EAP Services

ENVIRONMENTAL MANAGEMENT PLAN REPORT (EMPr)

Development and operation of a 1.5 MW Solar Photovoltaic facility located on a 1.7 ha area on Portion 16 of Tygerfontein 347, Albertinia, Hessequa Local Municipality

Appendix 10

May 2026

PREPARED FOR THE APPLICANT:	**Outeniqua Game Farm (Pty) Ltd**
PREPARED BY:	**Claire De Jongh (EAPASA REG: 2021/3519)**
DATE:	**May 2026**

ENVIRONMENTAL MANAGEMENT PROGRAMME REQUIREMENTS:

Appendix 4 of Regulation 982 of the 2014 EIA Regulations (as amended, 2017) published in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), contains the required contents of an Environmental Management Programme (EMP). The table below serves as a summary of how these requirements were incorporated into this EMPR:

Details of – The EAP who prepared the EMPr; and The expertise of the EAP to prepare an EMPr, including a curriculum Vitae;	Appendix A: Details of EAP
A detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	2. PROJECT DETAILS
a map at an appropriate scale which superimposes the proposed activity, it associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;	All figures
A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including – planning and design; pre-construction activities; construction activities; rehabilitation of the environment after construction and where applicable post closure; and where relevant, operation activities;	Appendix J of Draft BAR
a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraph (d) will be achieved, and must, where applicable, include actions to – avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; comply with any prescribed environmental management standards or practises; comply with any applicable provisions of the Act regarding closure, where applicable; and comply with any provisions of the Act regarding financial provision for rehabilitation, where applicable;	5. ENVIRONMENTAL MANAGEMENT PROGRAMME
the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	4.1 Signing of the EMPr 4. REPORTING PROCEDURES 6 COMPLIANCE WITH THE EMPr
the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	8. Enforcing the EMPR and responsibilities

an indication of the persons who will be responsible for the implementation of the impact management actions;	5. ENVIRONMENTAL MANAGEMENT PROGRAMME 8. Enforcing the EMPR and responsibilities
the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	5. ENVIRONMENTAL MANAGEMENT PROGRAMME 6 COMPLIANCE WITH THE EMPr
the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	6 COMPLIANCE WITH THE EMPr
a program for reporting on compliance, taking into account the requirements as prescribed by Regulations;	6 COMPLIANCE WITH THE EMPr
an environmental awareness plan describing the manner in which – the applicant intends to inform his or her employees of any environmental risk which may result from their work; and risks must be dealt with in order to avoid pollution or the degradation of the environment; and	9. Code of conduct
any specific information that may be required by the competent authority.	Registration form to request registration in terms of the "Norm for the Exclusion of the Development and Expansion of Solar Photovoltaic facilities in areas of Low or Medium Environmental Sensitivity

TABLE OF DEFINITIONS
"development footprint" means any evidence of physical alteration as a result of the undertaking of any activity;
Critical Biodiversity Area – Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
"development" means the building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, that is necessary for the undertaking of a listed or specified activity, [including any associated post development monitoring] but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint;
"development setback" means a setback line defined or adopted by the competent authority;
Environmental Assessment Practitioner – an individual responsible for the planning, management, coordination or review of environmental impact assessments, strategic environmental assessments and environmental management programmes.
Environment Conservation Act 73 of 1989 Regulations - promulgated in 1997, superseded by 2006, 2010, 2014 and 2014 (as amended, 2017) EIA Regulations issued in terms of the National Environmental Management Act (Act 107 of 1998)
Environmental Control Officer – A site agent who needs to ensure that all environmental authorisation and conditions are adhered to during the construction / operational phase of the project as required

Ecological Support Area – Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services.
Environmental Impact Assessment regulations published in terms of the NEMA which lists activities that may not commence without an EA in place
Environmental Management Programme – an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced
"indigenous vegetation" refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years;
interested and affected party - name is recorded in the register opened for that application in terms of regulation 42 of NEMA regulations.
"interests of the whole community" means the collective interests of the community determined by- (a) prioritising the collective interests in coastal public property of all persons living in the Republic over the interests of a particular group or sector of society; (b) adopting a long-term perspective that takes into account the interests of future generations in inheriting coastal public property and a coastal environment characterised by healthy and productive ecosystems and economic activities that are ecologically and socially sustainable; and (c) taking into account the interests of other living organisms that are dependent on the coastal environment.
"local community" means any community of people living, or having rights or interests, in a distinct geographical area within the coastal zone;
"maintenance" means actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint;
Maintenance Management Plan – means a maintenance management plan for maintenance purposes defined and adopted by the competent authority
National Environmental Management Act (Act 107 of 1998) as amended 2017 – national environmental legislation that provides principles for decision-making on matters that affect the environment.
Regulation area - The DWS regulated area is defined as: The outer edge of the 1 in 100-year flood line or the delineated riparian habitat. If neither is determined, it includes the area within 100 meters from the edge of the watercourse. The area within a 500-meter radius from the delineated boundary of any wetland or pan
Protected area - an area of land or sea that is formally protected by law and managed mainly for biodiversity conservation. Protected areas recognised in the National Environmental Management: Protected Areas Act (Act 57 of 2003) (hereafter referred to as the Protected Areas Act) are considered formal protected areas in the NPAES. The NPAES distinguishes between land-based protected areas, which may protect both terrestrial and freshwater biodiversity features, and marine protected areas.

ABBREVIATIONS	
DEADP	Western Cape Department of Environmental Affairs and Development Planning
DFFE	Department of Forestry, Fisheries and the Environment
CBA	CBA Critical Biodiversity Area – Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
CMP	Coastal Management Plan

EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ESA	Ecological Support Area
GRDM	Garden Route District Municipality
HLM	Hessequa Local Municipality
kV	Kilo Volts
kW	Kilo Watts
Masl	Meters above sea level
MW	Mega Watts
NEMA	National Environmental Management Act (Act 107 of 1998) as amended 2017
PA	Protected Area - A protected area recognised in the National Environmental Management: Protected Areas Act (Act 57 of 2003)
SANBI	South African National Biodiversity Institute
WC	Western Cape

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1. INTRODUCTION

In accordance with the Integrated Environmental Management Guidelines published by the Department of Forestry, Fisheries, and the Environment (DFFE) in 1992, the purpose of an Environmental Management Programme (EMPr) is *"to describe how negative environmental impacts will be managed, rehabilitated or monitored and how positive impacts will be maximised".*

Section 28 of NEMA (National Environmental Management Act, Act 107 of 1998) states that:
Duty of care and remediation of environmental damage -
"(1) Every person who causes, has caused, or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot be reasonably avoided or stopped, to minimise and rectify such pollution or degradation of the environment"

This final EMPr must be read in conjunction with the Registration form to request registration in terms of the "Norm for the Exclusion of the Development and Expansion of Solar Photovoltaic facilities in areas of Low or Medium Environmental Sensitivity dated March **2026**. All recommendations, relevant conditions and mitigation measures provided in the EMPr and must be adhered to.
This EMPr must form an integral part of the contract documents, as it outlines the methodology & duties required so that the project objectives can be achieved in an environmentally sustainable manner; with particular reference to the prevention and mitigation of environmental impacts caused by planning, construction and operational phases and activities associated with this project.

1.2 Purpose of the EMPr

The purpose of this EMPr is to ensure that the negative environmental impacts of the proposed activities are managed, mitigated and kept to a minimum during the planning, construction and operational phases of the activities. This EMPr forms appendix 10 of the Registration form to request registration in terms of the "Norm for the Exclusion of the Development and Expansion of Solar Photovoltaic facilities in areas of Low or Medium Environmental Sensitivity and will be submitted with the registration form to the competent authority (CA) for approval. The CA identified is the Western Cape Department of environmental affairs and development planning (DEADP).

Once the EMPr is approved by DEADP it is seen as a legal binding document on the following affected parties:
1 All related contractors / subcontractors and service providers as may be required

Copies of this EMPr must be kept on site and all contractors and service providers are required to familiarise themselves with the content of this EMPr.
It is suggested that the EMPr be reviewed on a 5 yearly basis. Should any amendments need to be made during operational phase, written authorisation should be obtained from DEADP.

1.2 The Polluter-Pays Principle

This principle provides for "the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment."

2. PROJECT DETAILS

INTRODUCTION

The solar facility will be a maximum 1.5 MW facility. The solar facility will supply the proposed Greens Development, and the remaining power will be supplied to the Hessequa local municipality.

LOCATION

The project site is located on portion 16 of Farm Tygerfontein 347 in Albertinia, falling within Hessequa Local Municipality and the Garden Route District Municipality. The project area is an estimated 3 ha in extent and the solar facility including the 11kV mini substation will be an estimated 1.7 ha in extent.

The site lies at an elevation of approximately 175 meters above sea level with gently sloping, uniform terrain draining southwards.

The project area is located adjacent to a brickmaking facility. Surrounding land uses include the golf course and expanding residential development to the south, agricultural lands to the west and north. The cemetery and waste water treatment works are located east of portion 16. Fragmented renosterveld remnants in the wider landscape.

SOLAR FACILITY

The design of the solar facility has been provided by Lourens du Preez of Pro-Plan drawing office. According to the plans (January 2026), the solar facility will consist of:

- 12 power stacks (solar structure); each = 125 kW
- 12 inverters; each = 125 kW; 12 × 125 = 1500 kW;= 1.5 MW
- 11000-volt (11 KV) mini sub station
- Electrical distribution cabinet
- Electrical control room with smooth steeled cement screed floor
- Trench with steel cover between two rows of power stacks
- Six (6) LED tube lights
- Day / night switch
- 15-amp wall plug
- External wall light
- Each solar structure will be:
    - 4m high
    - 5.5 meter wide with a shoulder of 0.6 meters on either side (i.e. 6.7m)
    - 20.6 meter in length
    - Foundation block of 0.6 m3
    - Square tube columns of 100x100mm
    - 54 solar panels per structure - The position for solar panels will be according to manufacturer according to SANS 1307 and SANS 10106 &ENG standards.

