

Appendix 3b – Terrestrial Biodiversity, plant and animal site verification report

Norm for the Exclusion of the Development and Expansion of Solar Photovoltaic facilities in areas of Low or Medium Environmental Sensitivity

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

8.6 Appendix F: Site Sensitivity Verification Report

8.6.1 Background

An Environmental Impact Assessment application process for proposed housing estate development on portion 16 of farm 347 is proposed. The site is situated on the north side of Albertinia, Western Cape (Figure 28) and is situated on the urban edge, with existing developed erven along the southern boundary and undeveloped land on the remaining boundaries with Horne St running along the eastern boundary. As part of this application, a Terrestrial Biodiversity, Plant & Animal Specialist Assessment is required.

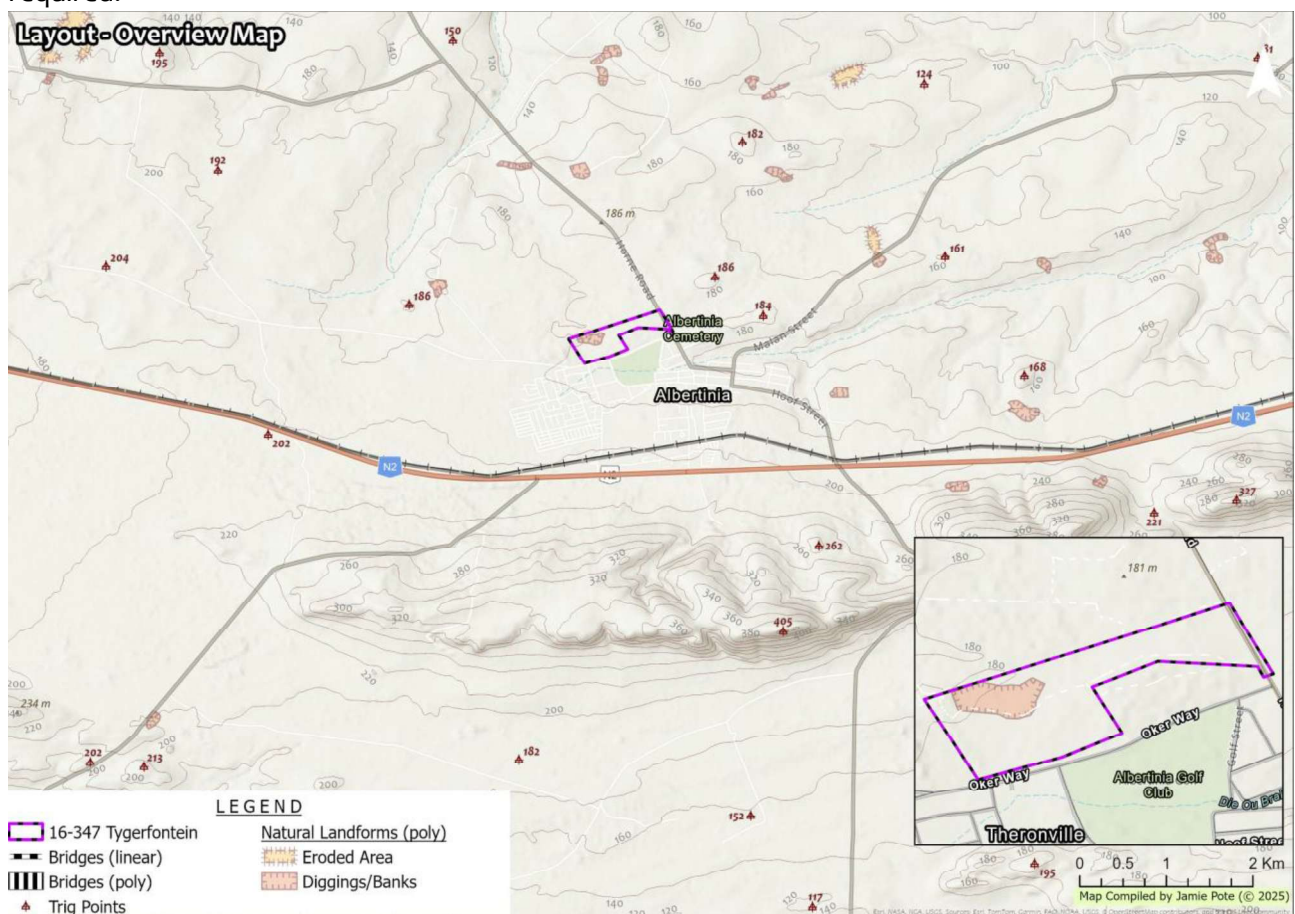


Figure 28: Site locality.

