00.8
234	180 m	3 m	314° true	S33 25 49.5 E25 39 00.7
235	181 m	41 m	350° true	S33 25 49.4 E25 39 00.6
236	180 m	48 m	357° true	S33 25 48.1 E25 39 00.3
237	176 m	67 m	357° true	S33 25 46.6 E25 39 00.2
238	173 m	53 m	356° true	S33 25 44.4 E25 39 00.1
239	170 m	52 m	356° true	S33 25 42.7 E25 38 59.9
240	166 m	72 m	356° true	S33 25 41.0 E25 38 59.8
241	162 m	41 m	356° true	S33 25 38.7 E25 38 59.6
242	160 m	24 m	341° true	S33 25 37.4 E25 38 59.5
243	160 m	84 m	326° true	S33 25 36.7 E25 38 59.2
244	157 m	11 m	339° true	S33 25 34.4 E25 38 57.4
245	156 m	9 m	116° true	S33 25 34.1 E25 38 57.2
246	155 m	10 m	191° true	S33 25 34.2 E25 38 57.5
247	156 m	39 m	153° true	S33 25 34.5 E25 38 57.5
248	157 m	30 m	143° true	S33 25 35.6 E25 38 58.2
249	158 m	17 m	139° true	S33 25 36.4 E25 38 58.9
250	157 m	17 m	160° true	S33 25 36.8 E25 38 59.3
251	158 m	6 m	179° true	S33 25 37.4 E25 38 59.5
252	158 m	20 m	179° true	S33 25 37.6 E25 38 59.5
253	160 m	57 m	176° true	S33 25 38.2 E25 38 59.6
254	163 m	62 m	174° true	S33 25 40.0 E25 38 59.7
255	166 m	13 m	176° true	S33 25 42.0 E25 39 00.0
256	167 m	45 m	176° true	S33 25 42.5 E25 39 00.0
257	170 m	66 m	176° true	S33 25 43.9 E25 39 00.1
258	174 m	18 m	178° true	S33 25 46.1 E25 39 00.3
259	175 m	44 m	176° true	S33 25 46.6 E25 39 00.3
260	177 m	22 m	179° true	S33 25 48.1 E25 39 00.5
261	178 m	14 m	279° true	S33 25 48.8 E25 39 00.5
262	178 m	62 m	325° true	S33 25 48.7 E25 38 59.9
263	175 m	54 m	323° true	S33 25 47.1 E25 38 58.5
264	171 m	13 m	324° true	S33 25 45.7 E25 38 57.3
265	168 m	1 m	135° true	S33 25 45.3 E25 38 57.0
266	170 m	7 m	146° true	S33 25 45.3 E25 38 57.0
267	170 m	8 m	31° true	S33 25 45.5 E25 38 57.2
268	170 m	1 m	358° true	S33 25 45.3 E25 38 57.3
269	168 m	0 m	129° true	S33 25 45.3 E25 38 57.3
270	172 m	0 m	107° true	S33 25 45.3 E25 38 57.3
271	170 m	3 m	199° true	S33 25 45.3 E25 38 57.4
272	170 m	5 m	249° true	S33 25 45.4 E25 38 57.3
273	170 m	2 m	243° true	S33 25 45.4 E25 38 57.1
274	169 m	0 m	114° true	S33 25 45.5 E25 38 57.1
275	169 m	9 m	249° true	S33 25 45.5 E25 38 57.1
276	169 m	9 m	241° true	S33 25 45.6 E25 38 56.8
277	170 m	7 m	240° true	S33 25 45.7 E25 38 56.4
278	170 m	5 m	234° true	S33 25 45.8 E25 38 56.2
279	169 m	2 m	246° true	S33 25 45.9 E25 38 56.1
280	169 m	4 m	237° true	S33 25 45.9 E25 38 56.0
281	169 m	11 m	286° true	S33 25 46.0 E25 38 55.9
282	169 m	1 m	344° true	S33 25 45.9 E25 38 55.4
283	169 m	4 m	326° true	S33 25 45.9 E25 38 55.4
284	168 m	1 m	289° true	S33 25 45.8 E25 38 55.3
285	167 m	8 m	292° true	S33 25 45.8 E25 38 55.3
286	167 m	3 m	304° true	S33 25 45.7 E25 38 55.0

287	167 m	14 m	336° true	S33 25 45.6 E25 38 54.9
288	167 m	7 m	42° true	S33 25 45.2 E25 38 54.7
289	165 m	0 m	246° true	S33 25 45.1 E25 38 54.9
290	170 m	1 m	96° true	S33 25 45.1 E25 38 54.9
291	167 m	13 m	124° true	S33 25 45.1 E25 38 54.9
292	167 m	1 m	37° true	S33 25 45.3 E25 38 55.4
293	168 m	1 m	346° true	S33 25 45.3 E25 38 55.4
294	167 m	4 m	321° true	S33 25 45.2 E25 38 55.4
295	167 m	1 m	269° true	S33 25 45.1 E25 38 55.3
296	166 m	5 m	250° true	S33 25 45.1 E25 38 55.2
297	165 m	11 m	214° true	S33 25 45.2 E25 38 55.0
298	167 m	6 m	250° true	S33 25 45.5 E25 38 54.8
299	166 m	18 m	234° true	S33 25 45.6 E25 38 54.6
300	167 m	2 m	198° true	S33 25 45.9 E25 38 54.0
301	168 m	2 m	183° true	S33 25 46.0 E25 38 54.0
302	166 m	9 m	155° true	S33 25 46.0 E25 38 54.0
303	165 m	0 m	236° true	S33 25 46.3 E25 38 54.1
304	169 m	1 m	210° true	S33 25 46.3 E25 38 54.1
305	165 m	0 m	23° true	S33 25 46.4 E25 38 54.1
306	169 m	0 m	78° true	S33 25 46.4 E25 38 54.1
307	165 m	1 m	51° true	S33 25 46.4 E25 38 54.1
308	168 m	4 m	127° true	S33 25 46.3 E25 38 54.1
309	167 m	7 m	162° true	S33 25 46.4 E25 38 54.3
310	167 m	5 m	186° true	S33 25 46.6 E25 38 54.3
311	169 m	4 m	27° true	S33 25 46.8 E25 38 54.3
312	169 m	3 m	15° true	S33 25 46.7 E25 38 54.4
313	169 m	6 m	47° true	S33 25 46.6 E25 38 54.4
314	168 m	6 m	56° true	S33 25 46.4 E25 38 54.6
315	169 m	7 m	51° true	S33 25 46.3 E25 38 54.8
316	168 m	6 m	68° true	S33 25 46.2 E25 38 55.0
317	169 m	1 m	57° true	S33 25 46.1 E25 38 55.2
318	168 m	18 m	75° true	S33 25 46.1 E25 38 55.3
319	169 m	13 m	62° true	S33 25 45.9 E25 38 55.9
320	169 m	15 m	62° true	S33 25 45.7 E25 38 56.4
321	169 m	6 m	85° true	S33 25 45.5 E25 38 56.9
322	170 m	2 m	24° true	S33 25 45.5 E25 38 57.1
323	171 m	12 m	51° true	S33 25 45.4 E25 38 57.2
324	170 m	8 m	49° true	S33 25 45.2 E25 38 57.5
325	166 m	0 m	85° true	S33 25 45.0 E25 38 57.7
326	168 m	0 m	351° true	S33 25 45.0 E25 38 57.7
327	172 m	0 m	12° true	S33 25 45.0 E25 38 57.7
328	170 m	7 m	54° true	S33 25 45.0 E25 38 57.7
329	170 m	8 m	77° true	S33 25 44.9 E25 38 58.0
330	169 m	9 m	65° true	S33 25 44.8 E25 38 58.3
331	171 m	0 m	21° true	S33 25 44.7 E25 38 58.6
332	165 m	0 m	145° true	S33 25 44.7 E25 38 58.6
333	169 m	1 m	69° true	S33 25 44.7 E25 38 58.6
334	175 m	1 m	55° true	S33 25 44.7 E25 38 58.6
335	171 m	0 m	318° true	S33 25 44.7 E25 38 58.6
336	170 m	0 m	326° true	S33 25 44.7 E25 38 58.6
337	165 m	1 m	245° true	S33 25 44.7 E25 38 58.6
338	170 m	2 m	258° true	S33 25 44.7 E25 38 58.6
339	174 m	1 m	228° true	S33 25 44.7 E25 38 58.5
340	171 m	0 m	177° true	S33 25 44.7 E25 38 58.5
341	174 m	1 m	77° true	S33 25 44.7 E25 38 58.5
342	171 m	2 m	70° true	S33 25 44.7 E25 38 58.5
343	170 m	13 m	63° true	S33 25 44.7 E25 38 58.6
344	170 m	3 m	164° true	S33 25 44.5 E25 38 59.1

345	171 m	2 m	280° true	S33 25 44.6 E25 38 59.1
346	170 m	17 m	245° true	S33 25 44.6 E25 38 59.0
347	170 m	3 m	264° true	S33 25 44.8 E25 38 58.4
348	170 m	16 m	346° true	S33 25 44.8 E25 38 58.3
349	169 m	5 m	358° true	S33 25 44.3 E25 38 58.1
350	169 m	7 m	3° true	S33 25 44.1 E25 38 58.1
351	168 m	1 m	282° true	S33 25 43.9 E25 38 58.1
352	168 m	10 m	195° true	S33 25 43.9 E25 38 58.1
353	168 m	5 m	176° true	S33 25 44.2 E25 38 58.0
354	168 m	9 m	230° true	S33 25 44.4 E25 38 58.0
355	169 m	4 m	255° true	S33 25 44.6 E25 38 57.7
356	168 m	8 m	154° true	S33 25 44.6 E25 38 57.6
357	169 m	5 m	337° true	S33 25 44.9 E25 38 57.7
358	168 m	5 m	60° true	S33 25 44.7 E25 38 57.6
359	168 m	10 m	38° true	S33 25 44.6 E25 38 57.8
360	168 m	3 m	32° true	S33 25 44.4 E25 38 58.0
361	168 m	13 m	165° true	S33 25 44.3 E25 38 58.1
362	169 m	3 m	220° true	S33 25 44.7 E25 38 58.2
363	169 m	16 m	233° true	S33 25 44.8 E25 38 58.1
364	169 m	9 m	229° true	S33 25 45.1 E25 38 57.6
365	166 m	0 m	211° true	S33 25 45.3 E25 38 57.4
366	173 m	0 m	301° true	S33 25 45.3 E25 38 57.4
367	169 m	6 m	242° true	S33 25 45.3 E25 38 57.4
368	168 m	1 m	0° true	S33 25 45.4 E25 38 57.2
369	169 m	8 m	324° true	S33 25 45.4 E25 38 57.2
370	168 m	56 m	318° true	S33 25 45.1 E25 38 57.0
371	165 m	71 m	320° true	S33 25 43.8 E25 38 55.5
372	162 m	34 m	318° true	S33 25 42.1 E25 38 53.8
373	160 m	3 m	111° true	S33 25 41.2 E25 38 52.9
374	156 m	0 m	52° true	S33 25 41.3 E25 38 53.0
375	161 m	0 m	59° true	S33 25 41.3 E25 38 53.0
376	161 m	1 m	90° true	S33 25 41.3 E25 38 53.0
377	160 m	7 m	216° true	S33 25 41.3 E25 38 53.0
378	160 m	4 m	222° true	S33 25 41.4 E25 38 52.9
379	159 m	6 m	255° true	S33 25 41.5 E25 38 52.8
380	160 m	3 m	290° true	S33 25 41.6 E25 38 52.5
381	160 m	1 m	133° true	S33 25 41.6 E25 38 52.4
382	164 m	0 m	296° true	S33 25 41.6 E25 38 52.5
383	160 m	0 m	343° true	S33 25 41.6 E25 38 52.5
384	157 m	0 m	24° true	S33 25 41.6 E25 38 52.5
385	157 m	0 m	349° true	S33 25 41.6 E25 38 52.5
386	164 m	0 m	43° true	S33 25 41.5 E25 38 52.5
387	160 m	0 m	287° true	S33 25 41.5 E25 38 52.5
388	157 m	1 m	220° true	S33 25 41.5 E25 38 52.5
389	162 m	0 m	227° true	S33 25 41.6 E25 38 52.4
390	159 m	0 m	227° true	S33 25 41.6 E25 38 52.4
391	159 m	9 m	324° true	S33 25 41.6 E25 38 52.4
392	159 m	14 m	265° true	S33 25 41.4 E25 38 52.2
393	159 m	8 m	247° true	S33 25 41.4 E25 38 51.7
394	158 m	1 m	111° true	S33 25 41.5 E25 38 51.4
395	158 m	8 m	56° true	S33 25 41.5 E25 38 51.4
396	160 m	15 m	100° true	S33 25 41.3 E25 38 51.7
397	159 m	6 m	99° true	S33 25 41.4 E25 38 52.3
398	159 m	12 m	78° true	S33 25 41.5 E25 38 52.5
399	160 m	4 m	35° true	S33 25 41.4 E25 38 52.9
400	159 m	1 m	8° true	S33 25 41.3 E25 38 53.0
401	159 m	2 m	136° true	S33 25 41.2 E25 38 53.1
402	159 m	0 m	93° true	S33 25 41.3 E25 38 53.1