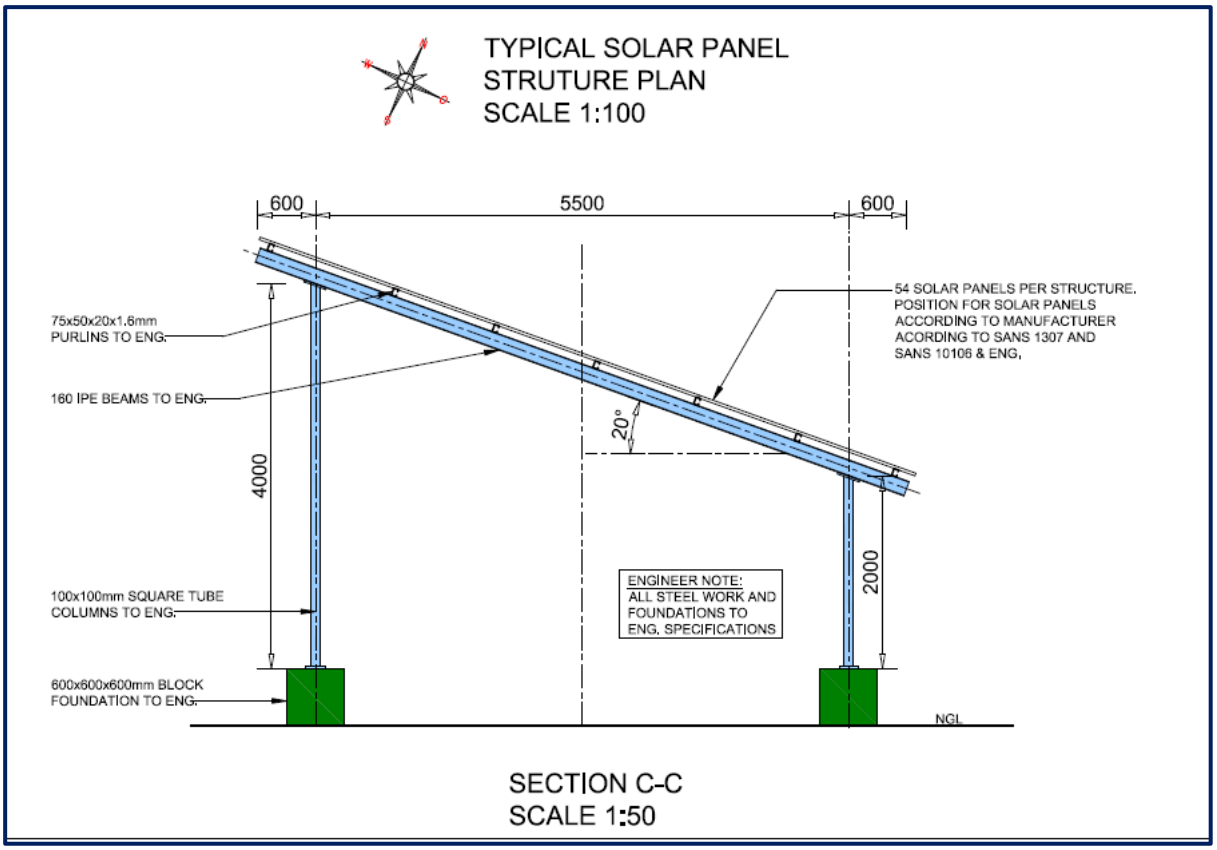

Figure 1: Typical solar panel structure plan

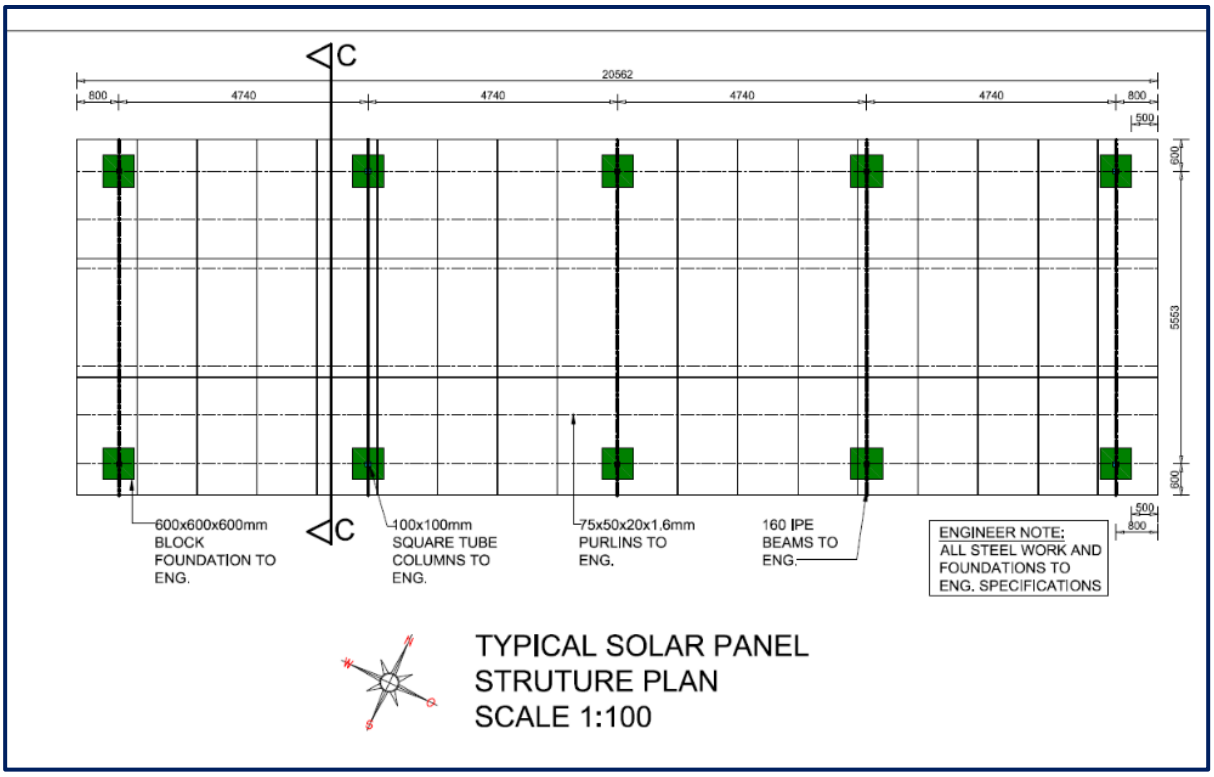

Figure 2: Typical solar panel structure plan showing length of solar structure

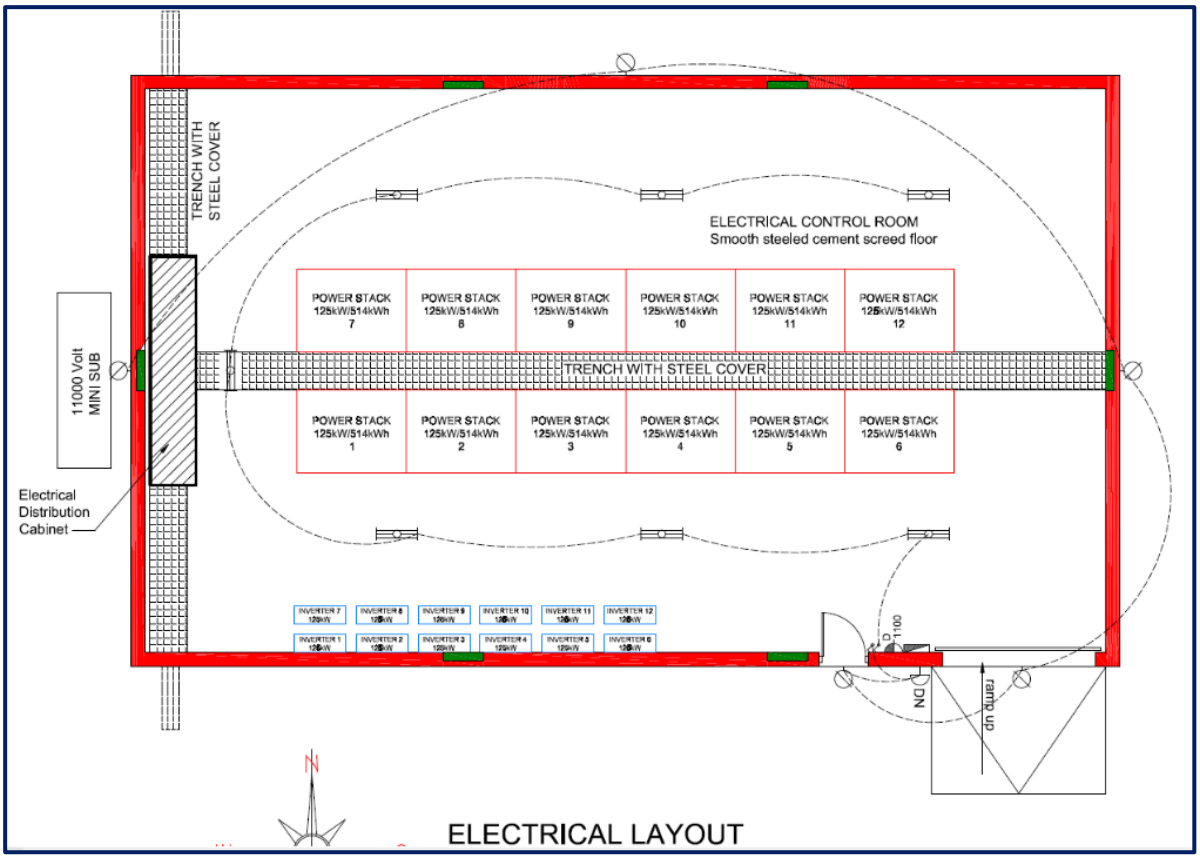

Figure 3: Electrical layout showing 12 solar structures and 12 inverters and 11KV mini sub

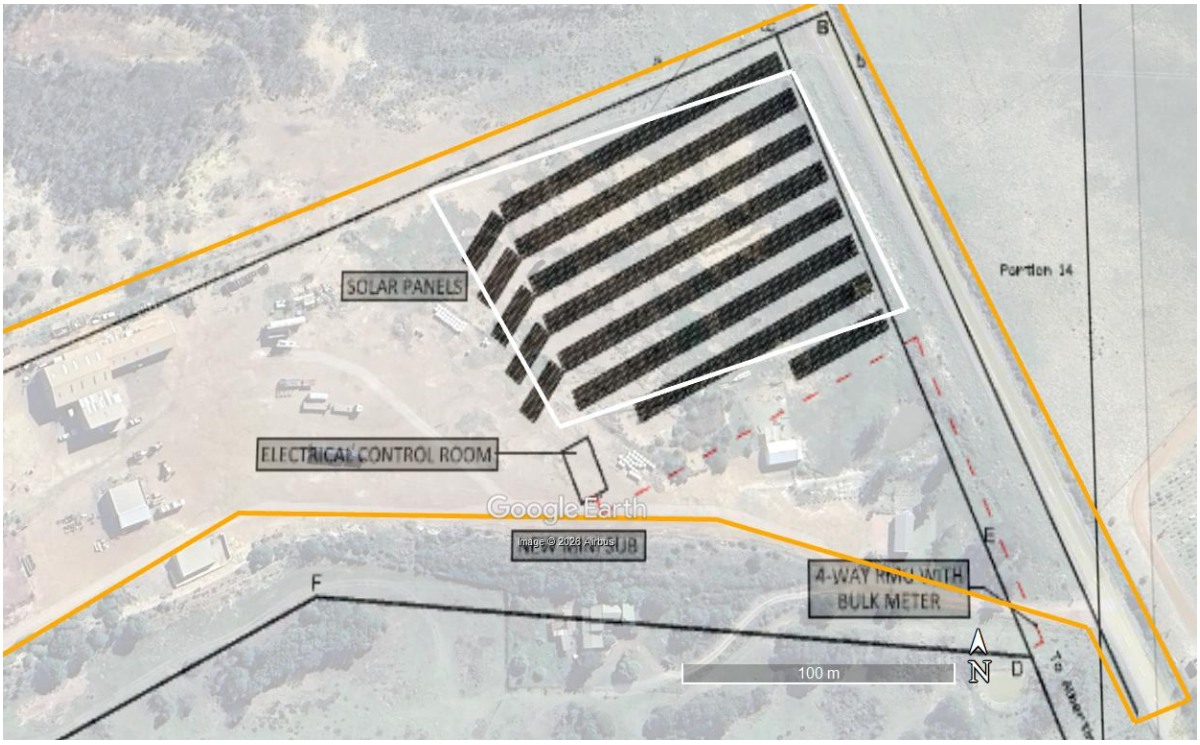

Figure 4: Layout of solar facility (adapted from Pro-Plan, 2026)

The components will be manufactured off site and assembled on site. The components will be manufactured off site and assembled on site. The site is located on an area of low terrestrial, fauna and flora sensitivity and medium sensitivity as verified by the respective specialists. Registration of the 1.5 MW solar facility is required to be registered with the CA and comply to the EMP.
An EMPr (this report) has been compiled which includes all the mitigation measures that must be implemented to prevent / reduce identified environmental impacts.

3. Description of Environment

1.1 CLIMATE AND RAINFALL

Albertinia experiences a temperate climate with mild summers and cool, wet winters area with an annual average of 400–600 mm. Rainfall is seasonal and peaks during autumn–winter months. Episodic rainfall events occur and result in flash flows in non-perennial streams.

2.1 GEOLOGY AND SOILS

The property is underlain by Bokkeveld shales and Table Mountain Group sandstones of the Cape Supergroup. There are no valleys on the site and the soils on the property itself are uniformly deep, sandy soils.
Deep neutral to acid, usually red, Tertiary sands associated with limestone of Bredasdorp Formation are mapped in the project area as well as acid sands derived from alluvial deposits from the Gouritz River. The Acid Tertiary sands are usually grey from Potberg and Aasvogelberg which are locally prominent. Land types are mainly Fc, Hb and Db.

The geology map indicates that the local area is underlain by high level terrace gravel, silcrete and ferricrete (map symbol Tg), as well as sandstone and argillaceous sandstone (Db) and remnants of windblown sands (Schafer, 2026)

Soil potential is determined by physical characteristics of the soils such as depth to limiting layers, texture and structure, which effect soil water holding capacity and drainage. Soil potential was assessed for irrigated pastures. Soil units were downgraded due to restricted depth, low WHC and poor retention of nutrients.
The soil units were rated using the international land capability classification (LCC). The classes indicate the most intensive tillage that can be practiced safely with permanent maintenance of the soil (McRae and Burnham, 1981). There are 8 classes where classes I-IV are suitable for agriculture. The soil units were rated between I and V.

The soils on the solar site (Ms I; land capability V):
ORTHIC A/HARD ROCK
A light grey sand to loamy sand some 20 to 35 cm deep abruptly overlies hard rock. These soils have a very low potential due to restricted depth and low WHC.
Erosion hazard is medium and compaction hazard is medium low. Restricted depth due to hard rock.
Soil structure is described as a = apedal; w=weak, m=moderate and b=blocky
Clay percentage at the A-horizon is an estimated 6%; clay percentage at the B-horizon is an estimated 40%

The agricultural / soil potential of the solar site is verified as Low.

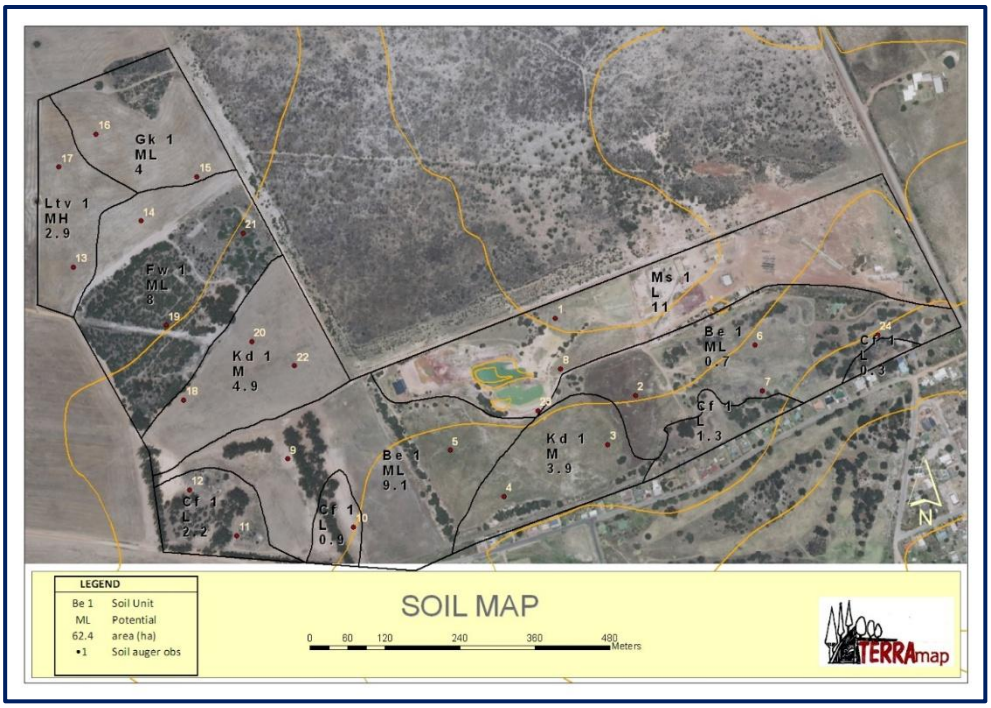

Figure 5: Soil Map

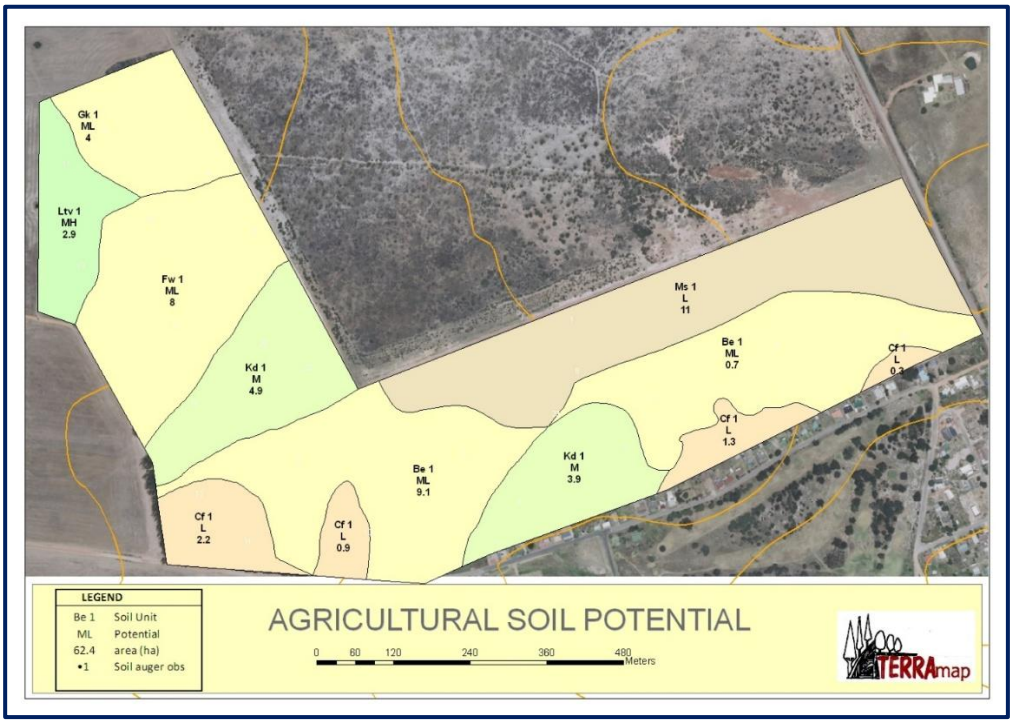

*Figure 6: **General Agricultural Soil Potential***

3.1 LAND USE

Prior to the 2000s, the site was utilised for agricultural purposes (forestry / grazing) resulting in the initial alteration of the indigenous vegetation. Industrial development and quarrying activities (presumably including water abstraction for processing) have been taking place since 2008.

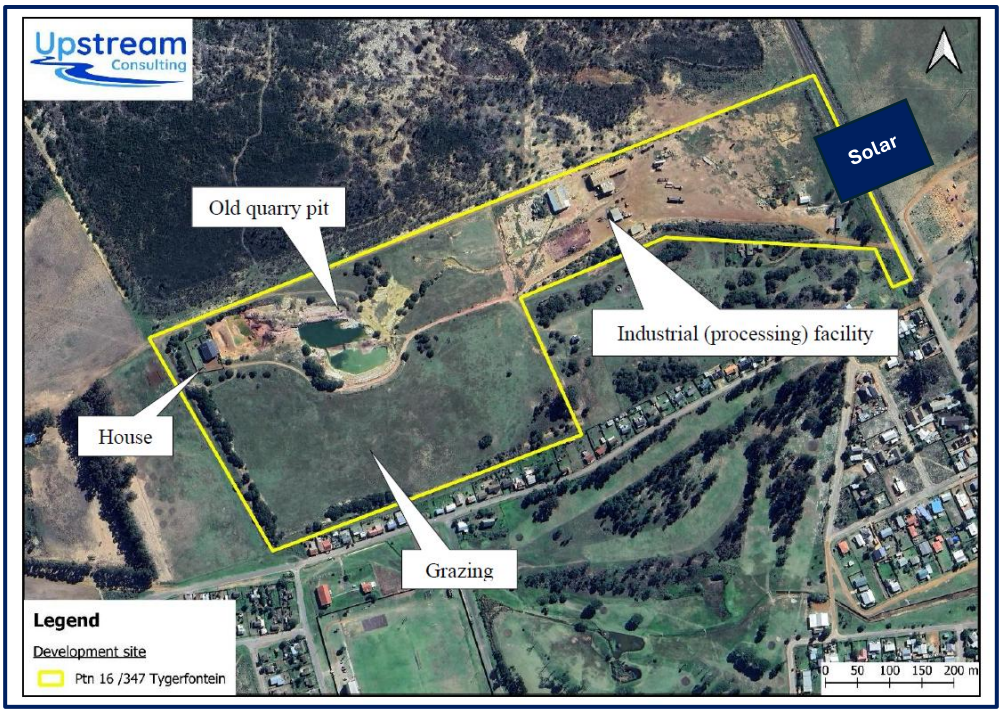

Figure 7: Land uses on portion 16 with indication of solar structure site

4.1 SURFACE WATER

The site falls in the Gouritz Water Management Area. The site does not fall within any mapped Strategic Water Source Areas. The National Wetland Map 5 (NBA, 2018) does not show mapped wetlands on the property and there are no rivers indicated by the various river inventories (Upstream consulting, 2025)

The area is underlain by sandy, highly permeable soils which allow for rapid infiltration of rainfall and minimal surface water retention. Evapotranspiration rates are moderate, but water availability is constrained during extended dry spells. West of the solar facility is a is a ditch directing wastewater of unknown type from the processing facility into the old quarry pit (which seems to permanently hold water). The artificial wetlands layer of the National Biodiversity Assessment (2018) has classified the old quarry pit as a dam. The solar facility is located more than 500 meters from the western dam and south eastern seep. The site does not fall within 100 m of a drainage line.

In terms of the Western Cape Biodiversity Spatial Plan (CapeNature 2023) there are no aquatic Critical Biodiversity Areas (CBA habitat -aquatic) within the property. Additionally, no rare or endangered biota were found during site assessment.

Anthropogenic aquatic features on the eastern section of the land portion and south of the solar project site is a degraded livestock watering dam and will not be impacted on by the facility.
To the west is an open-water impoundment resulting from historical quarrying and currently used as a water storage dam receiving runoff from an excavated channel originating from the industrial processing facility. No natural aquatic features or water courses are identified on portion 16.