403	159 m	7 m	155° true	S33 25 41.3 E25 38 53.1
404	160 m	25 m	142° true	S33 25 41.5 E25 38 53.2
405	160 m	69 m	140° true	S33 25 42.1 E25 38 53.8
406	163 m	4 m	108° true	S33 25 43.8 E25 38 55.5
407	164 m	3 m	227° true	S33 25 43.9 E25 38 55.7
408	163 m	3 m	47° true	S33 25 43.9 E25 38 55.6
409	163 m	11 m	143° true	S33 25 43.9 E25 38 55.7
410	164 m	34 m	137° true	S33 25 44.1 E25 38 55.9
411	167 m	30 m	142° true	S33 25 45.0 E25 38 56.8
412	170 m	23 m	143° true	S33 25 45.7 E25 38 57.6
413	173 m	42 m	142° true	S33 25 46.3 E25 38 58.1
414	176 m	8 m	141° true	S33 25 47.4 E25 38 59.1
415	176 m	30 m	141° true	S33 25 47.6 E25 38 59.3
416	179 m	22 m	146° true	S33 25 48.4 E25 39 00.0
417	179 m	15 m	231° true	S33 25 48.9 E25 39 00.5
418	178 m	90 m	273° true	S33 25 49.2 E25 39 00.1
419	176 m	10 m	269° true	S33 25 49.1 E25 38 56.6
420	175 m	20 m	273° true	S33 25 49.1 E25 38 56.2
421	174 m	106 m	270° true	S33 25 49.1 E25 38 55.4
422	171 m	13 m	267° true	S33 25 49.1 E25 38 51.3
423	170 m	28 m	91° true	S33 25 49.1 E25 38 50.8
424	171 m	53 m	270° true	S33 25 49.1 E25 38 51.9
425	172 m	23 m	269° true	S33 25 49.1 E25 38 49.9
426	169 m	8 m	110° true	S33 25 49.1 E25 38 49.0
427	170 m	42 m	269° true	S33 25 49.2 E25 38 49.3
428	170 m	13 m	274° true	S33 25 49.2 E25 38 47.6
429	169 m	19 m	267° true	S33 25 49.2 E25 38 47.1
430	171 m	72 m	271° true	S33 25 49.2 E25 38 46.4
431	171 m	123 m	271° true	S33 25 49.2 E25 38 43.6
432	172 m	40 m	271° true	S33 25 49.1 E25 38 38.8
433	168 m	2 m	278° true	S33 25 49.1 E25 38 37.3
434	168 m	25 m	272° true	S33 25 49.1 E25 38 37.2
435	171 m	90 m	270° true	S33 25 49.1 E25 38 36.2
436	169 m	39 m	271° true	S33 25 49.1 E25 38 32.7
437	166 m	143 m	270° true	S33 25 49.1 E25 38 31.2
438	163 m	30 m	270° true	S33 25 49.1 E25 38 25.7
439	160 m	4 m	273° true	S33 25 49.1 E25 38 24.5
440	160 m	6 m	304° true	S33 25 49.1 E25 38 24.3
441	158 m	36 m	22° true	S33 25 49.0 E25 38 24.1
442	160 m	13 m	49° true	S33 25 47.9 E25 38 24.7
443	160 m	107 m	51° true	S33 25 47.6 E25 38 25.0
444	162 m	21 m	54° true	S33 25 45.4 E25 38 28.3
445	162 m	26 m	54° true	S33 25 45.0 E25 38 28.9
446	161 m	102 m	57° true	S33 25 44.5 E25 38 29.7
447	160 m	7 m	42° true	S33 25 42.7 E25 38 33.0
448	160 m	27 m	24° true	S33 25 42.6 E25 38 33.2
449	159 m	26 m	3° true	S33 25 41.8 E25 38 33.6
450	156 m	28 m	27° true	S33 25 40.9 E25 38 33.7
451	156 m	21 m	19° true	S33 25 40.1 E25 38 34.2
452	155 m	27 m	11° true	S33 25 39.5 E25 38 34.4
453	153 m	2 m	47° true	S33 25 38.6 E25 38 34.6
454	153 m	32 m	50° true	S33 25 38.6 E25 38 34.7
455	152 m	18 m	80° true	S33 25 37.9 E25 38 35.6
456	153 m	42 m	74° true	S33 25 37.8 E25 38 36.3
457	153 m	100 m	99° true	S33 25 37.4 E25 38 37.9
458	153 m	19 m	99° true	S33 25 38.0 E25 38 41.7
459	153 m	8 m	96° true	S33 25 38.1 E25 38 42.4
460	153 m	54 m	73° true	S33 25 38.1 E25 38 42.8

461	153 m	20 m	76° true	S33 25 37.6 E25 38 44.8
462	153 m	54 m	54° true	S33 25 37.4 E25 38 45.5
463	152 m	16 m	63° true	S33 25 36.4 E25 38 47.2
464	153 m	29 m	67° true	S33 25 36.2 E25 38 47.7
465	154 m	50 m	48° true	S33 25 35.8 E25 38 48.8
466	153 m	22 m	26° true	S33 25 34.7 E25 38 50.2
467	153 m	59 m	8° true	S33 25 34.1 E25 38 50.6
468	152 m	56 m	39° true	S33 25 32.2 E25 38 50.9
469	153 m	21 m	64° true	S33 25 30.8 E25 38 52.2
470	152 m	36 m	75° true	S33 25 30.5 E25 38 53.0
471	153 m	38 m	57° true	S33 25 30.2 E25 38 54.3
472	153 m	77 m	42° true	S33 25 29.5 E25 38 55.6
473	153 m	32 m	41° true	S33 25 27.7 E25 38 57.5
474	151 m	12 m	300° true	S33 25 26.9 E25 38 58.3
475	149 m	69 m	266° true	S33 25 26.7 E25 38 58.0
476	153 m	112 m	266° true	S33 25 26.9 E25 38 55.3
477	150 m	101 m	266° true	S33 25 27.1 E25 38 51.0
478	147 m	110 m	267° true	S33 25 27.4 E25 38 47.1
479	144 m	45 m	266° true	S33 25 27.6 E25 38 42.8
480	141 m	85 m	266° true	S33 25 27.7 E25 38 41.1
481	140 m	137 m	265° true	S33 25 27.9 E25 38 37.8
482	137 m	79 m	269° true	S33 25 28.3 E25 38 32.5
483	135 m	7 m	272° true	S33 25 28.3 E25 38 29.4
484	135 m	111 m	266° true	S33 25 28.3 E25 38 29.1
485	134 m	51 m	266° true	S33 25 28.6 E25 38 24.8
486	133 m	185 m	266° true	S33 25 28.7 E25 38 22.9
487	132 m	73 m	266° true	S33 25 29.1 E25 38 15.7
488	128 m	142 m	266° true	S33 25 29.3 E25 38 12.9
489	124 m	6 m	259° true	S33 25 29.6 E25 38 07.4
490	124 m	7 m	174° true	S33 25 29.6 E25 38 07.2
491	124 m	28 m	161° true	S33 25 29.8 E25 38 07.2
492	126 m	33 m	165° true	S33 25 30.7 E25 38 07.6
493	128 m	46 m	167° true	S33 25 31.7 E25 38 07.9
494	131 m	26 m	166° true	S33 25 33.2 E25 38 08.3
495	132 m	51 m	166° true	S33 25 34.0 E25 38 08.6
496	136 m	9 m	169° true	S33 25 35.6 E25 38 09.1
497	136 m	52 m	168° true	S33 25 35.9 E25 38 09.1
498	138 m	34 m	176° true	S33 25 37.5 E25 38 09.6
499	140 m	16 m	175° true	S33 25 38.6 E25 38 09.7
500	142 m	43 m	176° true	S33 25 39.1 E25 38 09.7
501	145 m	8 m	174° true	S33 25 40.5 E25 38 09.8
502	145 m	57 m	177° true	S33 25 40.8 E25 38 09.9
503	147 m	22 m	178° true	S33 25 42.6 E25 38 10.0
504	148 m	67 m	173° true	S33 25 43.3 E25 38 10.0
505	150 m	7 m	347° true	S33 25 45.5 E25 38 10.3
506	150 m	35 m	177° true	S33 25 45.3 E25 38 10.3
507	152 m	17 m	177° true	S33 25 46.4 E25 38 10.3
508	153 m	75 m	176° true	S33 25 46.9 E25 38 10.4
509	157 m	7 m	169° true	S33 25 49.4 E25 38 10.6
510	155 m	33 m	177° true	S33 25 49.6 E25 38 10.6
511	159 m	23 m	176° true	S33 25 50.7 E25 38 10.7
512	162 m	8 m	175° true	S33 25 51.4 E25 38 10.8
513	162 m	17 m	176° true	S33 25 51.7 E25 38 10.8
514	163 m	27 m	175° true	S33 25 52.2 E25 38 10.8
515	165 m	26 m	176° true	S33 25 53.1 E25 38 10.9
516	167 m	17 m	176° true	S33 25 53.9 E25 38 11.0
517	169 m	49 m	175° true	S33 25 54.5 E25 38 11.0
518	173 m	42 m	177° true	S33 25 56.0 E25 38 11.2

519	176 m	9 m	174° true	S33 25 57.4 E25 38 11.3
520	177 m	35 m	175° true	S33 25 57.7 E25 38 11.3
521	179 m	106 m	175° true	S33 25 58.8 E25 38 11.4
522	181 m	77 m	185° true	S33 26 02.2 E25 38 11.8
523	178 m	26 m	189° true	S33 26 04.7 E25 38 11.6
524	174 m	33 m	189° true	S33 26 05.5 E25 38 11.4
525	171 m	18 m	187° true	S33 26 06.6 E25 38 11.2
526	169 m	27 m	188° true	S33 26 07.2 E25 38 11.1
527	166 m	36 m	188° true	S33 26 08.0 E25 38 11.0
528	163 m	9 m	188° true	S33 26 09.2 E25 38 10.8
529	163 m	49 m	187° true	S33 26 09.4 E25 38 10.7
530	162 m	63 m	186° true	S33 26 11.0 E25 38 10.5
531	164 m	18 m	135° true	S33 26 13.1 E25 38 10.2
532	164 m	93 m	77° true	S33 26 13.5 E25 38 10.7
533	165 m	33 m	79° true	S33 26 12.8 E25 38 14.2
534	166 m	48 m	79° true	S33 26 12.6 E25 38 15.5
535	169 m	93 m	79° true	S33 26 12.3 E25 38 17.3
536	168 m	31 m	81° true	S33 26 11.7 E25 38 20.8
537	165 m	14 m	80° true	S33 26 11.6 E25 38 22.0
538	164 m	29 m	79° true	S33 26 11.5 E25 38 22.5
539	163 m	22 m	78° true	S33 26 11.3 E25 38 23.7
540	159 m	43 m	80° true	S33 26 11.2 E25 38 24.5
541	155 m	7 m	80° true	S33 26 10.9 E25 38 26.1
542	155 m	48 m	79° true	S33 26 10.9 E25 38 26.4
543	152 m	6 m	79° true	S33 26 10.6 E25 38 28.2
544	151 m	103 m	79° true	S33 26 10.5 E25 38 28.5
545	151 m	26 m	77° true	S33 26 09.9 E25 38 32.4
546	154 m	62 m	76° true	S33 26 09.7 E25 38 33.4
547	157 m	36 m	80° true	S33 26 09.2 E25 38 35.7
548	161 m	37 m	80° true	S33 26 09.0 E25 38 37.1
549	165 m	7 m	79° true	S33 26 08.8 E25 38 38.5
550	165 m	21 m	77° true	S33 26 08.8 E25 38 38.8
551	167 m	15 m	78° true	S33 26 08.6 E25 38 39.6
552	169 m	147 m	79° true	S33 26 08.5 E25 38 40.2
553	172 m	134 m	79° true	S33 26 07.6 E25 38 45.8
554	168 m	150 m	78° true	S33 26 06.8 E25 38 50.9
555	170 m	69 m	78° true	S33 26 05.8 E25 38 56.6
556	174 m	44 m	78° true	S33 26 05.3 E25 38 59.2
557	178 m	18 m	80° true	S33 26 05.0 E25 39 00.8
558	178 m	30 m	73° true	S33 26 04.9 E25 39 01.5
559	179 m	0 m	291° true	S33 26 04.6 E25 39 02.6
560	179 m	11 m	357° true	S33 26 04.6 E25 39 02.6
561	179 m	9 m	168° true	S33 26 04.3 E25 39 02.6
562	179 m	9 m	212° true	S33 26 04.6 E25 39 02.7
563	178 m	11 m	149° true	S33 26 04.8 E25 39 02.5
564	179 m	87 m	177° true	S33 26 05.1 E25 39 02.7
565	178 m	71 m	175° true	S33 26 08.0 E25 39 02.9
566	175 m	9 m	174° true	S33 26 10.2 E25 39 03.1
567	175 m	144 m	174° true	S33 26 10.5 E25 39 03.2
568	172 m	22 m	174° true	S33 26 15.2 E25 39 03.7
569	170 m	33 m	176° true	S33 26 15.9 E25 39 03.8
570	167 m	22 m	175° true	S33 26 17.0 E25 39 03.9
571	166 m	33 m	176° true	S33 26 17.7 E25 39 04.0
572	162 m	32 m	176° true	S33 26 18.7 E25 39 04.1
573	159 m	30 m	175° true	S33 26 19.8 E25 39 04.2
574	156 m	18 m	174° true	S33 26 20.8 E25 39 04.3
575	155 m	26 m	178° true	S33 26 21.3 E25 39 04.4
576	152 m	1 m	303° true	S33 26 22.2 E25 39 04.4

577	152 m	7 m	168° true	S33 26 22.2 E25 39 04.4
578	152 m	2 m	26° true	S33 26 22.4 E25 39 04.4
579	152 m	3 m	337° true	S33 26 22.4 E25 39 04.5
580	152 m	9 m	180° true	S33 26 22.3 E25 39 04.4
581	151 m	10 m	109° true	S33 26 22.5 E25 39 04.4
582	150 m	7 m	256° true	S33 26 22.6 E25 39 04.8
583	151 m	24 m	347° true	S33 26 22.7 E25 39 04.5
584	152 m	63 m	356° true	S33 26 22.0 E25 39 04.3
585	156 m	25 m	355° true	S33 26 19.9 E25 39 04.1
586	158 m	18 m	356° true	S33 26 19.1 E25 39 04.0
587	162 m	38 m	355° true	S33 26 18.5 E25 39 04.0
588	165 m	20 m	355° true	S33 26 17.3 E25 39 03.8
589	166 m	31 m	355° true	S33 26 16.6 E25 39 03.8
590	167 m	41 m	355° true	S33 26 15.6 E25 39 03.7
591	171 m	89 m	354° true	S33 26 14.3 E25 39 03.5
592	175 m	106 m	355° true	S33 26 11.5 E25 39 03.2
593	178 m	133 m	355° true	S33 26 08.1 E25 39 02.8
594	182 m	100 m	355° true	S33 26 03.8 E25 39 02.4
595	185 m	190 m	356° true	S33 26 00.6 E25 39 02.1
596	185 m	139 m	355° true	S33 25 54.4 E25 39 01.5
597	183 m	20 m	337° true	S33 25 49.9 E25 39 01.0
598	181 m	68 m	322° true	S33 25 49.3 E25 39 00.7
599	178 m	40 m	322° true	S33 25 47.6 E25 38 59.1
600	174 m	51 m	322° true	S33 25 46.6 E25 38 58.1
601	171 m	35 m	321° true	S33 25 45.3 E25 38 56.9
602	168 m	82 m	321° true	S33 25 44.4 E25 38 56.1
603	165 m	32 m	321° true	S33 25 42.4 E25 38 54.1
604	161 m	8 m	323° true	S33 25 41.5 E25 38 53.3
605	160 m	2 m	147° true	S33 25 41.3 E25 38 53.1
606	161 m	5 m	322° true	S33 25 41.4 E25 38 53.2
607	161 m	0 m	96° true	S33 25 41.3 E25 38 53.1
608	156 m	0 m	287° true	S33 25 41.3 E25 38 53.1
609	158 m	1 m	211° true	S33 25 41.3 E25 38 53.1
610	165 m	0 m	190° true	S33 25 41.3 E25 38 53.1
611	161 m	2 m	247° true	S33 25 41.3 E25 38 53.1
612	161 m	9 m	352° true	S33 25 41.3 E25 38 53.0
613	160 m	0 m	140° true	S33 25 41.0 E25 38 52.9
614	161 m	4 m	201° true	S33 25 41.0 E25 38 52.9
615	161 m	10 m	116° true	S33 25 41.1 E25 38 52.9
616	162 m	7 m	138° true	S33 25 41.3 E25 38 53.3
617	162 m	88 m	142° true	S33 25 41.5 E25 38 53.4
618	167 m	41 m	143° true	S33 25 43.7 E25 38 55.5
619	170 m	17 m	144° true	S33 25 44.8 E25 38 56.5
620	171 m	67 m	143° true	S33 25 45.2 E25 38 56.9
621	175 m	32 m	141° true	S33 25 46.9 E25 38 58.5
622	178 m	8 m	145° true	S33 25 47.7 E25 38 59.2
623	178 m	23 m	139° true	S33 25 48.0 E25 38 59.4
624	180 m	13 m	142° true	S33 25 48.5 E25 39 00.0
625	180 m	19 m	223° true	S33 25 48.8 E25 39 00.3
626	180 m	39 m	272° true	S33 25 49.3 E25 38 59.8
627	178 m	13 m	270° true	S33 25 49.2 E25 38 58.3
628	177 m	18 m	269° true	S33 25 49.2 E25 38 57.8
629	176 m	71 m	272° true	S33 25 49.3 E25 38 57.1
630	172 m	99 m	270° true	S33 25 49.2 E25 38 54.3
631	172 m	44 m	266° true	S33 25 49.2 E25 38 50.5
632	170 m	6 m	19° true	S33 25 49.3 E25 38 48.8
633	170 m	1 m	105° true	S33 25 49.1 E25 38 48.9
634	170 m	8 m	126° true	S33 25 49.1 E25 38 48.9