Figure 8: Watercourses mapped within project area

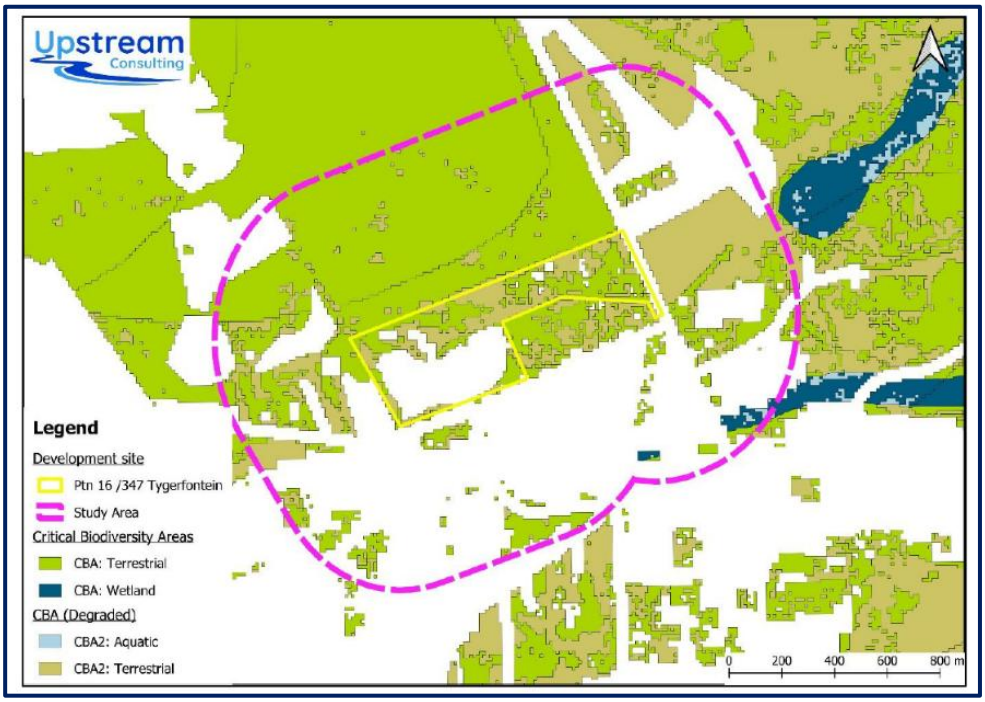

Figure 9: No aquatic CBA is mapped within project area; no watercourses / wetlands fall within 500m/100m respectively, of the project site

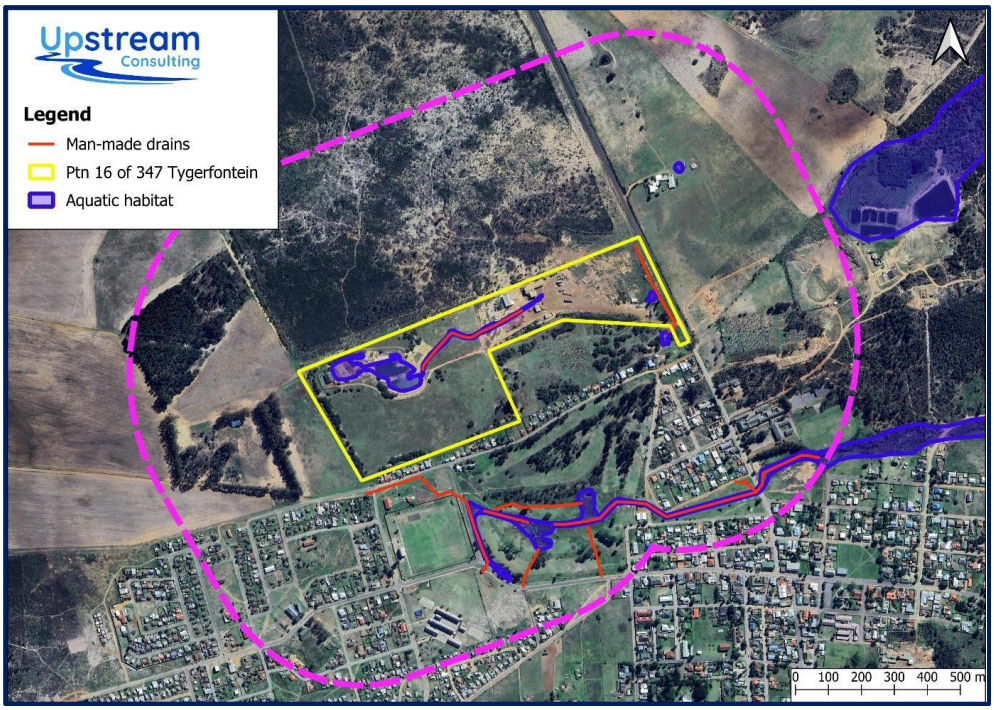

Figure 10: Aquatic features mapped within the broader area of the project site

5.1TERRESTRIAL BIODIVERSITY

The National Vegetation indicated for the site and surrounding area is Albertinia Sand Fynbos with an Endangered status in terms of the National Biodiversity Red Listed Ecosystems Assessment (NBA/RLE, 2022). Albertinia Sand Fynbos is naturally comprised of a medium tall (1.5–2 m tall) open shrub layer with a dense stratum of 1–1.2 m tall shrubs and hemicryptophytes. It is structurally predominantly proteoid fynbos, but with extensive restioid fynbos in the watercourses and coastal edges.
The most recent National vegetation remnant vegetation dataset (2022) reflects the site being largely No Natural Area Remaining (NNAR), with Intact vegetation confined to the north-west corner. Whether or not there is natural vegetation remaining formed part of the assessment process.

The boundary between the limestone and sand fynbos is generally based on soil depth, with limestone fynbos being largely confined to skeletal soils. In permanently wet areas and fire-safe habitats, thicket may occur in association with Protea lanceolata, Elegia microcarpa and Thamnochortus erectus—these are usually at the interface between sand and limestone fynbos.

Leucospermum muirii is an endemic to the grey, sandstone-derived soils—it is not known whether other endemics to this soil type occur or whether this deserves special recognition. This unit is currently not accurately mapped and is more extensive than shown. Pockets occur in valleys and depressions within limestone fynbos. Disturbed areas on the coastal fringe are at times converted to Cynodon grazing and have extensive mole rat (*Bathyergus suillus*) activity.

In terms of the Western Cape Biodiversity Spatial Plan (2017) the project site falls outside of designated CBA or ESA. In terms of the WC BSP (2023), the site does overlap with designated CBA 1 and CBA 2 areas, whereas as per the older WC BSP (2017), the site does not overlap with any designated CBA and/or ESA areas.

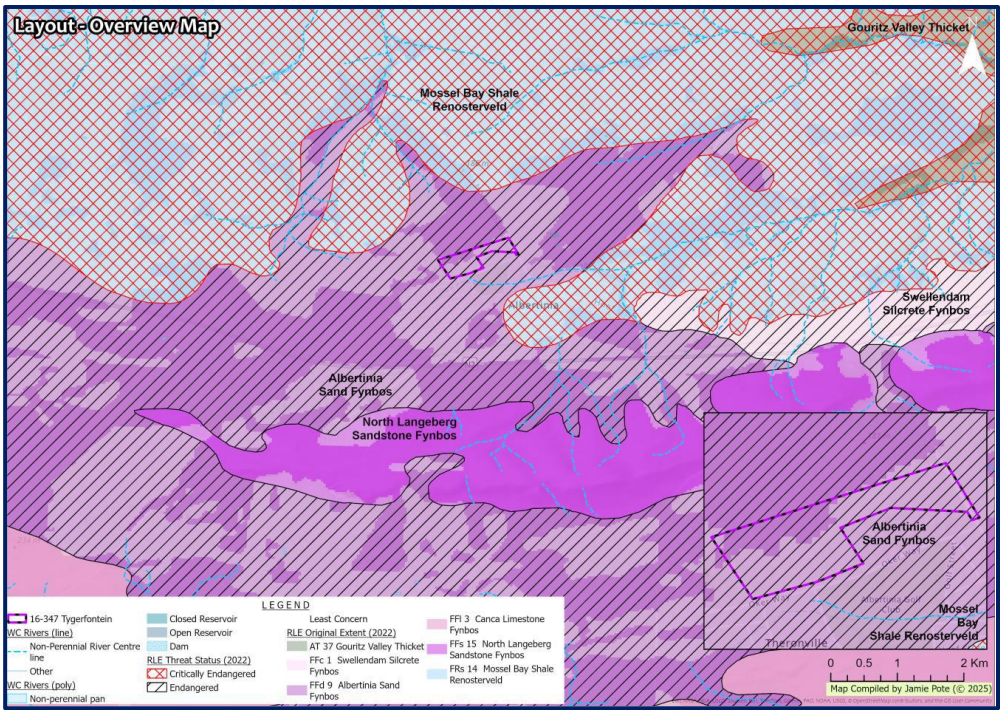

Figure 11: National Biodiversity Assessment Vegetation Type and Conservation Status (NBA, 2018). Darker shaded areas indicative of remnant vegetation.

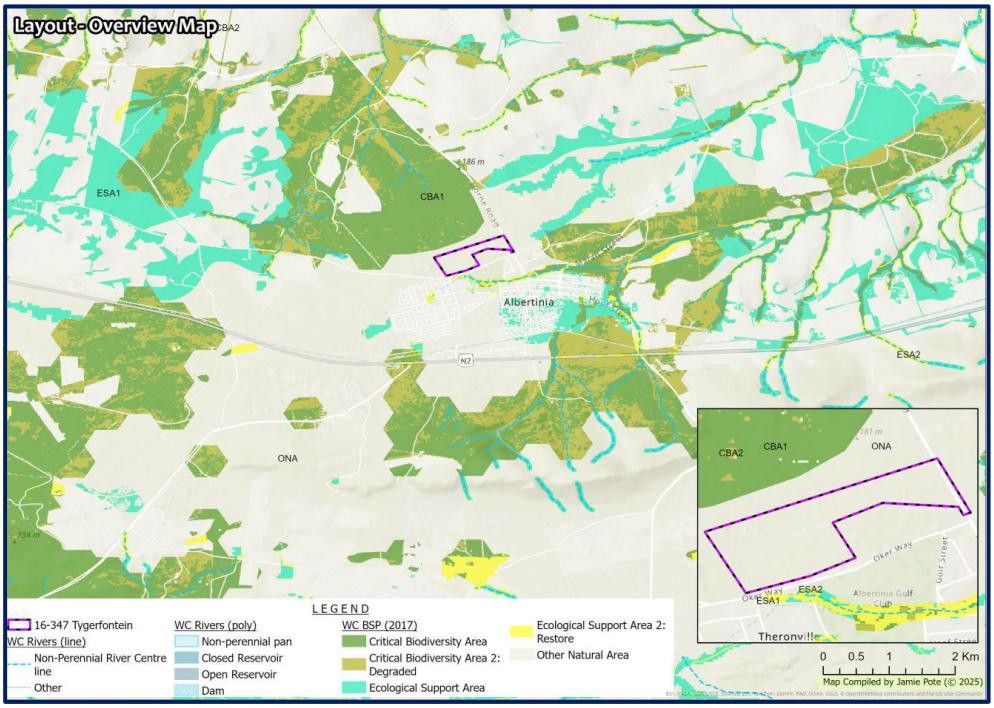

Figure 12: Western Cape Biodiversity Spatial Plan (WCBSP, 2017) –The site does not overlap with CBA 1 or ESA areas.

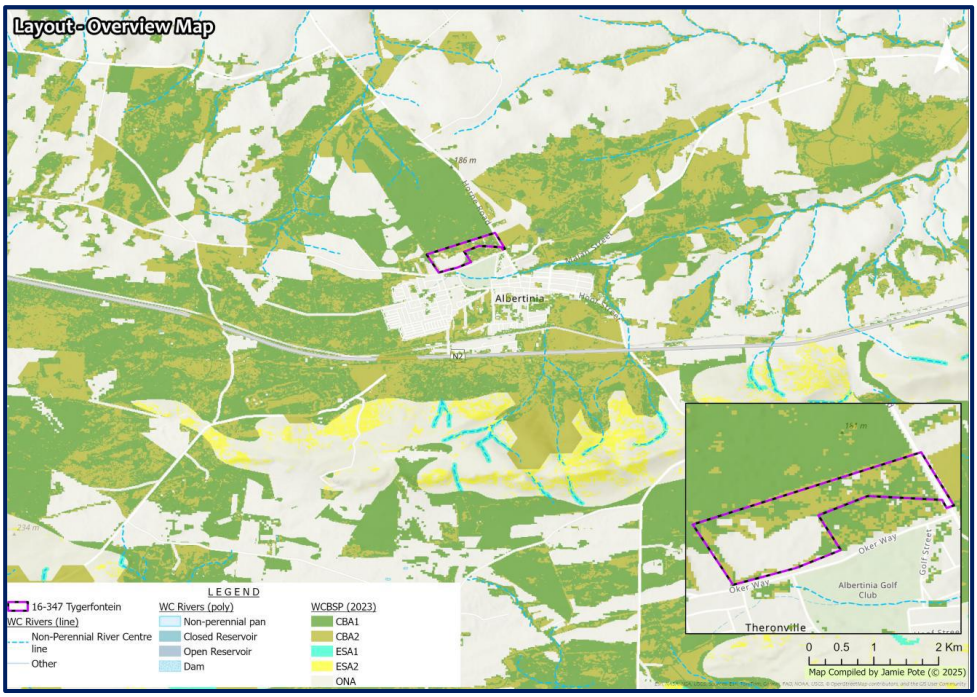

Figure 13: Western Cape Biodiversity Spatial Plan (WCBSP, 2023) –The site does overlap with CBA 1 & 2 areas.

The project is located on a brownfield site and has been disturbed within the past ten years on an ongoing basis. A large portion of the site has been cleared and is void of cover, and where untransformed, the vegetation is degraded from livestock use, with dominance of grasses and alien invasives (*Acacia cyclops*).
The site is confirmed by the terrestrial biodiversity to have no remaining natural vegetation and does not meet the criteria of CBA or ESA as it is a previously disturbed site. It is not representative of Albertinia sand fynbos and has no remnant natural vegetation (Albertinia Sand Fynbos) thus constituting negligible conservation value. The specialist has prepared a compliance statement to verify the sensitivity as low sensitivity.
There will not likely be any significant overall impact to the designated CBA 1 or 2 targets within the broader area, nor regionally, nor does the site contribute to the conservation of the vegetation unit as no species typical of this unit are present. The correct designation is No Natural Area Remining (NNAR), as per WC BSP (2017), not as designated by WC BSP (2023).(Pote, 2025)

Several different habitats can be differentiated on portion 16:

Transformed - hardened surfaces such as buildings, roads, gardens, grassed lawns, unvegetated areas and the old quarry area. A single dwelling with landscaped gardens is present in the north-west corner; several buildings and an extensive unvegetated area is on the entire north-east side. NOTE: The solar project is located in this area designated transformed area.

Invaded – The site has several scattered clumps of dense alien invasive species (AIS) primarily black wattle (Acacia mearnsii) and Rooikrantz (Acacia cyclops). These occur mostly along the western and southern boundaries of the quarry and around the dwelling. Occasional indigenous elements occur on the edge of AIS clumps including species such as Diospyros dichrophylla, Putterlickia pyracantha and Searsia spp.

Secondary Grassland (pastures) – The remaining extent of portion 16 is made up of common agricultural and palatable grasses, predominantly Cynodon dactylon (Kweek). The current 'grassland pastures' are generally old lands comprising kweek grass; some annual and pioneer herbaceous elements have regenerated and include the occasional Diospyros dichrophylla small tree and various

weedy herbs and shrubs. There is no evidence of species remaining that would be typical or more specifically indicative of Albertinia Sand Fynbos, being present or even as secondary regeneration.This is indicative of the fact that the site would be considered to be transformed with no natural area remaining and thus would be incorrectly designated as CBA.

Dam – the quarry area with a waterbody fed by runoff from the eastern side of the site, via a man-made channel surrounded by dense wattle and some riparian elements including occasional sedges (Pote, 2025)

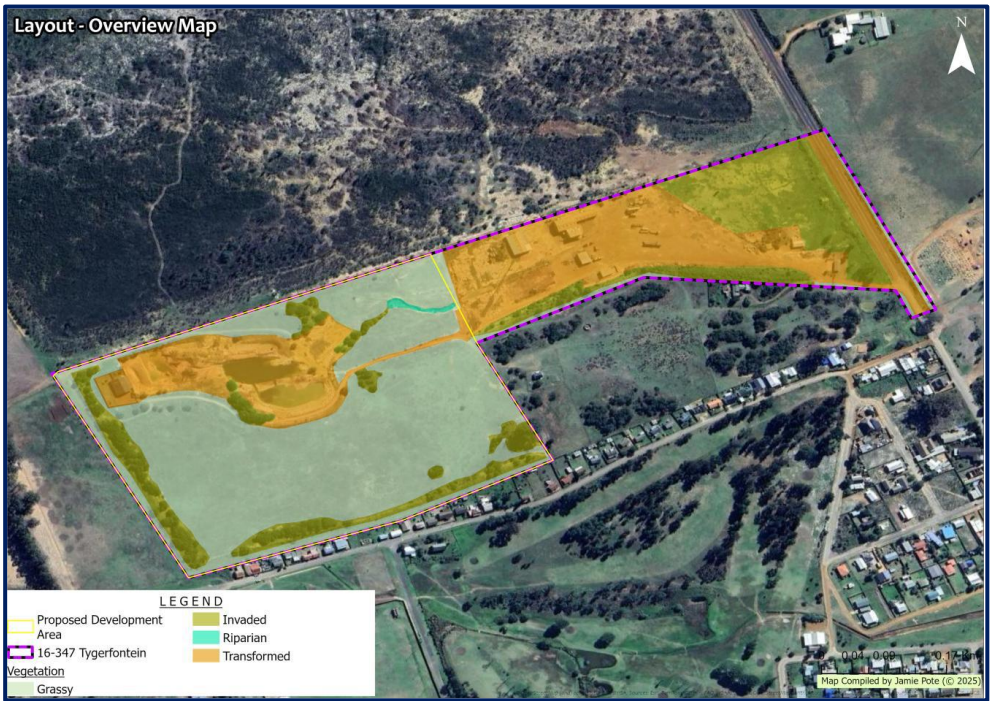

Figure 14: Mapped vegetation of the site (Overview).

No Endangered or Critically Endangered fauna species were confirmed to be present nor are known to be present in the affected area or immediate vicinity, nor is suitable habitat present as the site has been historically and recently transformed and all-natural vegetation removed. A small herd of Springbok is kept on the site and burrows in the sandy pastures are indicative of Cape Dune Mole-Rat (Bathyergus suillus), neither being of conservation concern. SCC identified as medium sensitivity in the STR includes: Aneuryphymus montanus (insect), Afrotis afra (birds) & Sensitive species 5.

Site observations confirmed none of the flagged fauna Species of Conservation Concern being present, and no suitable habitat for such species being present, hence the proposed activity does not pose any threat to Flora Species of Conservation Concern.

Fauna species typically found in natural vegetation which is under threat are unlikely to favour this habitat and are thus likely already displaced, other than species typical of transformed or urbanised landscapes. Species include mainly species typical of transformed farming areas, perhaps having the occasional visit from less common species that typically occur in natural areas that are in transit or are acclimated to the modified environment.

4. LEGISLATIVE REQUIREMENTS

4.1 Signing of the EMPr

The acknowledgement form at the back of the approved EMPr is to be signed by the holder of the Environmental Authorisation (the Applicant), the Contractor, and the ECO as applicable to scope of work to

project phase; acknowledging that all parties are familiar with the requirements of the EMPr. All employees and dwelling owners are to be made aware of the conditions as contained in the EMPr as well as the contractual conditions relating to the environment as contained in the contract document.

4.2 Legislation

Of importance are all national, provincial and municipal by-laws and regulations
Relevant environmental legislation and guidelines:

- *National Environmental Management Act (Act 107 of 1998) and EIA Regulations*
- *National Environmental Management Act: Biodiversity Act (Act 10 of 2004)*
- *Environmental Conservation Act (Act 73 of 1989)*
- *Nature and Environmental Conservation Ordinance No 19 of 1974 / Western Cape Nature Conservation Laws Amendment Act (Act 3 Of 2000)*
- *National Heritage Resources Act 25 of 1999*
- *Hessequa Spatial Development Framework*
- *Norm for the Exclusion of the Development and Expansion of Solar Photovoltaic facilities in areas of Low or Medium Environmental Sensitivity*

Statutes are amended periodically; it is the holder of the EAs' responsibility to identify legislation relevant to the proposed activity

5. REPORTING PROCEDURES

5.1 Documentation

The following documentation must be kept on site in order to record compliance with the EMPr:
An Environmental File which includes:

- Copy of the EMPr;
- Permits if required
- Reports submitted to WC Heritage / SAHRIS (if required)
- Communications Register – CA; records of complaints and responses provided
- Audit reports (construction as required; annual operational)
- Incident Register
- Documentation including:
    - Waste management records
    - Service slips of conservancy tanks
    - Material Safety Data Sheets (MSDSs) for any hazardous substances

5.2. Incident / complaint Register

The applicant will put in place an Environmental Register and will ensure that the following information is recorded for all complaints / incidents:

- Nature of complaint / incident.
- Causes of complaint / incident.
- Party/parties responsible for causing complaint / incident.
- Immediate actions undertaken to stop / reduce / contain the causes of the complaint / incident.

- Additional corrective or remedial action taken and/or to be taken to address and to prevent reoccurrence of the complaint / incident.
- Timeframes and the parties responsible for the implementation of the corrective or remedial actions.
- Procedures to be undertaken and/or penalties to be applied if corrective or remedial actions are not implemented.
- Copies of all correspondence received regarding complaints/incidents.

5.3 Emergency Response

Emergency procedures must be in place to ensure appropriate responses to unexpected / accidental actions / incidents that could cause environmental impacts. Emergency procedures to include the following:

- Trained as required in terms of incidents and emergency situations;
- Details of the organisation (i.e. manpower) and responsibilities, accountability and liability of personnel;
- A list of key personnel and contact numbers;
- Details of emergency services (e.g. the fire department / on-site fire detail, spill clean-up services) shall be listed;
- Internal and external communication plans, including prescribed reporting procedures;
- Actions to be taken in the event of different types of emergencies;
- Incident recording, progress reporting and remediation measures to be implemented; and
- Information on any hazardous materials, including the potential impact associated with each, and measures to be taken in the event of accidental release.