635	170 m	8 m	149° true	S33 25 49.3 E25 38 49.2
636	171 m	8 m	163° true	S33 25 49.5 E25 38 49.3
637	171 m	10 m	115° true	S33 25 49.7 E25 38 49.4
638	172 m	1 m	102° true	S33 25 49.9 E25 38 49.8
639	173 m	4 m	260° true	S33 25 49.9 E25 38 49.8
640	172 m	3 m	206° true	S33 25 49.9 E25 38 49.7
641	171 m	14 m	160° true	S33 25 50.0 E25 38 49.6
642	173 m	1 m	320° true	S33 25 50.4 E25 38 49.8
643	174 m	12 m	351° true	S33 25 50.4 E25 38 49.8
644	173 m	10 m	326° true	S33 25 50.0 E25 38 49.7
645	173 m	12 m	348° true	S33 25 49.8 E25 38 49.5
646	171 m	0 m	310° true	S33 25 49.4 E25 38 49.4
647	172 m	3 m	322° true	S33 25 49.4 E25 38 49.4
648	167 m	0 m	125° true	S33 25 49.3 E25 38 49.4
649	172 m	1 m	174° true	S33 25 49.3 E25 38 49.4
650	172 m	4 m	346° true	S33 25 49.4 E25 38 49.4
651	171 m	4 m	297° true	S33 25 49.2 E25 38 49.3
652	172 m	5 m	271° true	S33 25 49.2 E25 38 49.2
653	171 m	0 m	90° true	S33 25 49.2 E25 38 49.0
654	171 m	3 m	157° true	S33 25 49.2 E25 38 49.0
655	171 m	0 m	25° true	S33 25 49.3 E25 38 49.1
656	170 m	3 m	301° true	S33 25 49.2 E25 38 49.1
657	167 m	0 m	258° true	S33 25 49.2 E25 38 49.0
658	168 m	0 m	231° true	S33 25 49.2 E25 38 48.9
659	175 m	0 m	325° true	S33 25 49.2 E25 38 48.9
660	172 m	2 m	356° true	S33 25 49.2 E25 38 48.9
661	171 m	11 m	267° true	S33 25 49.1 E25 38 48.9
662	172 m	74 m	268° true	S33 25 49.1 E25 38 48.5
663	173 m	180 m	270° true	S33 25 49.2 E25 38 45.6
664	173 m	39 m	270° true	S33 25 49.2 E25 38 38.6
665	171 m	4 m	53° true	S33 25 49.2 E25 38 37.1
666	170 m	5 m	81° true	S33 25 49.1 E25 38 37.2
667	170 m	10 m	192° true	S33 25 49.1 E25 38 37.4
668	171 m	47 m	175° true	S33 25 49.4 E25 38 37.3
669	169 m	47 m	173° true	S33 25 50.9 E25 38 37.5
670	169 m	129 m	174° true	S33 25 52.4 E25 38 37.7
671	170 m	112 m	174° true	S33 25 56.6 E25 38 38.3
672	169 m	124 m	174° true	S33 26 00.2 E25 38 38.8
673	169 m	102 m	174° true	S33 26 04.2 E25 38 39.3
674	167 m	38 m	174° true	S33 26 07.5 E25 38 39.7
675	166 m	2 m	323° true	S33 26 08.7 E25 38 39.8
676	168 m	0 m	206° true	S33 26 08.6 E25 38 39.8
677	167 m	6 m	344° true	S33 26 08.6 E25 38 39.8
678	167 m	8 m	128° true	S33 26 08.5 E25 38 39.7
679	168 m	3 m	304° true	S33 26 08.6 E25 38 40.0
680	168 m	7 m	322° true	S33 26 08.6 E25 38 39.9
681	168 m	10 m	212° true	S33 26 08.4 E25 38 39.7
682	168 m	7 m	259° true	S33 26 08.7 E25 38 39.5
683	167 m	3 m	244° true	S33 26 08.7 E25 38 39.2
684	168 m	15 m	261° true	S33 26 08.8 E25 38 39.1
685	165 m	1 m	248° true	S33 26 08.8 E25 38 38.6
686	165 m	1 m	78° true	S33 26 08.9 E25 38 38.5
687	166 m	15 m	259° true	S33 26 08.9 E25 38 38.5
688	165 m	22 m	258° true	S33 26 08.9 E25 38 37.9
689	161 m	6 m	259° true	S33 26 09.1 E25 38 37.1
690	161 m	30 m	259° true	S33 26 09.1 E25 38 36.9
691	157 m	6 m	258° true	S33 26 09.3 E25 38 35.7
692	157 m	32 m	260° true	S33 26 09.4 E25 38 35.5

693	154 m	4 m	259° true	S33 26 09.5 E25 38 34.3
694	154 m	41 m	258° true	S33 26 09.6 E25 38 34.1
695	151 m	46 m	259° true	S33 26 09.8 E25 38 32.6
696	150 m	50 m	259° true	S33 26 10.1 E25 38 30.8
697	150 m	17 m	263° true	S33 26 10.4 E25 38 28.9
698	151 m	10 m	328° true	S33 26 10.5 E25 38 28.3
699	151 m	5 m	19° true	S33 26 10.2 E25 38 28.1
700	152 m	2 m	71° true	S33 26 10.1 E25 38 28.1
701	154 m	29 m	355° true	S33 26 10.1 E25 38 28.2
702	154 m	87 m	350° true	S33 26 09.1 E25 38 28.1
703	156 m	67 m	353° true	S33 26 06.3 E25 38 27.5
704	156 m	2 m	338° true	S33 26 04.2 E25 38 27.2
705	157 m	25 m	353° true	S33 26 04.1 E25 38 27.2
706	156 m	14 m	351° true	S33 26 03.3 E25 38 27.0
707	156 m	25 m	4° true	S33 26 02.9 E25 38 27.0
708	157 m	47 m	359° true	S33 26 02.0 E25 38 27.0
709	157 m	7 m	354° true	S33 26 00.5 E25 38 27.0
710	156 m	28 m	1° true	S33 26 00.3 E25 38 27.0
711	156 m	100 m	6° true	S33 25 59.4 E25 38 27.0
712	158 m	25 m	348° true	S33 25 56.2 E25 38 27.4
713	158 m	21 m	296° true	S33 25 55.4 E25 38 27.2
714	159 m	26 m	329° true	S33 25 55.1 E25 38 26.5
715	159 m	13 m	344° true	S33 25 54.3 E25 38 25.9
716	159 m	19 m	353° true	S33 25 54.0 E25 38 25.8
717	160 m	78 m	340° true	S33 25 53.3 E25 38 25.7
718	161 m	72 m	351° true	S33 25 51.0 E25 38 24.7
719	160 m	35 m	30° true	S33 25 48.6 E25 38 24.3
720	161 m	79 m	54° true	S33 25 47.7 E25 38 24.9
721	164 m	22 m	45° true	S33 25 46.1 E25 38 27.4
722	165 m	29 m	52° true	S33 25 45.6 E25 38 28.0
723	164 m	38 m	58° true	S33 25 45.1 E25 38 28.9
724	162 m	21 m	69° true	S33 25 44.4 E25 38 30.1
725	163 m	86 m	50° true	S33 25 44.2 E25 38 30.9
726	161 m	20 m	15° true	S33 25 42.4 E25 38 33.5
727	160 m	16 m	0° true	S33 25 41.7 E25 38 33.7
728	159 m	15 m	14° true	S33 25 41.2 E25 38 33.7
729	158 m	5 m	34° true	S33 25 40.7 E25 38 33.8
730	158 m	25 m	33° true	S33 25 40.6 E25 38 33.9
731	158 m	52 m	12° true	S33 25 39.9 E25 38 34.4
732	155 m	10 m	308° true	S33 25 38.3 E25 38 34.9
733	154 m	3 m	229° true	S33 25 38.1 E25 38 34.6
734	155 m	8 m	157° true	S33 25 38.2 E25 38 34.5
735	155 m	6 m	45° true	S33 25 38.4 E25 38 34.6
736	155 m	14 m	45° true	S33 25 38.3 E25 38 34.8
737	154 m	26 m	78° true	S33 25 37.9 E25 38 35.2
738	155 m	44 m	74° true	S33 25 37.8 E25 38 36.1
739	154 m	55 m	102° true	S33 25 37.4 E25 38 37.8
740	156 m	69 m	97° true	S33 25 37.7 E25 38 39.9
741	156 m	28 m	82° true	S33 25 38.0 E25 38 42.5
742	156 m	56 m	74° true	S33 25 37.9 E25 38 43.6
743	155 m	28 m	57° true	S33 25 37.4 E25 38 45.7
744	155 m	30 m	53° true	S33 25 36.9 E25 38 46.6
745	155 m	28 m	69° true	S33 25 36.3 E25 38 47.5
746	154 m	0 m	246° true	S33 25 36.0 E25 38 48.5
747	154 m	18 m	249° true	S33 25 36.0 E25 38 48.5
748	153 m	10 m	114° true	S33 25 36.2 E25 38 47.9
749	154 m	71 m	138° true	S33 25 36.3 E25 38 48.2
750	156 m	44 m	140° true	S33 25 38.0 E25 38 50.1

751	157 m	29 m	144° true	S33 25 39.1 E25 38 51.2
752	159 m	55 m	141° true	S33 25 39.9 E25 38 51.8
753	163 m	65 m	141° true	S33 25 41.3 E25 38 53.2
754	165 m	52 m	141° true	S33 25 42.9 E25 38 54.8
755	168 m	44 m	141° true	S33 25 44.2 E25 38 56.0
756	172 m	57 m	142° true	S33 25 45.3 E25 38 57.1
757	176 m	32 m	142° true	S33 25 46.8 E25 38 58.5
758	178 m	46 m	142° true	S33 25 47.6 E25 38 59.2
759	180 m	29 m	145° true	S33 25 48.7 E25 39 00.3
760	182 m	25 m	162° true	S33 25 49.5 E25 39 01.0
761	185 m	136 m	176° true	S33 25 50.3 E25 39 01.2
762	186 m	126 m	176° true	S33 25 54.7 E25 39 01.6
763	183 m	103 m	175° true	S33 25 58.7 E25 39 02.0
764	182 m	17 m	176° true	S33 26 02.1 E25 39 02.3
765	184 m	31 m	174° true	S33 26 02.6 E25 39 02.3
766	180 m	7 m	174° true	S33 26 03.6 E25 39 02.5
767	180 m	34 m	174° true	S33 26 03.8 E25 39 02.5
768	180 m	1 m	285° true	S33 26 04.9 E25 39 02.6
769	178 m	29 m	176° true	S33 26 04.9 E25 39 02.6
770	178 m	118 m	176° true	S33 26 05.9 E25 39 02.6
771	175 m	5 m	175° true	S33 26 09.7 E25 39 03.0
772	174 m	46 m	172° true	S33 26 09.8 E25 39 03.0
773	172 m	0 m	186° true	S33 26 11.3 E25 39 03.3
774	172 m	3 m	339° true	S33 26 11.3 E25 39 03.3
775	172 m	11 m	21° true	S33 26 11.2 E25 39 03.2
776	172 m	1 m	104° true	S33 26 10.9 E25 39 03.4
777	172 m	2 m	20° true	S33 26 10.9 E25 39 03.4
778	171 m	2 m	85° true	S33 26 10.8 E25 39 03.4
779	171 m	1 m	273° true	S33 26 10.8 E25 39 03.5
780	166 m	0 m	47° true	S33 26 10.8 E25 39 03.5
781	173 m	1 m	31° true	S33 26 10.8 E25 39 03.5
782	169 m	1 m	0° true	S33 26 10.8 E25 39 03.5
783	176 m	0 m	305° true	S33 26 10.8 E25 39 03.5
784	173 m	1 m	342° true	S33 26 10.8 E25 39 03.5
785	171 m	1 m	303° true	S33 26 10.8 E25 39 03.5
786	172 m	5 m	201° true	S33 26 10.8 E25 39 03.4
787	167 m	1 m	201° true	S33 26 10.9 E25 39 03.4
788	176 m	1 m	201° true	S33 26 10.9 E25 39 03.4
789	173 m	1 m	223° true	S33 26 11.0 E25 39 03.3
790	172 m	3 m	223° true	S33 26 11.0 E25 39 03.3
791	172 m	5 m	186° true	S33 26 11.0 E25 39 03.3

NOTIFICATION OF CUSTOMER APPLICATION FOR CONNECTION OF A SMALL-SCALE EMBEDDED GENERATOR RECEIVED FROM ESKOM

- **Main Transformer**

Eskom

Mr Nico Venter
Owner
VENTER BOERDERY PTY LTD
PO BOX 112
KIRKWOOD
6120

Date: 17 September 2021

Enquiries: D Moodaley
Tel +27 41 502 4066

Ref: 434994510

Dear Mr Venter

NOTIFICATION OF A CUSTOMER APPLICATION FOR CONNECTION OF A SMALL-SCALE EMBEDDED GENERATOR (SSEG) TO THE DISTRIBUTION SYSTEM: VENTER BOERDERY PTY LTD (Acc No: 8368779440)

1. Eskom confirms that the (PV Solar Panels & 6 x Sam STP 50-40 Core Inverters) project has followed Eskom's application process for connection to the Distribution system. Eskom will issue a Quotation for connection of the SSEG to the grid in line with this application and Eskom is in the process of drafting a Distribution Connection and Use of System Agreement (DCOUSA) for the SSEG.
2. Eskom will proceed with the conclusion of the DCOUSA and the scope of works (SSEG grid connection requirements) after NERSA's consideration of the SSEG's application for registration with NERSA.
3. The application details of the SSEG are provided in the table below, in support of the requirements for Nersa consideration of the registration of the SSEG.