6. Project Responsibilities

Responsibility for the implementation of the EMPr lies with the developer - Outeniqua Game Farm (Pty) Ltd (OGF).
OGF will be responsible for the following:

- Adhering to the approved EMPr.
- Ensure that all appointed services providers that may be required (e.g. contractors, engineers, service provides, town planners), as relevant, are aware of and understand the conditions of the EMPr.
- Has the right to remove any person or appointed contractors or personnel from site if they contravene with the measures in this EMPr.
- Ensure and environmental management file is in place, audits carried out to ensure daily compliance to the EMP

The internal ECO's responsibilities must include, *inter alia*:

- Keep records of services (i.e. ablution service, waste disposal)
- Keep incident / response record as applicable
- Keep records of non-compliances and required timeframe to rectify
- Guide, advise and consult any contractors who will be involved in construction and installation of Solar PV infrastructure.
- Ensure staff are adequately trained on environmental responsibilities as applicable
- Ensure daily management and continuous checks on mitigation measures as required

The external auditor responsibilities must include, *inter alia*:

- Carry out preconstruction and a post construction audit on compliance with EMPr and conditions of EA
- Submit audit reports to the applicant

The responsibilities of the service providers and contractors include but are not limited to the following:

- Adhere with the conditions and recommendations of the EMPr or any other legally binding documentation as relevant to scope of work to be carried out.
- Prevent actions that may cause harm to the environment.
- Correct non compliances identified by ECO / applicant / auditor
- Be responsible for any remedial activities in response to an environmental incident within their scope of influence.
- Ensure compliance of all site personnel and / or visitors to the EMPR and any other authorisations.

Fines for noncompliance's of EMPr to be determined by the applicant as applicable.

7. ENVIRONMENTAL MANAGEMENT PROGRAMME

It is important that mitigation measures are strictly adhered to and that all measures are taken to reduce the disturbance footprint wherever possible to minimize negative impacts.

7.1Planning - Mitigation Measures

- A suitably qualified internal ECO (qualified in environmental management or similar) should be appointed / nominated
- The ECO must be provided with the EMPr and ensure measures in this EMPr are complied to.
- The ECO is to maintain an Environmental Management file which includes required records for audit purposes
- Carry out Environmental Awareness and training with contractors
- Carry out pre and post construction audits
- The development is to include:
    - Construction / placement / assembling of solar structures, control room, inverters
    - Placement of electrical reticulation and connection requirements and accompanying maintenance plan drafted by engineer
    - A stormwater drain has been incorporated into the design. Energy dissipating structures are to be constructed at outlet points to safeguard downstream areas
    - Coordinate with Hessequa Municipality for final design approval
    - A stormwater management plan is to be in place to ensure runoff during construction is mitigated as required to reducing flow concentration.
    - Placement of stormwater water reticulation and connection requirements and accompanying maintenance plan as required and drafted by engineer
    - Access to the PV solar site is in place
- Laydown area for contractors (to be rehabilitated at end of construction stage as required and monitored for 3 months post construction as required);
- Laydown areas will include waste receptacles, skips, ablution facilities, materials required, staff lunch area, delivery area etc.

The sequence of events recommended is as follows:

- Contractor laydown area selected (include areas for waste management facilities, hazardous substances facilities, ablution facilities, area for subsoils, areas for topsoils and vegetation; areas for building material required; site office as required
- Site clearing and construction and installation of facilities
- Installation of any stormwater management measures as per engineer recommendation
- Rehabilitation of site

7.2 **Stormwater management**

- No surface, ground or storm water may be polluted because of any activities on the site.
- During the construction phase it may be necessary to construct temporary stormwater containment and control measures (e.g. temporary cut-off berms) to prevent erosion and sediment-movement

- Ensure that construction activities do not cause any preferential flow paths and concentrated surface runoff during rainfall events. Reduce transport of sediment form development area through use of mulch fencing/ biodegradable coir logs / soil saver biodegradable matting
- Stormwater management should focus on introducing runoff responsibly into the receiving environment.
- No contaminated surface runoff or wastewater/ wash water must be allowed to enter the stormwater system or surrounding environment. The development must be inspected regularly for any sewage leaks, waste/ wastewater spills,
- An appropriate stormwater management plan should be implemented to ensure that all runoff from the site is collected. It is important that the rehabilitation of site is planned and completed in such a way that the runoff water will not cause erosion.
- The stormwater infrastructure should be checked following every high rainfall event to ensure it is working effectively.

7.3 **Sewage facilities management**

- Adequate ablution facilities must be provided as required for all construction staff and strict supervision provided to ensure sewage contamination of the site does not take place.
- Ablution facility to be provided as necessary at a ratio of 1:10; ablution facility must be secured to prevent being blown over and must be placed at a minimum distance of 32 meters from the eastern livestock dam.
- Ablution facility is to be regularly serviced registered company on a regular basis. Service slips to be kept on record by site manager / nominated ECO for audit purposes.
- Ensure no disposal of items that can cause blockages / malfunctioning of system is not flushed down toilets.

7.4 **Site management**

- Consider that materials, temporary toilets, leaked fuel and litter can be washed away during heavy rainfall and must therefore be bunded, secured, covered or surrounded by sandbags as appropriate. The ECO must inspect these areas for compliance.
- Check weather reports for rainfall predictions on a weekly and daily basis. Postpone work during rainfall and ensure the site has been prepared to prevent wash off of materials as required

7.5 **Mitigation Measures - Waste management**

General measures

- Construction materials and waste generated needs to be carefully managed to ensure impacts on the environment are reduced.
- Waste management must follow waste hierarchy – avoid, reduce, reuse, recycle, dispose
- Waste management plan to be put in place by the contractor to deal with all general waste streams and ensure the plan is aligned to mitigation measures;
- Possible waste streams:
  - Subsoils not reused

  - Construction rubble (cement, concrete spills)
  - General waste items (paper, tins, plastic, metals, organic, cleared vegetation not for reuse)
  - Hazardous materials / waste that may be used /generated:
    - Fuels, oils etc
    - Spillage of hazardous materials
- Suitable storage, drip trays, mixing trays, bins, skip to be provided as required
- Waste management areas to be designated on site:
  - Waste receptables (secure with lockable lids for small general waste items)
  - Bins / skip - must be available for collection, separation and storage of waste streams on site - i.e. general waste (plastic, paper, tin, glass, organic etc), construction waste, hazardous waste (fuels, oils, chemicals) hazardous material storage area;
  - emergency response spill kits,
  - required drip trays and
  - hazardous waste storage receptacle;
  - sanitation (cleaning, drinking, washing water and toilets)
  - subsoils
  - construction rubble
  - Refuelling area
  - Machinery laydown area
- Identify closest registered waste site
- Subsoils and topsoils and rubble must not be mixed.
- All solid waste, not reused for levelling (i.e. subsoils) must be collected must be disposed of at a registered waste disposal site on a regular basis; waste materials must be removed from site as quickly as possible and not stockpiled on site.
- Any waste cement should be allowed to dry and stored in skip at the site for safe offsite disposal.
- Under no circumstances may solid waste be burnt or buried on site / surrounding area;
- All workers must be made aware that no rubbish may be disposed of in any other place other the waste bins provided under any circumstance. No Littering; consider implementing fines for litter
- A certificate of disposal must be obtained by the construction site manager and kept in EM file and be made available for review at any time.
- An incident/complaints register must be established and maintained on-site and kept in EM file. Corrective action must be undertaken immediately if a complaint is received.
- Upon the completion of construction, the area is to be cleared of all construction materials.

Measures specific to Hazardous materials management

- Strict use and management of all hazardous materials (cleaning materials, volatile materials, chemicals etc.) used or stored on site during construction. Ensure these are securely stored within a suitable sealable non-corrosive container. Ensure lids are secure. A bunded, permeable, roofed and lockable facility must be provided for storage of hazardous materials for duration of construction.
- Strict management of potential sources of pollution (hydrocarbons from vehicles & machinery, cement during construction, etc.).
- Regular checks of machinery and vehicles to ensure no oil or hydraulic leaks
- Containment and treatment of all contaminated water and correct disposal as required.

- Any concrete mixing (dagha) that may be required should be done using mixing trays equipped with raised sides and not placed near the pond area; cement is a pollutant that must not be allowed to leave the development area. Spilled cement or concrete must be cleaned up as soon as possible and disposed of at a suitably licensed waste disposal site.
- Do not leave machinery / vehicles running unnecessarily. Service machines and vehicles regularly to prevent unnecessary fumes and leaks.
- If machinery using fuels and oil are required for construction (i.e. generators, compactors) refuelling must take place with drip tray / on designated bunded area within development area; Drip trays must be placed under such equipment when standing.
- In the event of a major spill or leak of contaminants, the relevant administering authority must be immediately notified as per the notification of emergencies/incidents.
- Spill kit in place - Any spills must receive the necessary clean-up action. Appropriate arrangements to be made for appropriate collection and disposal of all cleaning materials, absorbents, and any contaminated soils. This must be stored in separate designated container on site for offsite disposal at licensed waste disposal site.
- Site to be monitored regularly for contaminant spillages and if detected, contact spillage remediation companies.
- Cover stockpiles of building materials like cement, sand and other powders. Regularly inspect stockpiles for spillages and store away from waterways or drainage areas.

7.6 **Mitigation Measures – Fire Risk**

Construction and maintenance as required (include in training to contractors and subcontractors)

- No cigarette butts or burning substances are permitted to be released into the environment. All cigarette butts to be extinguished first and then disposed of in a waste receptacle provided.
- No burning of waste – put in place waste management measures to ensure waste is moved off site timeously, particularly AIS slashed material which can be a fire risk if it is not chipped and spread.
- Fire response measures to be in place at risk areas along site (I,e fire extinguishers, fire emergency response water)
- If a fire is detected it must be attended to immediately.
- Fire emergency response measures and associated training to be in place.
- Ensure emergency numbers are on hand for fire response in the area.
- Contractors are encouraged to be in close contact with South African weather Services at all times to receive early warning details of floods, droughts, high winds and potential fires in the area and plan accordingly
- Ensure a suitable firebreak is put in place as required; it is recommended the Southern Cape Fire Protection Association) be consulted during the planning process

7.7 **Mitigation Measures – Vehicles, traffic, road users**

- Entrance to the site only permitted from designated access points provided by OGF
- Ensure strict access control to and from the construction site at all times.
- All construction vehicles are to be monitored to ensure they are not overly full so the likelihood of spillage of debris is prevented. Ensure any debris spilled onto roads is cleared up.

- Any loose materials transported to / from site must be covered.
- Surrounding area and roads should be monitored for debris and materials associated with the proposed development and cleaned up a soon as such becomes apparent.
- All materials to be delivered in a safe manner at designated delivery area located within footprint of the development site; ensure sufficient space is allocated in the construction site plan to provide safe turning for larger trucks.
- Speed travelled by construction vehicles must be kept to a minimum and speed limits enforced; contractors and service providers are to travel slowly and avoid collisions with wildlife.
- No transport of construction machinery / materials to or from the site to take place on public holidays or weekends.
- Contractor to minimise trips to and from site as far as practically possible.
- All vehicles are to be in good working order and equipped with spare parts (tyre etc) to avoid breakdowns along the road and disrupting other users of the road.

7.8 **Mitigation measures – visual and noise impacts**

Construction and maintenance as required (include in training to contractors and subcontractors)

- Sufficient notice to be given to the residents with an indication of a work schedule and expected work commencing in close proximity of their households
- Working hours to be restricted to daytime hours (i.e. 7:30 am – 5:30pm Monday to Friday; 8am – 1pm Saturday).
- No construction work is to take place after hours or on Sundays or on public holidays.
- A complaints register should be kept to document complaints and the corrective action taken an dkept in EM file.
- Keep working area as small as possible in identified developable area.
- No loud music to be allowed on site.
- All vehicles and machinery must be kept in good working condition.
- Ensure good housekeeping by putting in place required mitigation measures (soil, waste management as applicable)

7.9 **Mitigation Measures - Heritage, archaeological, palaeontological resources**

- Induction / Pre-construction training to be done with construction workers on importance of notifying site foreman and ECO and landowner to any potential findings of palaeontological / archaeological resources
- Monitoring during excavations to be done on ongoing basis by the construction team and any sites exposed to be reported to the ECO and include photographs and coordinates.
- Should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities, all works must be stopped immediately, and Heritage Western Cape must be notified without delay
- Any chance findings as a result of maintenance activities to report to WC Heritage for lifetime of operations.

7.10 Mitigation Measures – Terrestrial Biodiversity and vegetation clearing

- Existing natural vegetation must be retained as far as possible to minimise erosion problems.
- Delineated footprints area not to be exceeded.
- No vegetation clearing outside of development footprint to take place
- Suitable measures must be implemented in areas that are susceptible to erosion
- Progressive (ongoing) rehabilitation must take place during construction phase.
- Workers are NOT allowed to collect any flora of fauna species in surrounding area.

7.11 Mitigation Measures – Alien invasive flora species

Dense pockets of dense Rooikrantz (*Acacia cyclops*) and Black Wattle (*Acacia mearnsii*) are present on the in the broader area and the site has been modified through historical clearing and land uses. AIS seed quickly on disturbed areas and wattle and Rooikrantz can be expected to occur on the site during construction phase. These must be hand pulled immediately and disposed as general waste. A list of species is included in the table below. An AIS management programme is recommended after construction to counter the weed proliferation that would be expected after construction.

SCIENTIFIC NAME	COMMON NAME	FAMILY	STATUS	PRESENCE
Acacia mearnsii	Black Wattle	Fabaceae	CARA 1b	Present, common
Acacia cyclops	Rooikrantz	Fabaceae	CARA 1b	Present, common
Cenchrus clandestinus	Kikuyu grass	Poaceae	CARA 1b	Present, common
Cirsium vulgare	Scotch thistle	Asteraceae	CARA 1b	Present, uncommon
Lantana camara	Lantana	Verbenaceae	CARA 1b	Present, uncommon
Ricinus communis	Castor Oil Plant	Euphorbiaceae	CARA 2	Present, common
Solanum mauritianum	Bugweed	Solanaceae	CARA 1b	Present, uncommon
Solanum sisymbriifolium	Wild tomato	Solanaceae	CARA 1b	Present, uncommon
Verbena bonariensis	Wild verbena	Verbenaceae	CARA 1b	Present, uncommon

Construction and maintenance as required (include in training to contractors and subcontractors)

- It is a legal requirement that the removal of these species in the table above be the responsibility of the landowner; the operator of the solar facility is to maintain the project site free form AIS for duration of operations.
- Ensure the topsoil kept is free of AIS seeds / AIS with aggressive root system / ensure any topsoil that is purchased is weed free
- Check for weed regrowth in topsoil / subsoil stockpiles and within development area and pull-out plant as soon as it is detected to avoid expensive AIS management in the long term
- The use of kikuyu grass is not supported in any rehabilitation efforts.
- All AIS within the site construction footprint to be removed on an ongoing basis (as required) by the appointed construction team per construction activity and for 3 months following end of construction activity. Any required removal of AIS within the construction footprint / any required rehabilitation with suitable indigenous vegetation / grass seed will remain the responsibility of the appointed contractor until post construction audit; Budget for this task must be included for construction phase.
- All AIS removed, that is not suitable for composting (seed, aggressive roots), must be placed in a designated area on site and removed offsite as quickly as possible to a suitably licensed general waste site.

- When removing AIS ensure the area is not left bare and use mulch, indigenous seeds and plants local to the area, to hold soil in place (have mulch, seeds, seedlings ready prior to clearing) When removing AIS ensure the area is not left bare and use mulch, indigenous seeds and water wise plants local to the area, to hold soil in place (have mulch, seeds, seedlings ready prior to clearing)
- OGF is to be responsible for the vegetation maintenance and ongoing AIS clearing on the project site.

7.12 Mitigation Measures – Fauna

- No animals are to be harmed or killed during the course of construction / operations.
- No snares or harming of any faunal species permitted. Consider Implementation of fines for gross negligence. Contractual fines to be imposed on any employee who is found attempting to harm fauna on site or in surrounding areas
- Regular checks on trenches for trapped animals
- No clearing outside of the identified development area is to take place.
- If any animals are seen on site, a photo / video should be taken if possible (to assists in identification) and all fauna encountered on site should be reported to the ECO immediately. This is important when:
    - An animal is harmed or compromised in any way during construction.
    - Any animal with limited mobility is found on site (e.g. tortoises, moles, chameleons).
    - Any potentially dangerous animal is encountered. This includes any potentially venomous animal (e.g. snakes, scorpions)
    - For any assistance with snake removals/relocations, identifications or bite treatment contact the African Snakebite Institute.
- Existing and permissible access roads should be used to access the development area at all times; no offroad driving permitted on site and when traversing adjacent land portions to access the site. This must be clearly communicated to all drivers
- Check delineated footprints area not exceeded
- Retain as much topsoil, indigenous vegetation, logs, limbs, rocks etc for landscaping and rehabilitation. Increased plant diversity will increase the fauna diversity and pollinators(beneficial bids, insects, reptiles, mammals) in the area.

7.13 Mitigation Measures – Aquatic systems

Site demarcation

- During construction, the edge of the development footprint relative to the artificial pond outside the development area should be clearly marked and considered as a sensitive area. Excavated material and stockpiles must be placed outside of these areas and sediment must be prevented from being washed downslope.
- No blanket clearing to be carried out on the site; ensure that vegetation clearing is conducted in parallel with the construction progress of the planned sequence of events to minimise erosion and runoff.
- Allow a maximum disturbance footprint of; 2m around structures, roads; allow 1 meter disturbance alongside linear infrastructure (pipelines, electrical cables etc); ensure trenches are suitably backfilled with subsoils first followed by topsoil placement and then vegetation.

7.1 Washing of solar panels

- Potable water is required to service personnel who will be working on the site from time to time. The potable water will be used for domestic purposes, namely drinking, cleaning, and ablution facilities. The preferred option is to source potable water from the municipal water distribution network. An alternative option could include the transport of potable water to site using water tankers.
- Soap and water is preferred. Do not discharge waste wash into the SW system

7.2 **Vegetation management** / Rehabilitation

- Where possible, excavated sods of earth containing intact indigenous plants (if any in the footprint) that can be transplanted should be saved for replacement to preserve vegetation and fast-track revegetation at conclusion of the works.
- All erodible areas within the construction site should be stabilized using appropriate (best practice) methodologies and erosion protection works and all disturbed areas should be rehabilitated with appropriate water wise indigenous vegetation. If natural vegetation re-establishment does not occur, a suitable indigenous grass seed mix must be applied.
- Existing natural vegetation must be retained as far as possible to minimise erosion problems. Progressive rehabilitation with mulch, seed and plants to be carried out during construction to minimise the amount of bare areas on the site and therefore prevent runoff and wind erosion / dust form the site.

7.3 **Topsoil and subsoil stockpile management**

- The work areas are to be cleared in a phased manner as per sequence of construction activities.
- Topsoil removed (maximum 200mm depth) (including any indigenous vegetation) at the solar structure site. must be suitably stockpiled on a designated level area at no more than 1 meter in height in an area that will not be disturbed by construction for use in rehabilitation and landscaping on the site. Topsoil must be stored and covered with removed vegetation (excluding AIS) and covered with shade cloth to prevent loss of topsoil/ erosion / dust generation.
- Subsoil from solar structure site must be stockpiled within boundary of the development area. Cover subsoil with tarpaulin / shade cloth to prevent erosion / dust generation. Excavated materials to be re used as far as possible (i.e. as fill material); excavation materials not re-used are to be removed off site as quickly as possible and disposed at an appropriately licensed waste site.
- Ensure stockpiled materials such as subsoils, or any other mobile excavated materials are stockpiled to a maximum height of 1.5 meters and bunded, as required, with sandbags to prevent their loss during rainfall.
- Stockpile subsoil within site boundary on a flat level area that that will not be disturbed by construction for use in site levelling and fill material as required and placed close to area where it will be used as back fill to minimise double handling.
- Stockpile subsoil from cable trenches neatly on one side and topsoil with vegetation on the opposite of the trench. Replace subsoil first, followed with the stored topsoil and vegetation.
- Topsoil must always be kept separate from other materials and protected from loss and contamination
- No driving on soil stockpiles permitted
- Practice ‘first out, last in’ for soil excavated. Topsoil is highly valuable for use in landscaping at the end of the construction activity.

- Progressively place back subsoil, then topsoil and mulch and revegetate exposed areas once construction has been completed in the area with suitable indigenous vegetation; grass such as kweek (*Cynodon dactylon*) is preferable. No kikuyu to be used.

7.4 **Mitigation measures – socio-economic impacts**

Construction and maintenance as required (include in training to contractors and subcontractors)

- Use local reputable contractors, where possible.
- Use local materials, where possible.
- Make use of local services where required and possible
- Do not pay any cash wages on site to minimise criminal risk to employees
- Ensure requirements of Health And Safety Act and Labour Act are in place as required

7.5**EMPr Targets / checklist:**

- ✓ EM file kept updated
- ✓ ECO monthly audit reports as required
- ✓ Necessary training provided as per scope of work and records kept i.e., toolbox talks
- ✓ Working hours: Restrict to weekdays between 07:30 to 17:30; no weekends or public holidays
- ✓ No blanket clearing of vegetation.
- ✓ Designated footprint and laydown, stockpiles, waste management within area designated by ECO;
- ✓ Pegs / tape / screening material as required for demarcation
- ✓ No go areas designated (outside project site and minimal disturbance along cable trenches);
- ✓ Disturbance footprint of 1 meter along trench and 2 meters around structures.
- ✓ Topsoil separated;
- ✓ Topsoil and subsoil correctly stockpiled
- ✓ Subsoils reused where necessary; excess is disposed correctly and timeously
- ✓ No disturbance of indigenous plants outside development footprint
- ✓ No AIS in construction footprint
- ✓ No disturbance to fauna
- ✓ Ablution facilities (Ratio of 1:10), as required; keep service records (i.e invoices / payments)
- ✓ Waste plan in place; keep service records (i.e invoices / payments)
- ✓ No refuelling on site; no service of vehicles on site
- ✓ Drip trays, spill kits and hazardous waste bin as required
- ✓ Mixing containers and plastic liners (cement)
- ✓ Water cart / shade cloth for dust control
- ✓ No fires outside demarcated areas
- ✓ Fire prevention training provided, and records kept;
- ✓ Fire response measures in place; emergency numbers on hand
- ✓ Sand bucket for cigarette disposal
- ✓ Code of conduct in place
- ✓ Incident / complaint register in place
- ✓ Records of waste management / toilet service
- ✓ External monthly audits carried out and kept on record
- ✓ Close out audits and any actions required