1.	Name of the Customer/Project	VENTER BOERDERY PTY LTD
2.	Eskom reference number for installation	REF: 434994510
3.	Physical address	SR1148, PART 1 OF FARM HOPEFIELD, SCHEEPERSVLAKTE NO 98, SUNDAYSRIVER VALLEY
4.	GPS Co-ordinates	
5.	Location of SSEG system.	As Above
6.	Generator Technology	Photovoltaic Inverters
7.	Capacity/Size of project (KW)	350kW
8.	Maximum Export Capacity: kW at grid connection point	350kW

For any information, enquiries or confirmation, please contact Louis from Solar Synthesis on telephone number +27 82 892 3052

Yours sincerely

Sanette Worthington
Key Customer Account Relations Manager

[redacted]

Eskom Holdings SOC Ltd Reg No 2002/015527/30

- **Medium Voltage Point (MV)**

Eskom

Mr Nico Venter
Owner

PO BOX 112
KIRKWOOD
6120

Date: 17 January 2021

Enquiries: D Moodaley
Tel +27 41 502 4066

Ref: 457966180

Dear Mr Venter

NOTIFICATION OF A CUSTOMER APPLICATION FOR CONNECTION OF A SMALL-SCALE EMBEDDED GENERATOR (SSEG) TO THE DISTRIBUTION SYSTEM: VENTER BOERDERY PTY (Acc No: 8665844731)

1. Eskom confirms that the (PV Solar Panels & 6 x Sam STP 50-40 Core Inverters) project has followed Eskom's application process for connection to the Distribution system. Eskom will issue a Quotation for connection of the SSEG to the grid in line with this application and Eskom is in the process of drafting a Distribution Connection and Use of System Agreement (DCOUSA) for the SSEG.
2. Eskom will proceed with the conclusion of the DCOUSA and the scope of works (SSEG grid connection requirements) after NERSA's consideration of the SSEG's application for registration with NERSA.
3. The application details of the SSEG are provided in the table below, in support of the requirements for Nersa consideration of the registration of the SSEG.

1.	Name of the Customer/Project	Venter Boerdery Pty
2.	Eskom reference number for installation	REF: 457966180
3.	Physical address	SR1150, FARM HOPEFIELD, KIRKWOOD
4.	GPS Co-ordinates	33'26'32.09"S 25'39'24.11"E
5.	Location of SSEG system.	As Above
6.	Generator Technology	Photovoltaic Inverters
7.	Capacity/Size of project (KW)	750kW
8.	Maximum Export Capacity: kW at grid connection point	750kW

For any information, enquiries or confirmation, please contact Louise Polley on telephone number +27 82 892 3052

Yours sincerely

Sanette Worthington
Key Customer Account Relations Manager

Eskom Holdings SOC Ltd Reg No 2002/015527/30

- **Pumphouse Transformer**

Eskom

Die Boeram Venter Trust
Mr Johan Nicolaas Venter
Po Box 112
KIRKWOOD
6120

Date: 30 July 2021

Enquiries: Portia Witbooi
Tel: +27 43 7032361
Email: VambaP@eskom.co.za

REF: 434994516

Dear Mr Venter

NOTIFICATION OF A CUSTOMER APPLICATION FOR CONNECTION OF A SMALL-SCALE EMBEDDED GENERATOR (SSEG) TO THE DISTRIBUTION SYSTEM: SR1142 FARM SCHEEPERSVLAKTE 713, UITENHAGE WITH 236KW GENERATION – ACCOUNT NO. 9999818216

1. Eskom confirms that the Photovoltaic Inverters project has followed Eskom's application process for connection to the Distribution system. Eskom will issue a Quotation for connection of the SSEG to the grid in line with this application and Eskom is in the process of drafting a Distribution Connection and Use of System Agreement (DCOUSA) for the SSEG.
2. Eskom will proceed with the conclusion of the DCOUSA and the scope of works (SSEG grid connection requirements) after NERSA's consideration of the SSEG's application for registration with NERSA.
3. The application details of the SSEG are provided in the table below, in support of the requirements for Nersa consideration of the registration of the SSEG.

1.	Name of the Customer/Project	Die Boeram Venter Trust
2.	Eskom reference number for installation	9999818216
3.	Physical address	SR1142 FARM SCHEEPERSVLAKTE 713, UITENHAGE
4.	GPS Co-ordinates	332548.606S 253904.061E
5.	Location of SSEG system.	As Above
6.	Generator Technology	Photovoltaic Inverters
7.	Capacity/Size of project (KW)	236kW
8.	Maximum Export Capacity: kW at grid connection point	236kW

For any information, enquiries or confirmation, please contact Mr Johan Nicolaas Venter at telephone number +27 82 576 1684.

Yours sincerely

Nolwazi Mdoda
MANAGER CUSTOMER ACQUISITION

Customer Service
Eastern Cape Operating Unit
Cnr Bonza Bay Road & Quenera Drive, Beacon Bay, 5241
Private Bag X1, Beacon Bay, 5205
Tel + 08600 37566 Fax +27 43 703 2929 www.eskom.co.za
Eskom Holdings SOC Ltd Reg No 2002/015527/30

APPENDIX H: SCREENING TOOL REPORT

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED DEVELOPMENT FOOTPRINT ENVIRONMENTAL SENSITIVITY

EIA Reference number: N/A

Project name: Disco 2 Solar Photovoltaic Facility

Project title: Proposed Construction of a Solar Photovoltaic Facility and Associated Infrastructure, on a portion of Farm 713, Hopefield, Sundays River Valley Municipality

Date screening report generated: 22/07/2022 10:37:39

Applicant: Venter Wildlife Trust

Compiler: Public Process Consultants - JP Hechter

Compiler signature: JP Hechter

Application Category: Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV

Table of Contents

Proposed Project Location

Orientation map 1: General location

Map of proposed site and relevant area(s)

Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
[redacted]						
[redacted]	SCHEEPERS VLAKTE	98	0	33°26'53.90S	25°37'54.85E	Farm
[redacted]						
[redacted]						
5		713	0	33°25'46.26S	25°38'52.29E	Farm
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
[redacted]						
12	SCHEEPERS VLAKTE	98	7	33°26'48.51S	25°37'34.79E	Farm Portion

Development footprint[1] vertices:

Footprint	Latitude	Longitude
1	33°25'28.09S	25°38'36.98E

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

1	33°25'27.33S	25°38'50.1E
1	33°25'31.12S	25°38'50.1E
1	33°25'31.08S	25°38'44.25E
1	33°25'31.85S	25°38'44.27E
1	33°25'31.89S	25°38'43.66E
1	33°25'31.08S	25°38'43.64E
1	33°25'31.1S	25°38'36.95E
1	33°25'28.09S	25°38'36.98E
2	33°25'40.23S	25°38'49.55E
2	33°25'40.23S	25°38'49.53E
2	33°25'40.21S	25°38'49.51E
2	33°25'40.21S	25°38'49.49E
2	33°25'40.2S	25°38'49.47E
2	33°25'40.2S	25°38'49.45E
2	33°25'40.19S	25°38'49.44E
2	33°25'40.17S	25°38'49.42E
2	33°25'40.16S	25°38'49.41E
2	33°25'40.15S	25°38'49.4E
2	33°25'40.13S	25°38'49.4E
2	33°25'35.34S	25°38'47.31E
2	33°25'31.21S	25°38'42.65E
2	33°25'31.19S	25°38'42.65E
2	33°25'31.18S	25°38'42.63E
2	33°25'31.16S	25°38'42.63E
2	33°25'31.15S	25°38'42.62E
2	33°25'31.12S	25°38'42.61E
2	33°25'31.11S	25°38'42.61E
2	33°25'31.1S	25°38'42.61E
2	33°25'31.08S	25°38'42.62E
2	33°25'31.07S	25°38'42.63E
2	33°25'31.04S	25°38'42.63E
2	33°25'31.04S	25°38'42.65E
2	33°25'31.03S	25°38'42.66E
2	33°25'31.01S	25°38'42.67E
2	33°25'31S	25°38'42.7E
2	33°25'31S	25°38'42.71E
2	33°25'30.99S	25°38'42.72E
2	33°25'30.99S	25°38'42.75E
2	33°25'30.99S	25°38'42.76E
2	33°25'30.99S	25°38'42.79E
2	33°25'30.99S	25°38'42.81E
2	33°25'31S	25°38'42.83E
2	33°25'31S	25°38'42.85E
2	33°25'31.01S	25°38'42.86E
2	33°25'31.03S	25°38'42.88E
2	33°25'31.03S	25°38'42.88E
2	33°25'35.19S	25°38'47.55E
2	33°25'35.2S	25°38'47.57E
2	33°25'35.22S	25°38'47.58E
2	33°25'35.23S	25°38'47.58E
2	33°25'35.23S	25°38'47.58E
2	33°25'40.05S	25°38'49.69E
2	33°25'40.05S	25°38'49.69E
2	33°25'40.08S	25°38'49.7E
2	33°25'40.09S	25°38'49.7E
2	33°25'40.1S	25°38'49.7E
2	33°25'40.12S	25°38'49.69E
2	33°25'40.15S	25°38'49.69E
2	33°25'40.16S	25°38'49.68E
2	33°25'40.17S	25°38'49.67E

2	33°25'40.19S	25°38'49.65E
2	33°25'40.2S	25°38'49.64E
2	33°25'40.2S	25°38'49.62E
2	33°25'40.21S	25°38'49.6E
2	33°25'40.21S	25°38'49.59E
2	33°25'40.23S	25°38'49.56E
2	33°25'40.23S	25°38'49.55E
3	33°26'30.15S	25°39'20.45E
3	33°26'30.15S	25°39'20.43E
3	33°26'30.15S	25°39'20.42E
3	33°26'30.13S	25°39'20.39E
3	33°26'30.13S	25°39'20.39E
3	33°26'30.11S	25°39'20.33E
3	33°26'30.11S	25°39'20.32E
3	33°26'22.28S	25°39'4.41E
3	33°26'22.26S	25°39'4.4E
3	33°26'22.26S	25°39'4.39E
3	33°26'22.25S	25°39'4.37E
3	33°26'22.24S	25°39'4.36E
3	33°26'22.21S	25°39'4.35E
3	33°26'22.2S	25°39'4.35E
3	33°26'22.18S	25°39'4.35E
3	33°26'22.18S	25°39'4.35E
3	33°26'11.64S	25°39'3.27E
3	33°25'31.62S	25°38'59.08E
3	33°25'29.15S	25°38'50.1E
3	33°25'29.15S	25°38'50.1E
3	33°25'29.13S	25°38'50.08E
3	33°25'29.13S	25°38'50.06E
3	33°25'29.12S	25°38'50.04E
3	33°25'29.1S	25°38'50.04E
3	33°25'29.09S	25°38'50.01E
3	33°25'29.08S	25°38'50.01E
3	33°25'29.06S	25°38'50.01E
3	33°25'29.05S	25°38'50E
3	33°25'29.04S	25°38'50E
3	33°25'29.01S	25°38'50E
3	33°25'28.99S	25°38'50.01E
3	33°25'28.98S	25°38'50.01E
3	33°25'28.97S	25°38'50.01E
3	33°25'28.95S	25°38'50.04E
3	33°25'28.94S	25°38'50.04E
3	33°25'28.93S	25°38'50.06E
3	33°25'28.91S	25°38'50.08E
3	33°25'28.91S	25°38'50.1E
3	33°25'28.9S	25°38'50.11E
3	33°25'28.9S	25°38'50.14E
3	33°25'28.9S	25°38'50.15E
3	33°25'28.9S	25°38'50.18E
3	33°25'28.9S	25°38'50.19E
3	33°25'28.9S	25°38'50.2E
3	33°25'31.4S	25°38'59.26E
3	33°25'31.4S	25°38'59.28E
3	33°25'31.41S	25°38'59.3E
3	33°25'31.41S	25°38'59.31E
3	33°25'31.43S	25°38'59.33E
3	33°25'31.44S	25°38'59.35E
3	33°25'31.45S	25°38'59.35E
3	33°25'31.47S	25°38'59.36E
3	33°25'31.48S	25°38'59.37E

3	33°25'31.49S	25°38'59.37E
3	33°25'31.51S	25°38'59.38E
3	33°26'11.61S	25°39'3.58E
3	33°26'22.09S	25°39'4.64E
3	33°26'29.89S	25°39'20.47E
3	33°26'29.9S	25°39'20.52E
3	33°26'29.91S	25°39'20.53E
3	33°26'29.91S	25°39'20.54E
3	33°26'29.93S	25°39'20.56E
3	33°26'29.94S	25°39'20.58E
3	33°26'29.96S	25°39'20.58E
3	33°26'29.97S	25°39'20.6E
3	33°26'30S	25°39'20.6E
3	33°26'30S	25°39'20.61E
3	33°26'30.02S	25°39'20.61E
3	33°26'30.04S	25°39'20.61E
3	33°26'30.05S	25°39'20.6E
3	33°26'30.07S	25°39'20.6E
3	33°26'30.08S	25°39'20.58E
3	33°26'30.09S	25°39'20.58E
3	33°26'30.11S	25°39'20.56E
3	33°26'30.12S	25°39'20.54E
3	33°26'30.13S	25°39'20.53E
3	33°26'30.13S	25°39'20.52E
3	33°26'30.15S	25°39'20.49E
3	33°26'30.15S	25°39'20.47E
3	33°26'30.15S	25°39'20.45E

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	12/12/20/2257	Solar PV	Approved	27