EAP Services

- ✓ No waste at end of construction; disturbed areas revegetated
- ✓ Fire prevention and response plan in place
- ✓ Waste management plan in place
- ✓ Indigenous landscape
- ✓ Fencing around individual resort erven as required
- ✓ Stormwater management in place and adapted as necessary
- ✓ Water reticulation in place and adapted for reuse as far as passible
- ✓ Electricity reticulation in place and adapted for renewable energy as far as possible
- ✓ Areas on requiring erosion control are addressed as required
- ✓ No AIS in landscaping and ongoing AIS removal
- ✓ No feeding of wildlife and no unnecessary distance to wildlife
- ✓ Night lighting reduced as far as possible to reduce impact on wildlife
- ✓ Required method statements are compiled in accordance with measures of EMP

Table 1: Project Apects to be completed by construction / maintenance team as required

Activity:	**Description of activity (i.e. AIS clearing, construction of dwelling, maintenance activity etc)**			
Responsible person:				
Aspect	**Nature / Description**	**Required**		**Notes to be completed by responsible person for KHOA and internal / external ECO**
		✓	✘	
Scope of work	Description of scope of work and accompanying method statement / s	✓		
Designs / Plans completed	As required for scope of work	✓		
Environmental Training	Environmental training required (i.e. excavations – archaeology; ongoing – litter; AIS; no -go)	✓		
Health and safety	As required – HS File, first aid etc.	✓		
Workforce	Number of workers required?	✓		
	Required environmental management training (i.e. waste, soil management etc)	✓		
	Local labour	✓		
Suppliers	Local suppliers	✓		
Transport and traffic	Transport required for site workers?			
	Access and parking requirements	✓		
Site clearing	Area to be cleared	✓		
	Permits on hand; Plants removed and stored (not required for this site)		✓	
Vegetation management	No disturbance to vegetation outside footprint	✓		
	Remove alien invasive from footprint as required	✓		

Activity:	Description of activity (i.e. AIS clearing, construction of dwelling, maintenance activity etc)			
Responsible person:				
Aspect	Nature / Description	Required		Notes to be completed by responsible person for KHOA and internal / external ECO
		✓	✘	
	Pegs / screening material for designating footprint	✓		
Topsoil management	Top 200 mm soil with indigenous vegetation intact	✓		
	Stockpile separately	✓		
	Compost separately as mulch elsewhere in landscaping	✓		
Earthworks and subsoil management, erosion control / archaeology and Palaeontology resources	Area and depth to be excavated	✓		
	Volume of material to be excavated per component	✓		
	Duration of earthworks component	✓		
	Where will excavated material be stored on site; subsoils covered; Rocks for landscaping; excess for landfill;	✓		
	Shade cloths / water cart – dust control	✓		
	Inspect stockpiles for archaeological resources and report as required	✓		
Building material and equipment	Nature of required materials and equipment	✓		
	Storage requirements / laydown areas for materials / equipment	✓		
	Hazardous materials / substances – sealed containers, bunded area, non-permeable flooring, secure, equipped with roof.	✓		

Activity:	Description of activity (i.e. AIS clearing, construction of dwelling, maintenance activity etc)			
Responsible person:				
Aspect	Nature / Description	Required		Notes to be completed by responsible person for KHOA and internal / external ECO
		✓	✘	
Waste management	Ablution facilities – Required? Number? Service Provider? Record of service to be kept	✓		
	General waste bins	✓		
	Drip trays, cement mixing trays, plastic liners,	✓		
	Spill kits, hazardous waste bins	✓		
	Skip	✓		
	Service providers (waste / ablutions)	✓		
	Construction rubble – designated area / skip as required	✓		
	General waste – General waste bins with lids and labelled / storage area	✓		
	Hazardous waste – drip trays / spill kits / storage area	✓		
Drinking water and lunch area	Quantity required? Lunch area provided? Source of drinking water?	✓		
Existing structures	Location of existing structures / infrastructures that may be in construction footprint	✓		
Working hours	Working hours – no weekends, no public holidays, no night time.	✓		

8. COMPLIANCE WITH THE EMPr

8.1 Monitoring and Compliance

The monitoring and compliance of the development should take place as follows:

- The nominated ECO / auditor has the authority to instruct the ceasing of a particular activity causing or liable to cause significant environmental damage, and issue fines or penalties for non-compliance of the Environmental Management Programme/ EMPr.
- An ECO must monitor the the site and keep all records in the EM file as required

8.2Auditing Process

Internal audits are recommended for the duration of construction, including an external pre-construction, and post construction audit.
An internally appointed ECO is recommended to maintain EM file and address non compliances as and when required.
Conditions of the EMPr requirements are to be audited.
Preceding the issuing of a non-compliance, the relevant party must be given an opportunity to rectify the issue. If the issue is not addressed, the non-compliance is to be reported to the CA (DEDEAT) by the applicant / auditor / ECO as applicable.
The following information should be recorded as applicable:

- Details of non-compliance including as applicable;
- Details of activity carried out
- Actions agreed to adequately address the non-compliance as required
- Agreed timeframe by which the actions must be carried out; and
- Date of correction of non-compliance

Stop Works Non-Compliance will be issued under the following conditions:

- Total disregard by the developer / contractor to measures contained within the EMPr;
- An activity that if left unattended will escalate the degree, severity or extent of the environmental impact.

A copy of the non-compliance issued, with an allocated timeframe for correction, and details will be placed in the EM file.
On receiving a notice of non-compliance the Applicant is required to swiftly address the issue/s taking all corrective actions required to rectify the situation. Penalties will be applied for non-compliant situations. Penalties/fines are advocated to ensure corrective measures are successfully undertaken and the necessary standard of rehabilitation is achieved.
The penalty associated with a chemical spill is not a set amount but will depend on the nature and extent of the spill. In the event of damage being caused, the contractor will be responsible for the cost of cleanup, repair and / or rehabilitation as necessary, as well as being liable for the fine. Where there is erosion damage, pollution to the environment, or contravention of the no-go policy, the contractor is required to reinstate the conditions to normal as determined by the ECO.

Spot fines up to a maximum value of R10 000 per offence can be instituted at the discretion of the ECO for any breach or non-compliance in terms of the EMPr. Fines issued will increase exponentially for repeat offences.
The imposition of such a penalties / fines shall not preclude the relevant competent authority from applying an additional penalty in accordance with statutory powers.
Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression as deemed fit.

8.3Unlawful Activity/ies

NEMA and its Regulations entitle environmental authorities to administer a fine not exceeding R 5 million- or 10-years imprisonment and/or a fine and imprisonment for a person guilty of an unlawful activity. The Act makes allowance for the rectification of unlawful activity and may charge up to R1 million administration fees over and above the remediation costs.
NEMA makes provision for damages to be awarded by the courts where loss or damage has occurred as a result of a contravention of other environmental statutes. Importantly, NEMA provides for the liability of conviction of employees, managers, agents and directors for any offences resulting from the failure to take all the reasonable steps that were necessary under the circumstances to prevent the commission of an offence.

8.4 AMENDMENTS TO THE EMPr

This EMPr outlines the environmental practices and mitigation measures to be adhered to during the construction, operational phases, and rehabilitation in order to curtail and/or minimise potential negative impacts and promote sound environmental practises.
The EMPr is a living document and is subject to change from time to time in consultation with the DEADP.

8.5 Enforcing the EMPR and responsibilities

The developer has a responsibility to ensure that all those involved in the project are aware of and familiar with the environmental requirements for the project (this includes casual labour, etc.). The EMPr shall be part of the terms of reference for all contractors and service providers.
All senior and supervisory staff members shall familiarise themselves with the full contents of the EMPr. They shall know and understand the specifications of the EMPr and shall be able to assist other staff members in matters relating to the EMPr.

Table 2: Table of responsibilities

Management Area	Name of Responsible Party
Applicant	OGF PTY Ltd
Town Planner	**Marco Booysen Planning**
Technical Drawings	Lourens du Preez of Pro-Plan drawing office

Technical Engineer	
Contractor/s (construction / maintenance	
Internal ECO	
External auditor	
Palaeontology and archaeological finds	Stephanie.barnardt@westerncape.gov.za
External Search and rescue flora and fauna guidance / on site	Jamie Pote
DEADP officer - EA	
Cape Nature – permit applications – NEMBA and provincial ordinance	Not required for this site
WC Forestry – permit applications – Protected trees in terms of National forest Act	Not required for this site
Operational Manager	
Garden Route District municipality	
Hessequa Local Municipality	
Hessequa Local Municipality - SAPS	
Head of emergency prevention and response	

8.6Code of conduct

Code of Conduct

- Ensure effective implementation of the conditions of the environmental authorisation
- Ensure implementation of measures by contractors as required
- Oversee implementation of and ongoing adherence to Environmental Management Plan
- Ensure all maintenance staff are trained on all measures contained within the OEMPr as applicable to scope of works
- Ensure fire emergency plan is in place and responsible individual are adequately trained
- Ensure the South African Heritage Resources Agency (SAHRA) is contacted immediately should any findings be discovered during the course of the development.
- Ensure waste management plan is in place
- Ensure compliance with the relevant conditions of the EMPr that are applicable to the design elements in my appointed scope of work
- Ensure compliance to mitigation measures applicable to my area of work as contained within the environmental management plan
- Comply to monitoring and record keeping requirements
- Any areas disturbed as a result of activities to be rehabilitated using vegetation indigenous to the area.
- Ensure fire prevention mechanisms are in place
- Ensure fire response mechanisms are in place and relevant training carried out
- Ensure that no herbicides are used for the control of vegetation except for herbicides registered for the control of specific invasive alien plants.
- Ensure ongoing clearance of alien invasive vegetation

- Vehicular traffic to be confined to the approved access and no vehicles are allowed to travel off such approved roadways. No offroad driving permitted. All vehicles must stay on single demarcated access tracks to avoid compaction of soil and roots.
- No open fires are allowed within the property whatsoever, except in purpose-built fire places as indicated by management
- Keep noise-generating activities to a minimum.
- Fines will be imposed on any person who is found attempting to snare or otherwise harms wild animals.
- Existing pathways to be used at all times.
- Strict speeding limits to be adhered to. All personnel and visitors to abide to speeding regulations.
- No fauna should be intentionally harmed; do not tamper with or destroy nesting sites, or any other form of animal shelter.
- No collection of indigenous flora permitted on site or in surrounding areas.
- Severe fines should be in place for illegal collection / removal of plant specimens.
- Smoking only in designated areas with correct precautions in place. Fines issued if not done
- No littering. Fines will be issued for litter.
- Adhere to recycling and reuse guidelines and facilities provided at all times

Acknowledgement of EMPr

Record of signatures providing acknowledgment of being aware of and committed to complying with the contents of this Environmental Management Programme (EMPr), which relates to the environmental mitigation measures for the residential estate and high care facilities.

DEADP reference: to be provided after acceptance of NEMA EA application

Developer: Outeniqua Game Farm (PTY Ltd)
Represented by:

Signed: …….. Date: ……..

Internal Environmental Control Officer

Signed: …….. Date: ……..

Contractor / subcontractor / Service provider: / Employee:

Signed: …….. Date: ……..

External auditor

Signed: …….. Date: ……..

Appendix A: Details of EAP

Claire De Jongh (nee Jarvis)
0846074743
EAPASA registration: 2021/3519
SACNASP (certificated): 115390
BSc Environmental Management: Zoology Stream
BSc Honours: Environmental monitoring and modelling
CV and registrations are provided in Appendix 8 of the registration form