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

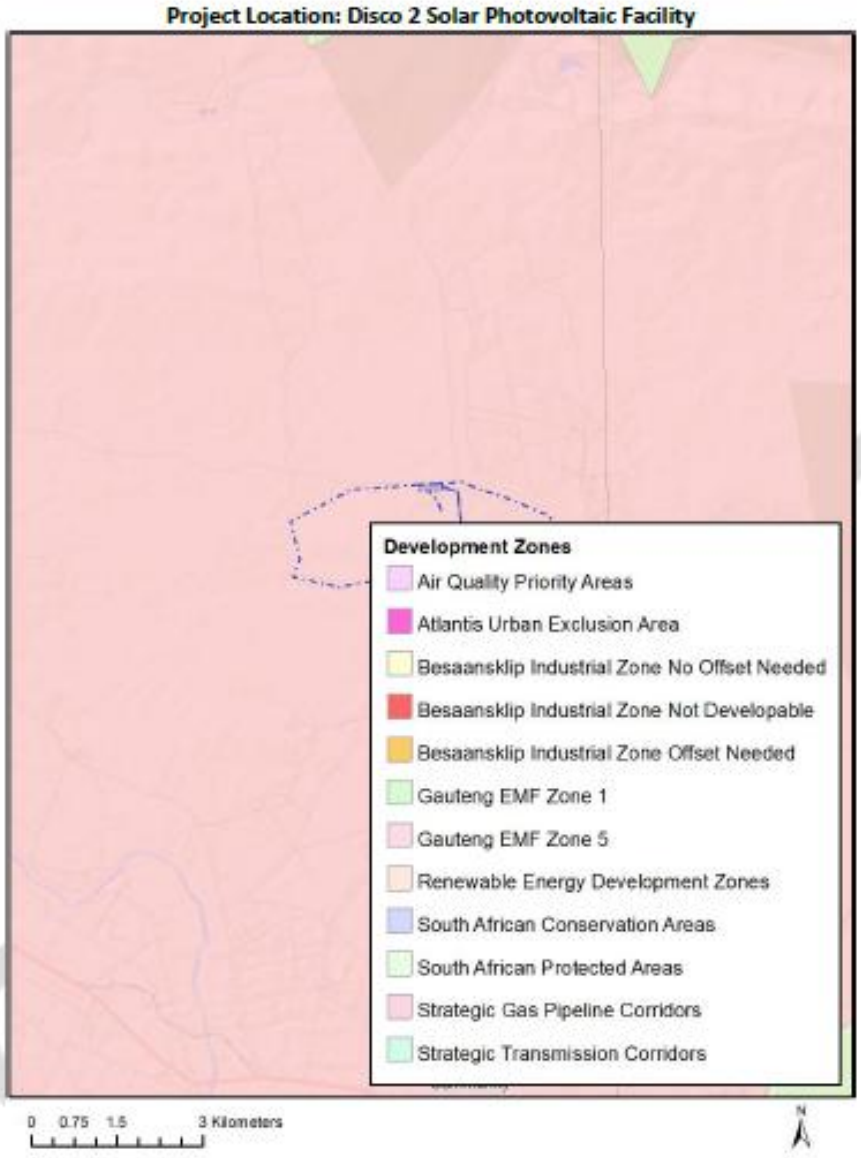
The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development footprint as well as the most environmental sensitive features on the footprint based on the footprint sensitivity screening results for the application classification that was selected. The application classification selected for this report is:
Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this footprint are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Eastern Corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf
Strategic Gas Pipeline Corridors-Phase 2: Mossel Bay to Coega	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf

Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones



Proposed Development Area Environmental Sensitivity

The following summary of the development footprint environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme		X		

Aquatic Biodiversity Theme				X
Archaeological and Cultural Heritage Theme				X
Avian Theme				X
Civil Aviation (Solar PV) Theme				X
Defence Theme				X
Landscape (Solar) Theme	X			
Paleontology Theme	X			
Plant Species Theme			X	
RFI Theme				X
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the footprint situation.

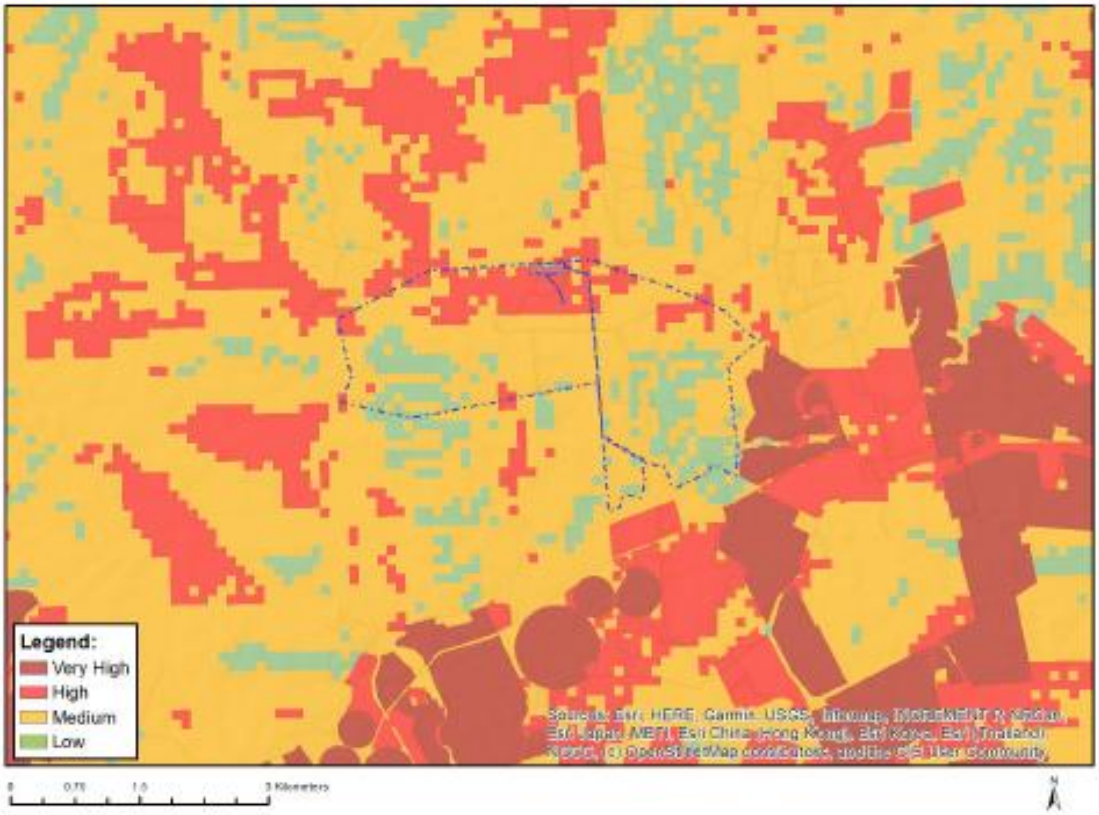
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
6	Aquatic Biodiversity	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf

	Impact Assessment	
7	Civil Aviation Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Civil_Aviation_Installations_Assessment_Protocols.pdf
8	Defense Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Defence_Installations_Assessment_Protocols.pdf
9	RFI Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
13	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed footprint for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

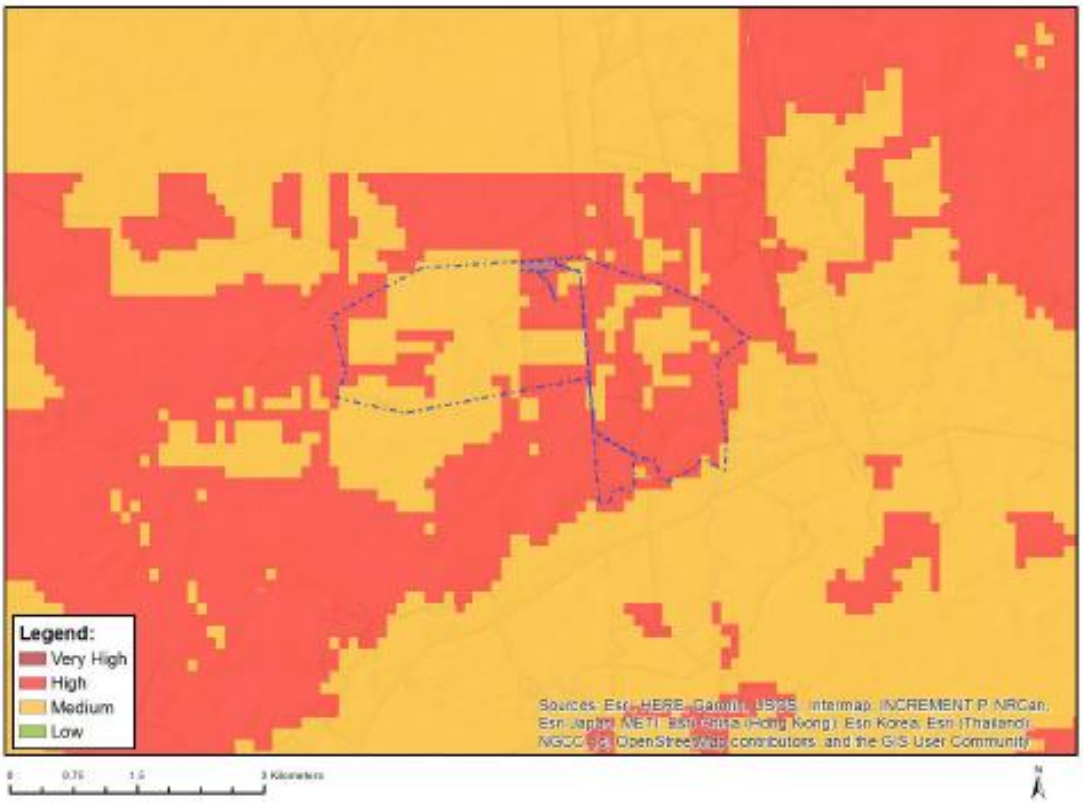


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Circus ranivorus
Medium	Aves-Stephanoaetus coronatus
Medium	Aves-Afrotis afra
Medium	Sensitive species 5
Medium	Sensitive species 8
Medium	Invertebrate-Aneuryphymus montanus

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

22/07/2022

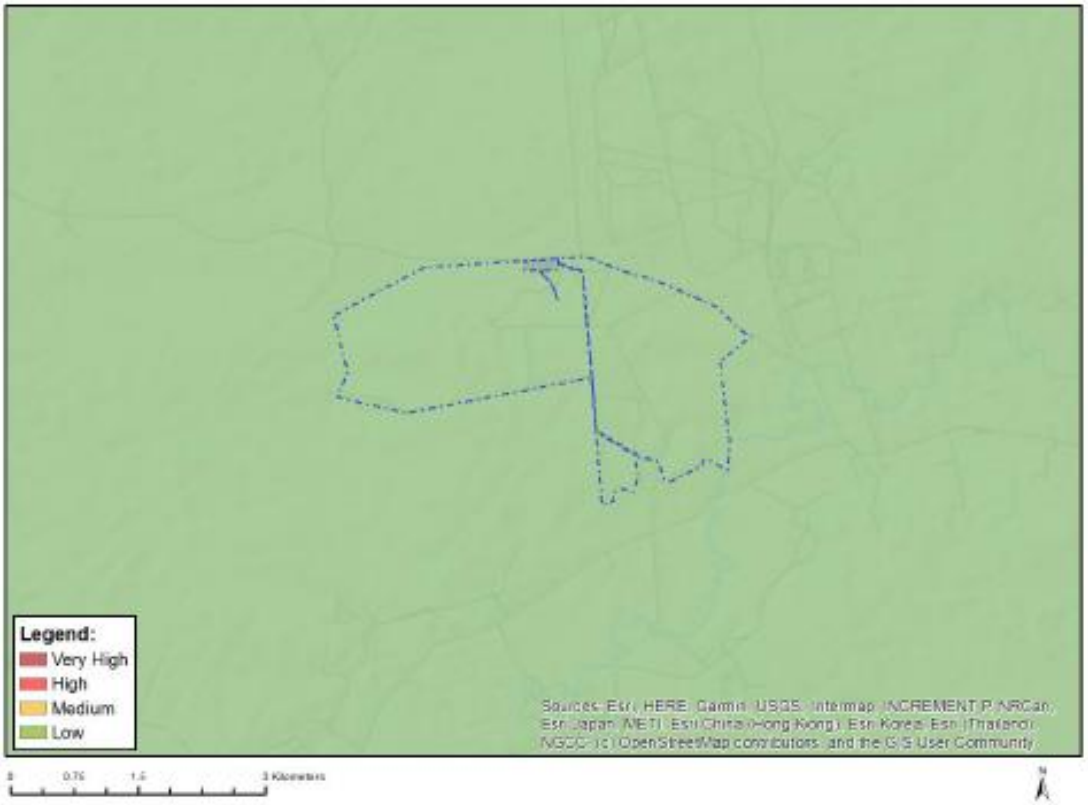
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE AVIAN THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			x

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

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

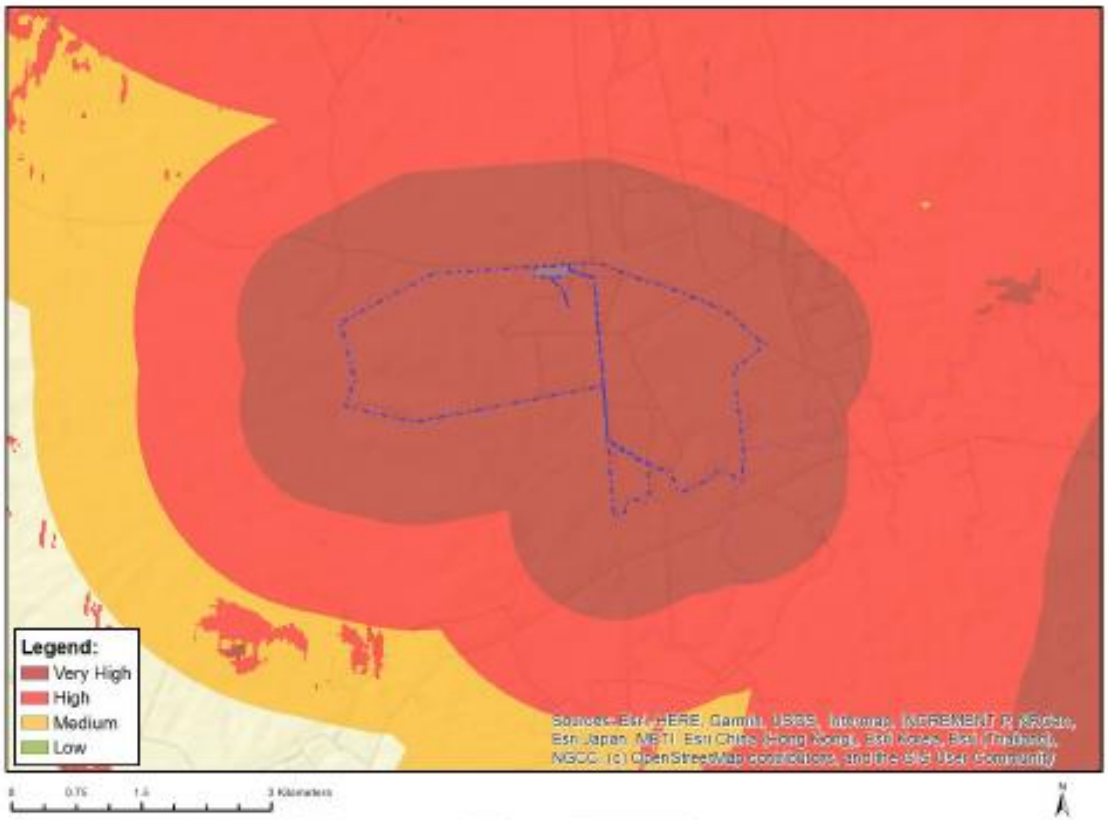
MAP OF RELATIVE DEFENCE THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			x

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY

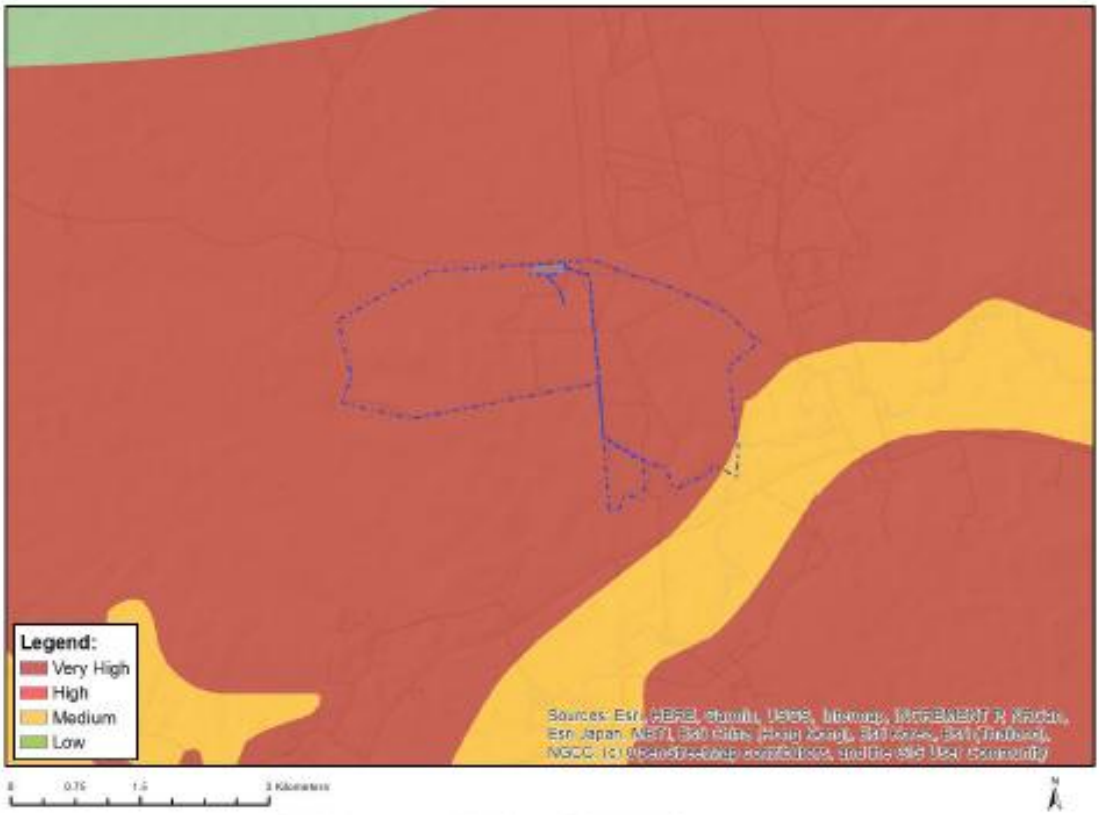


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	Slope between 1:4 and 1:10
Medium	Between 5 and 7.5 km of a Ramsar site of National Park
Very High	Game farm
Very High	Within 1000 m of a game farm

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

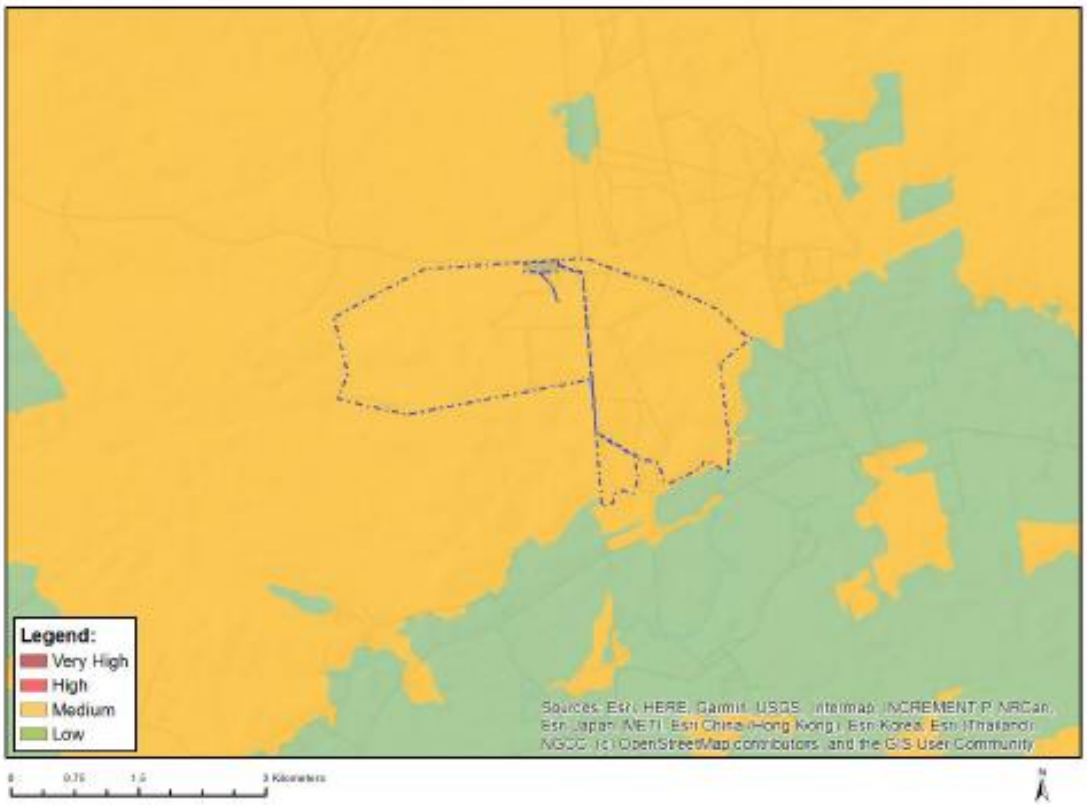


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Features with a Very High paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



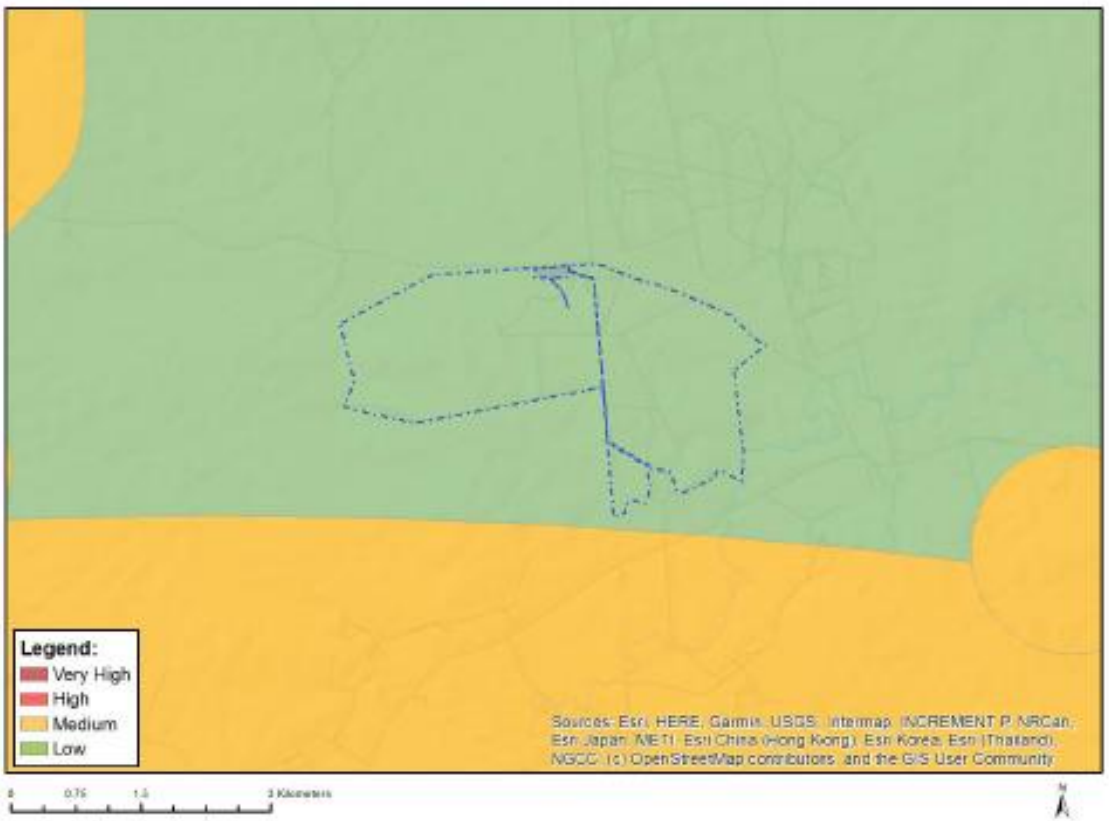
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Sensitive species 1252
Medium	Sensitive species 1268
Medium	Selago zeyheri
Medium	Sensitive species 974
Medium	Duvalia pillansii
Medium	Sensitive species 91
Medium	Justicia orchioides subsp. orchioides
Medium	Asparagus spinescens
Medium	Sensitive species 1248
Medium	Sensitive species 19

MAP OF RELATIVE RFI THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Ecological support area 1

APPENDIX I: SITE SENSITIVITY VERIFICATION REPORT

DISCO 2 SOLAR PHOTOVOLTAIC FACILITY

Basic Assessment

SITE SENSITIVITY VERIFICATION REPORT

Proposed Construction and Operation of a Solar Photovoltaic Facility on a portion of Farm 713, Hopefield, Sundays River Valley Municipality

SEPTEMBER 2022

Prepared for:
Venter Wildlife Trust
PO Box 112
Kirkwood
6120

Prepared by:
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Public Process Consultants
Environmental Impact Assessment and Public Participation Management

Title:	Disco 2 PV - Basic Assessment, Site Sensitivity Verification Report, Proposed Construction and Operation of a Solar Photovoltaic Facility and Associated Infrastructure, on a portion of Farm 713, Hopefield, Sundays River Valley Municipality (September 2022).
Purpose of this report:	This Site Sensitivity Verification (SSV) Report forms part of a series of reports and information documents that are being provided during the Basic Assessment Process for the proposed Disco 2 PVs proposed on Farm 713 Hopefield. As per to the various Assessment Protocols prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration identified by the screening tool must be confirmed by undertaking a SSV In terms of the various assessment protocols promulgated in terms the NEMA EIA Regulations, 2014, the SSV Report **must** be undertaken by an environmental assessment practitioner (EAP) or a specialist. The outcome of the site sensitivity verification must be recorded in the form of a report that: • Confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc, • Contains a motivation and evidence (e.g.) photographs of either the verified or different use of the land and environmental sensitivity; and • Is submitted together with the relevant assessment report The primary objective of this SSV is to present to the competent authority the outcomes of the SSV, which either confirm or dispute the current use of the land and sensitivity of the site under assessment as identified by the National Web Based Screening tool and which has been used, **amongst other tools**, to determine the specialist assessments to be undertaken as part of the assessment.
Prepared for:	Venter Wildlife Trust PO Box 112 Kirkwood 6120
Prepared by:	Public Process Consultants PO Box 27688, Greenacres, 6057 Phone: 041 - 374 8426 VOIP 087 1472 451
Authors:	Sandy Wren, Emily Whitfield, JP Hechter and Geena Pringle
Date:	September 2022
To be cited as:	Wren S, Whitfield E, Hechter JP and Pringle G, July 2022. Disco2 PV - Basic Assessment, Site Sensitivity Verification Report, Farm 713, Hopefield, Sundays River Valley Municipality.

TABLE OF CONTENTS

ABBREVIATIONS

CBAR – Consultation Basic Assessment Report
EAP – Environmental Assessment Practitioner
SSV – Site Sensitivity Verification

1. INTRODUCTION

The NEMA EIA Regulations 2014 (as amended), Regulation 16 (1) (b) (v) requires that a report, generated by the national web based environmental screening tool, accompanies the application for environmental authorization which is submitted to the competent authority. Further Regulation 16 (3) (a) indicates that any report submitted as part of an application must comply with any protocol or minimum information requirements relevant to the application. As such, several assessment protocols and minimum report content requirement guidelines have been gazetted which inform the information that is to be contained in the specialists' assessments that form part of an Assessment.

Regulation 16 (3) (a) of GN R326 indicates that any report submitted as part of an application must "*comply with any protocol or minimum information requirements relevant to the application as identified and gazetted by the Minister in a government notice*". As such, several assessment protocols and minimum report content requirement guidelines have been gazetted by the Minister which inform the information that is to be contained in the specialists' assessments that form part of the EIA Report.

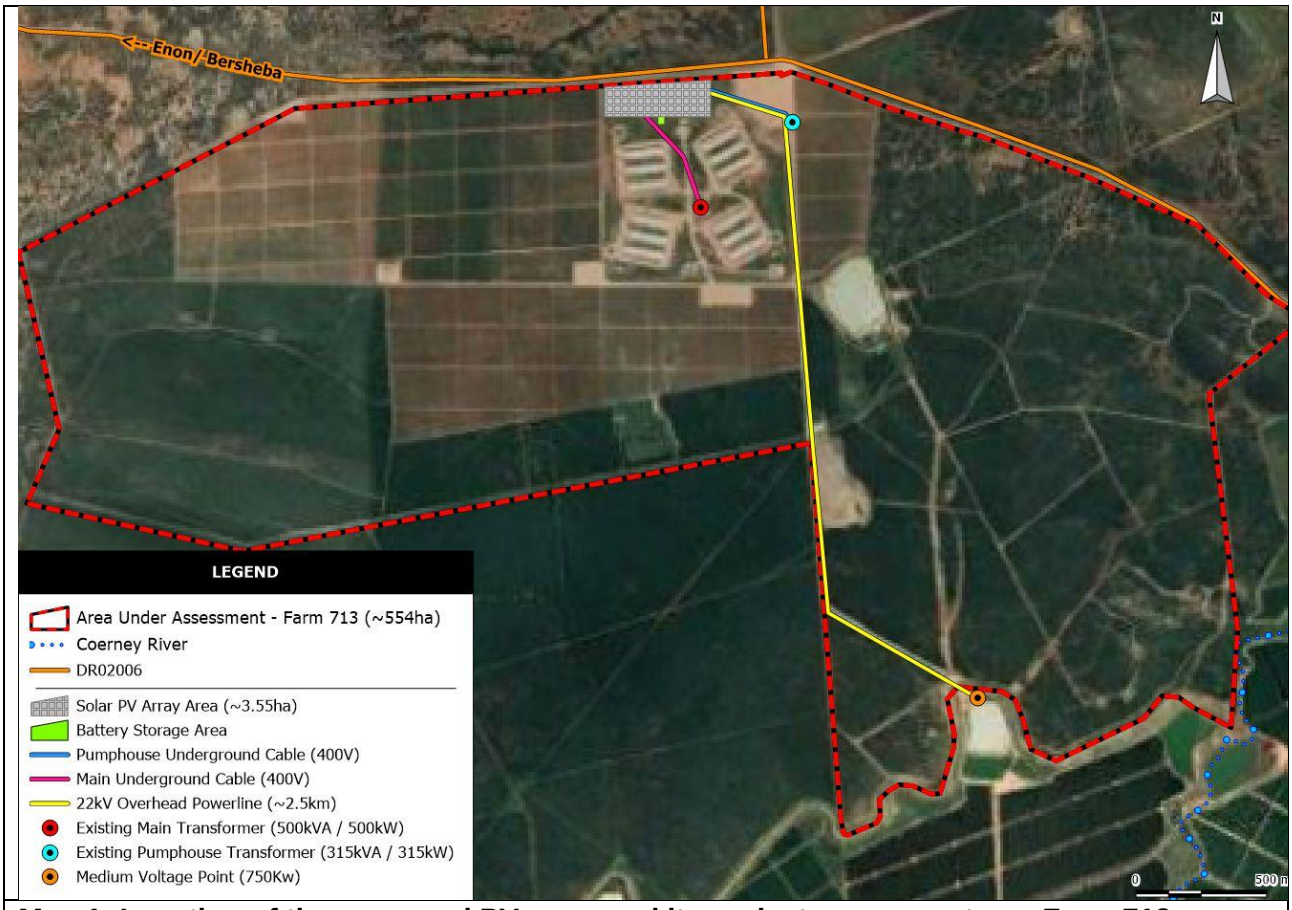
Regulation 16 (3) (c) requires that a report submitted as part of an application must "*take into account any applicable government policies and plans, guidelines, environmental management instruments and other decision-making instruments that have been adopted by the competent authority…*". The Screening Tool is **one** of the environmental management instruments that are utilized in determining the environmental sensitivity of the site, as well as, which potential specialist studies should be included in the assessment process. Other **instruments** utilized would include, amongst others, biodiversity planning frameworks, for example the ECBCP, NBA, VegMap and SRVM Biodiversity Sector Plan. In addition, public participation can assist in determining specialist studies which should form part of an assessment.

1.1 Project Overview

The project applicant, Venter Wildlife Trust, proposes the construction and operation of a Solar Photovoltaic (PV) Facility, including associated infrastructure, capable of producing 3.4MW of AC electricity, on a portion of Farm 713, known as Hopefield, in the Sundays River Valley Municipality (SRVM). The farm measures approximately ~554ha in extent and is currently zoned Agriculture 1.

The proposed facility will consist of several photovoltaic solar panels, anticipated to measure ~35 475m2 (3.55ha) in extent, as well as a battery storage area (~300m^2), with a total proposed development footprint of ~3.6ha. The proposed facility will have a combined production capacity of 3.4MW of AC electricity and will be a hybrid facility which will be connected to the existing ESKOM grid, with battery backup during power outages.

The PV Facility and its components will be connected to one another and connected via underground cables (400V) to two existing ESKOM transformers on site. Additionally, a private 22kV overhead powerline will be constructed over a distance of ~2.5km, connecting the PV Facility to an existing Medium Voltage point (MV) located on the neighbouring property (Farm 690), also owned by the applicant, adjacent to the southern boundary of Farm 713. The PV Facility is proposed to be constructed adjacent to the northern boundary of Farm 713, on an area that has previously been transformed, within the footprint of an existing, separately fenced in Poultry Broiler Facility. Map 1 below indicates the proposed location of the proposed PV array and its project components on Farm 713.



Map 1: Location of the proposed PV array and its project components on Farm 713

2. APPROACH AND METHODOLOGY

In terms of the above-mentioned assessment protocols, prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration identified by the screening tool must be confirmed by undertaking a site sensitivity verification (this report).

In order to verify the site sensitivities identified by the screening tool, on Farm 713, the following minimum content requirements have been utilised:

a) A desktop analysis utilising the following resources:
   - Plans
   - Guidelines
   - Spatial Tools and Mapping Resources
   - Municipal Development Planning Frameworks and Instruments
   - Relevant literature and Web-based Information
   - Satellite imagery utilising (Google Earth)
   - DFFE's National Web-based Environmental Screening Tool and Assessment Protocols

b) Preliminary on-site inspections which took place on the 21 April 2022 and 2 June 2022 during which photographic evidence of the current land use and environmental sensitivities was collected.

c) The information gathered from the site observations was supplemented by preliminary specialist input.

d) In addition, the site sensitivity has been informed by the Environmental Assessment Practitioner's (EAPs) experience with undertaking two previous Basic Assessments on Farm

713 as well as other knowledge of the local area based on several previous environmental assessments.

2.1 SSV Minimum Report Content Requirements

The outcome of the site sensitivity verification must be recorded in the form of a report that: –

- Confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc,
- Contains a motivation and evidence (e.g.) photographs of either the verified or different use of the land and environmental sensitivity; and
- Is submitted together with the relevant assessment report

2.2 Limitations

The following limitations have been identified while undertaking this SSV Report.

a) Satellite imagery of the site utilised in the desk top analysis may be outdated
b) The Screening Tool application classification does not allow the user to select and differentiate between large scale commercial renewable energy projects (*Utilities Infrastructure / Electricity / Generation / Renewable / Solar / PV*) and small-scale private use facilities, such as proposed in this assessment. As a result, the environmental sensitivities identified by the web-based screening tool may be in applicable, see point c) below.
c) As a result, the link contained in the Screening Tool for the assessment Protocol for Agricultural Impact Assessment only directs one to the following link, *https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf*, which is for "… *Onshore Wind and/or Solar Photovoltaic Energy Generation Facilities where the Electricity Output is 20 Megawatts or more*." and therefore **is not applicable** to small-scale private use facilities, such as proposed in this assessment.
d) The Screening Tool Report has identified the Avian Theme as low, however no Avifaunal specialist assessment or associated protocol, is included in the list of specialist assessments identified in the Screening Tool Report, see page 10 and 11. The Avian Theme is the only footprint sensitivity identified by the Screening Tool which does not include a corresponding specialist assessment in the list of specialist studies identified.
e) The data utilised in the Screening Tool appears to be outdated in some instances e.g. the metadata associated with the landscape (solar) theme is dated 2015 and as a result incorrectly identifies the farm as a game farm, as the data does not take into account recent land use changes.
f) The Screening Tool Report on page 19, in the sensitivity features table relating to Landscape (Solar) Theme, line three indicates the sensitivity as medium and the description of the feature given is "*Between 5 and 7.5km of a Ramsar site **of** National Park*". The bold and underlined should read "**or**" according to the sensitivity layer in the web-based the Screening Tool.
g) The Screening Tool Report on page 11 identifies the need for a socio-economic and geo-technical specialist assessment, however neither of these are identified as one of the proposed development area environmental sensitivity themes neither is there a sensitivity rating e.g. low, medium or high.
h) The Screening Tool Report, which includes the lists of relevant sensitive species, was generated on the 7 July 2022. In the Screening Tool Report, Sensitive plant and animal species are assigned a unique number / identifier. In order to protect the species identified in the Screening Tool, these numbers/ identifiers are rerandomized at various intervals. At the time of producing the Screening Tool Report for this application, the unique number/

identifier assigned by SANBI has been utilised in this SSV Report. If rerandomization occurred between the date of generating this Screening Tool and the submission of this SSV Report, unique numbers/ identifiers could be outdated.

3. SITE OVERVIEW

Farm 713 is a working farm and is currently used for the commercial production of citrus and a Poultry Broiler Facility.

Farm 713 is located ~7km north of Sunland and approximately 8.5km north-west of Addo, in the Sundays River Valley Municipality. The farm can be accessed via the DR02006 gravel road (Enon Road), at its intersection with the Slagboom road (MN50605). The nearest boundary of the Addo Elephant National Park is approximately ~5.4km from the boundary of the farm and ~7.6km from the proposed development footprint.

Approximately ~140ha of the site has been transformed for citrus orchards, including internal roads and laydown areas. Approximately 38ha of the site has been transformed for a separately fenced in Poultry Broiler Facility, which consists of 12 broiler houses including associated infrastructure (i.e., internal access roads, boilers, managers house etc.), located adjacent to the northern boundary of the farm. The footprint for the PV array is proposed within the separately fenced in 38ha transformed area. A pump station is also located east of the enclosed footprint of the Poultry Broiler Facility. The proposed 22kV line mounted on creosote poles will be constructed within an existing vehicle track on site.

A farm dam, measuring ~2.5ha in extent, is also located southeast of the Poultry Broiler Facility in the centre of the farm and is currently used to convey irrigation water from the Lower Sundays River Water Users Association (LSRWUA) canal system to several of the applicant's farms, including Farm 713. The remainder of the site is in a near natural condition with some evidence of disturbance, including internal roads, cut lines and quarrying. The south-eastern portion of Farm 713, measuring ~219 ha has been rezoned as Open Space III (Private Nature Reserve), in compliance with the conditions of a previous Environmental Authorisation issued on Farm 713.

4. FOOTPRINT ENVIRONMENTAL SENSITIVITIES AS IDENTIFIED BY THE SCREENING TOOL

Table 1.1 below indicates a summary of the environmental sensitivities as identified by the online web-based Screening Tool Report. As indicated in section 2.2 above, the Screening Tool does not allow the user to select or distinguish between large scale commercial Renewable PV projects and small-scale private use facilities, such as proposed in this assessment.

Table 1.1: Summary of Footprint Environmental Sensitives as identified by the Screening Tool (Screen grab from page 9 and 10 of the Screening Tool Report)

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme		X		
Aquatic Biodiversity Theme				X
Archaeological and Cultural Heritage Theme				X
Avian Theme				X
Civil Aviation (Solar PV) Theme				X
Defence Theme				X
Landscape (Solar) Theme	X			
Paleontology Theme	X			
Plant Species Theme			X	
RFI Theme				X
Terrestrial Biodiversity Theme	X			

These sensitivities have been confirmed or disputed in Section 6 below, with supporting evidence provided.

5. SPECIALIST ASSESSMENTS IDENTIFIED BY THE SCREENING TOOL

"*Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the footprint situation."* Page 10, Screening Tool Report, 22 July 2022

Table 1.2: Specialist Studies and Associated Assessment Protocols as per the Screening Tool Report (Screen grab from page 10 and 11 of the Screening Tool)

No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
7	Civil Aviation Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Civil_Aviation_Installations_Assessment_Protocols.pdf
8	Defense Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Defence_Installations_Assessment_Protocols.pdf
9	RFI Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
13	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

6. DEVELOPMENT FOOTPRINT ENVIRONMENTAL SENSITIVITY VERIFICATION

Based on the results of the Screening Tool contained in Section 4 and 5 above, the site visits, desktop review of information, Google Earth Imagery, the EAPS knowledge of the site, amongst

others, the Screening Tool Themes, sensitivities and proposed specialist studies for this assessment area discussed below.

6.1 Agriculture Theme

The Screening Tool has indicated that the agriculture sensitivity for the proposed development is "High", however as indicated in section 2.2 b) and c) above the Screening Tool application classification does not allow the user to select and differentiate between large scale commercial renewable energy projects (*Utilities Infrastructure / Electricity / Generation / Renewable / Solar / PV*) and small-scale private use facilities, such as proposed in this assessment. In addition, the link contained in the Screening Tool for the assessment protocol for Agricultural Impact Assessment only directs one to the following link, *https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf*, which is for "… *Onshore Wind and/or Solar Photovoltaic Energy Generation Facilities where the Electricity Output is 20 Megawatts or more*." The meta-data accompanying the agriculture combined sensitivity layer indicates that the mapping has been done in the context of large scale wind and solar PV projects.

This not a large-scale development, rather a 3.4 MW facility for small scale private use in support of existing agricultural activities, namely, irrigation of citrus orchards, grazing of game and livestock as well as water for poultry broiler facilities. It is therefore the opinion of the EAP that this assessment protocol does not apply to this project and as result an Agricultural Agro-Ecosystem Specialist Assessment has not been undertaken for this assessment.

6.2 Animal Species Theme

The screening tool has rated the animal species sensitivity for the proposed development as "High". The reason for the High Sensitivity rating is due to the potential occurrence of *Circus ranivorus as indicated in Table 1.2 below.*

Table 1.2 Screening Tool Animal Species Sensitivity Theme (Screen grab from page 13 of the Screening Tool Report)

Sensitivity	Feature(s)
High	Aves-Circus ranivorus
Medium	Aves-Stephanoaetus coronatus
Medium	Aves-Afrotis afra
Medium	Sensitive species 5
Medium	Sensitive species 8
Medium	Invertebrate-Aneuryphymus montanus

Circus ranivorus, otherwise known as the African-Marsh Harrier is found within grasslands and wetlands. There are no wetlands or grasslands within the proposed development footprint and this species is transient in nature. Similarly, the proposed development footprint does not provide habitat for the species indicated as having a medium sensitivity rating. See Photo 1 below which indicates the transformed nature of the site.

The EAP therefore disputes the rating for this theme as indicated in the screening tool report. It is proposed that the development footprint should be rated as low sensitivity due to the transformed nature of the site and the unlikely presence of the identified terrestrial animals SCC's. In line with, these findings and the Terrestrial Animal Species Assessment Protocol the minimum report requirements for a Terrestrial Animal Compliance Statement will be included as part of the Terrestrial Biodiversity Compliance Statement, to be prepared by an Ecological Scientist registered with SACNASP.

Photo 1: A photograph taken from the centre of the proposed development footprint (foreground), in a south-westerly (photo date 2 June 2022)

6.3 Aquatic Biodiversity Theme

The screening tool report has rated the Aquatic Biodiversity Theme Sensitivity as low for the proposed development footprint. No aquatic features, drainage lines or wetlands were observed during the site visit, therefore the EAP confirms the rating as low.

In line with, these findings and the Aquatic Biodiversity Assessment Protocol, an Aquatic Biodiversity Compliance Statement will be prepared by a suitably qualified specialist registered with SACNASP, with expertise in aquatic sciences.

6.4 Archaeological and Cultural Heritage Theme

The screening tool report has rated the Archaeological and Cultural Heritage Theme Sensitivity as low for the proposed development footprint. As indicated in the sections above the site has been transformed. In addition, a Phase 1 Heritage Impact Assessment, which included an Archaeological and Palaeontological assessment of the development footprint as well as the surrounding area, undertaken for a previous Assessment has identified the development footprint as of low archaeological sensitivity.

In line with these findings, the EAP confirms the Screening Tool rating as low and a copy of the previous Phase 1 Heritage Assessment, which complies with the requirements of Appendix 6 of the NEMA EIA Regulations, 2014 (as amended) will be included in the Basic Assessment as required by General Assessment Protocol.

6.5 Avian Theme

The Screening Tool Report identifies the Avian Theme as low, however there is no Avifaunal specialist assessment or associated assessment protocol identified by the Screening Tool. This is more than likely because the assessment protocol identified in terms of Avifauna is for ".. ***onshore wind energy generation facilities*** *where the electricity output is 20 megawatts or more*". This is a Photovoltaic Energy Generation Facility and not an onshore wind energy facility and therefore this assessment protocol and associated specialist assessment is not applicable to this application.

In line with the above no separate Avifaunal Specialist Assessment will be undertaken. The Animal Species Theme includes Avian SCC which is addressed in section 6.2 above.

6.6 Civil Aviation Theme

The Screening Tool Report identifies the Civil Aviation (Solar PV) Theme sensitivity as low for the proposed development footprint. In terms of the meta data associated with the Civil Aviation sensitivity layer in the Screening Tool the development footprint is located more than 8km's from "*other civil aviation aerodromes"* namely, the Hitgeheim airstrip. In terms of the Protocol for Civil Aviation when the site is rated as low sensitivity, "N*o significant impacts on the civil aviation installation are expected … and it is unlikely for further assessment and mitigation measure to be required*."

The EAP confirms the finding of the Screening Tool as low sensitivity and thus no Civil Aviation Compliance Statement will be undertaken.

6.7 Defence Theme

The Screening Tool Report identifies the Defence Theme sensitivity as low for the proposed development footprint. Based on the meta data associated with the Defence Theme sensitivity layer the nearest Defence installation is located ~59km south of the proposed development footprint.

In terms of the Protocol for the Defence Theme when the site is rated as Low Sensitivity, "*No negative impacts on the defence installation are expected in low sensitivity areas. It is unlikely for further assessment mitigation measures to be required*." The EAP confirms the finding of the Screening Tool as low sensitivity and in thus in terms of the Defence Protocol no Defence Compliance Statement will be undertaken.

6.8 Landscape (Solar) Theme

The Screening Tool Report identifies the Landscape (Solar) Theme sensitivity as Very High for the proposed development footprint. Table 1.3 below as contained on page 19 of the Screening Tool Report along with Figure 1 identifies the proposed footprint as High and Very High Sensitivity due to slope, proximity to a game farm and that the development footprint is a game farm.

Table 1.3: Screening Tool Landscape (Solar) Theme (Screen grab from page 19 of the Screening Tool Report)

Sensitivity	Feature(s)
High	Slope between 1:4 and 1:10
Medium	Between 5 and 7.5 km of a Ramsar site of National Park
Very High	Game farm
Very High	Within 1000 m of a game farm

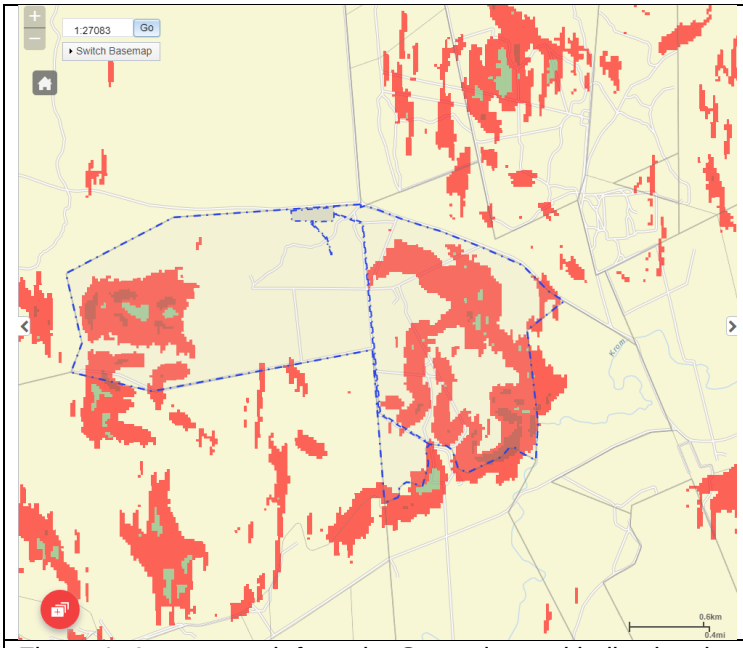


Figure 1: A screengrab from the Screening tool indicating the areas identified as High sensitivity due to slope of between 1:4 and 1:10

The metadata associated with the landscape (solar) theme is dated 2015 and as a result incorrectly identifies the farm as a game farm, as the data does not take into account recent land use changes as indicated in Photo 2 below. The development footprint is not a game farm and has been transformed. In addition, the proposed PV array does not fall within an area rated as High Sensitivity due to slopes by the Screening Tool. However, one of the components of the project, is a 22 kV overhead powerline mounted on creosote poles and sections of this line fall within 1:4 - 1:10 sloped areas at 3 points along the powerline route. The site has also been rated as having a medium sensitivity due to the proximity to a National Park (between 5 and 7.5km). The nearest boundary of Addo Elephant National Park is 7.6 km from the proposed development footprint.

Photo 2: Photograph taken on the 2 June 2022 indicating the current land use on the site, namely, poultry broiler facilities, citrus orchards and transformed grassed areas. The red arrow indicates the approximate location of the development footprint.

In terms of the General Assessment Protocol a Landscape/ Visual Assessment must comply with Appendix 6 of the NEMA EIA Regulations, 2014 (as amended). Based on the above, which includes, amongst others, site inspections, a desk-top analysis of google earth imagery, the experience of the EAP with 2 other assessments on the same site as it is the opinion of the EAP that the sensitivity of Very High as identified by the Screening Tool is disputed. A sensitivity of medium is proposed as a

more accurate reflection of the current use of the land and associated environmental sensitivity. And therefore a Visual Specialist Opinion Report has been undertaken for this assessment.

6.9 Palaeontological Theme

The screening tool report has rated the Palaeontological Theme sensitivity as Very High for the proposed development footprint. As indicated in the sections above the site has been transformed. In addition, a Phase 1 Heritage Impact Assessment, which included an Archaeological and Palaeontological assessment of the development footprint as well as the surrounding area, undertaken for a previous Assessment has identified the development footprint as of low Palaeontological sensitivity.

In line with the findings of the previous Phase 1 Heritage Impact Assessment, the EAP disputes the Screening Tool rating of Very High and rates the development footprint as low Palaeontological sensitivity. The previous Phase 1 Heritage Assessment, which complies with the requirements of Appendix 6 of the NEMA EIA Regulations, 2014 (as amended) will be included in the Basic Assessment as required by General Assessment Protocol.

6.10 Plant Species Theme

The Screening Tool report has rated the Plant Species Theme sensitivity as medium for the proposed development footprint. The medium sensitivity rating is due to the potential occurrence of the SCC contained in Table 1.4 below

Table 1.4: Sensitivity rating for the Plant Species Theme as per the Screening Tool (Screengrab from page 21)

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Sensitive species 1252
Medium	Sensitive species 1268
Medium	Selago zeyheri
Medium	Sensitive species 974
Medium	Duvalia pillansii
Medium	Sensitive species 91
Medium	Justicia orchioides subsp. orchioides
Medium	Asparagus spinescens
Medium	Sensitive species 1248
Medium	Sensitive species 19

The medium sensitivity rating provided in the Plant Species Assessment Protocol is based on the suspected habitat for SCC based on records being collected for this species in the past, prior to 2002 or being a natural area. The Plant Species Assessment Protocol indicates that a low sensitivity rating should apply for terrestrial plant species where no natural habitat remains and natural areas where there is no suspected occurrence of SCC.

As per the site visit and photographic evidence provided in Photo 1 and 2 in the Sections above the development footprint has been transformed. No natural habitat for SCC remains. The EAP thus disputes the sensitivity rating assigned by the Screening Tool and proposes that the footprint is rated as low. In line with these findings the minimum report content requirements of a Terrestrial Plant Species Compliance Statement will be included in the Basic Assessment as part of the Terrestrial Biodiversity Compliance Statement, to be prepared by an Ecological Scientist registered with SACNASP.

6.11 RFI Theme (Radar Frequency Interference)

The Screening Tool report has rated the RFI theme as Low sensitivity rating for the proposed development footprint. The meta data associated with the RFI Theme sensitivity in the Screening Tool, indicates that the mapping was done in the context of Commercial scale wind energy installations. This proposed development application is for a small scale PV facility for private use. and not a Commercial scale wind energy facility and therefore this Theme is not applicable to this application and therefore a specialist assessment is not required for this assessment.

6.12 Terrestrial Biodiversity Theme

The Screening Tool report has rated the Terrestrial Biodiversity Theme as Very High for the proposed development footprint. This sensitivity features table indicates this is due to the site being designated as an Ecological Support Area (ESA 1).

As per the site visit and photographic evidence provided in Photo 1 and 2 in the Sections above the development footprint has been transformed. The area is transformed and the likelihood of any terrestrial ecosystem BPA's being found at the site or within the area of influence is very low.

The EAP thus disputes the sensitivity rating assigned by the Screening Tool and proposes that the footprint is rated as low. In line with these findings a Terrestrial Biodiversity Compliance Statement, to be prepared by an Ecological Scientist registered with SACNASP will be included in this Basic Assessment.

7. SSV REPORT OUTCOMES AND RECOMMENDATIONS

The primary objective of this SSV is to present to the competent authority the outcome of the SSV Report, which either confirms or disputes the current use of the land and sensitivity of the site under assessment as identified by the National Web Based Screening tool and which has been used, **amongst other tools**, to determine the specialist assessments to be undertaken as part of this assessment.

Table 1.5 below provides a summary of the outcome of the SSV Report and specialist studies proposed to be undertaken for this assessment

Table 1.5: Specialist Assessments Proposed

SPECIALIST ASSESSMENTS IDENTIFIED BY THE SCREENING TOOL	**EAP'S RECOMMENDATIONS FOR SPECIALIST ASSESSMENTS BASED ON SSV**
Agricultural Impact Assessment	None – see comments in Section 6.1 above.
Landscape/ Visual Impact Assessment	Visual Specialist Opinion Report
Archaeological and Cultural Heritage Impact Assessment	Phase 1 Heritage Impact Assessment (Archaeological and Palaeontological)
Palaeontology Impact Assessment	Phase 1 Heritage Impact Assessment (Archaeological and Palaeontological)
Terrestrial Biodiversity Impact Assessment	Terrestrial Biodiversity Compliance Statement
Aquatic Biodiversity Impact Assessment	Aquatic Biodiversity Compliance Statement
Civil Aviation Assessment	None, see comments in Section 6.7 above
Defence Assessment	None, see comments in 6.8 above
RFI Assessment	None, see comments in 6.9 above.
Geotechnical Assessment	None, see comments below.
Socio Economic Assessment	Desktop, see comments below.
Plant Species Assessment	Included in the Terrestrial Biodiversity Compliance Statement
Animal Species Assessment	Included in the Terrestrial Biodiversity Compliance Statement

Geotechnical Assessment

The site is considered to have a stable geology which was taken into account by the Project engineers as part of the facility design plans. It is not anticipated that the development will cause significant changes to surface and/ or subsurface geology that could potentially lead to negative impacts in the surrounding area.

The Screening Tool, in the list of specialist studies on page 11 has listed a Geotechnical Assessment to be undertaken for the development. However, the Screening tool did not identify the Geotechnical Assessment Theme, nor has it assigned a sensitivity rating. Furthermore, to date no assessment protocol has been gazetted for the minimum report requirements for a Geotechnical assessment. In addition, no concerns have been raised by I&APs regarding the potential Geotechnical impacts of the proposed development.

Therefore, it is not deemed necessary to undertake a separate Geotechnical Assessment, as it not anticipated to significantly alter the geology of the site.

Socio Economic Assessment

The Screening Tool report, in the list of specialist studies on page 11 has listed a Socio-economic Impact assessment to be undertaken. The Screening tool did not identify socio-economic as an environmental theme, nor has it assigned a sensitivity rating. The socio-economic impacts for the proposed development will be assessed as part of the Basic Assessment based on desk top information available from the project applicant and the technical team.

Based on information provided by the project applicant, a number of construction and operational phase employment opportunities will be created by the proposed development, which will contribute to the growth and stability of the local economy. As far as possible preference will be given to local labour for the construction of the proposed development. The employment opportunities provided during the operational phase will also provide skills development and career growth, thus leading to an improved standard of living and livelihood improvement for employees. No significant negative impacts on the local socio-economic environment are anticipated.

No concerns were raised by I&APs regarding Socio-economic impacts during the project announcement phase of the assessment, which require a specialist assessment. Given the above, it is not deemed necessary to undertake a separate Socio-Economic Assessment.

Thus, based on the findings of the SSV Report the EAP, subject to approval by the competent authority, recommends the following specialist studies to form part of this assessment:

- Visual Specialist Opinion Report
- Phase 1 Heritage Impact Assessment (Archaeological and Palaeontological) in line with Appendix 6 of the NEMA EIA Regulations 2014 (as amended)
- Terrestrial Biodiversity Compliance Statement in line with the relevant assessment protocols by an Ecologist registered with SACNASP, to include
    - Plant Species Assessment
    - Animal Species Assessment
- Aquatic Biodiversity Compliance Statement in line with the relevant assessment protocols by an Ecologist registered with SACNASP with experience in the field of Aquatic Sciences.
- Desktop Socio Economic Impact Assessment for inclusion in the relevant section of the Basic Assessment Report.