8.6.2 Activity Location and Description

The proposed development includes a golf course, housing units around the perimeter and a high care facility, as depicted in Figure 2, which will require removal of all vegetation from within the site. The proposed development will be confined to the western portion of the farm portion, where the eastern side will be retained in its current developed state which includes several large sheds and buildings.

The portion to be developed is comprised of a single dwelling and extensive quarry/borrow pit with the remaining area being grassy pastures where original vegetation was replaced historically with *Cynodon dactylon* (kweek) grass.

The site is located immediately north of Ocker Way in Albertinia town, Hessequa Local Municipality, Garden Route District Municipality in the Western Cape province of South Africa. The land portion is approximately 22 Ha in extent and the proposed development area, namely the western portion, is approximately 11 Ha in extent.

8.6.3 Purpose of Report

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 the Act, when applying for Environmental Authorisation”, as published on 20 March, 2020 in National Gazette, No. 43110 in terms of NEMA (Act 107 of 1998) sections 24(5)(a), (h) and 44, lists protocols and minimum report requirements for environmental impacts on terrestrial biodiversity and provides the criteria for the assessment and reporting of impacts on terrestrial biodiversity for activities requiring environmental authorisation. The assessment and minimum reporting requirements of this protocol are associated with a level of environmental sensitivity identified by the National web based Environmental Screening Tool. 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**, which must include the following.

4. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.
5. The site sensitivity verification must be undertaken through the use of:
 - a. a desk top analysis, using satellite imagery.
 - b. a preliminary on -site inspection; and
 - c. any other available and relevant information.
6. The outcome of the site sensitivity verification must be recorded in the form of a report that:
 - a. confirms or disputes the current use of the land and environmental sensitivity as identified by the screening tool.
 - b. contains a motivation and evidence of either the verified or different use of the land and environmental sensitivity; and
 - c. is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.

The National Web Based Screening Tool was used to generate the potential environmental sensitivity of the site which has then been compared to various online and other databases and information sources in order to verify and confirm the validity of the screening tool findings. This was further supported with on-site observations and analysis of most recent aerial photography.

This terrestrial biodiversity site verification has been undertaken as per 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 the National Environmental Management Act, 1998, when applying for environmental authorisation (GN 320, 20 March 2020).

8.6.4 Data sources and references

Data sources that were utilised for this report include the following:

- National (DFFE) Web Based Screening Tool – to generate the sites potential environmental sensitivity.
- National Vegetation Map 2018 (NVM, 2018), Mucina & Rutherford (2006) and National Biodiversity Assessment or Red Listed Ecosystems (NBA/RLE, 2022) – description of vegetation types, species (including endemic) and most recent vegetation unit conservation status.
- National and Regional Legislation including Provincial Nature Conservation Ordinance (P.N.C.O). NEM:BA Threatened or Protected Species (ToPS).
- 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 flora & faunal species.
- National Red Books and Lists - mammals, reptiles, frogs, dragonflies & butterflies.
- 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.
- SANBI BGIS – All other biodiversity GIS datasets.
- Western Cape Biodiversity Spatial Plan (2017).
- Aerial Imagery – Google Earth, ESRI, Chief Surveyor General (<http://csg.dla.gov.za>).
- Cadastral and other topographical country data - Chief Surveyor General (<http://csg.dla.gov.za>).
- Other sources may include peer-reviewed journals, regional and local assessments, and studies in the general location of the project and its area of influence, landscape prioritization schemes (Key Biodiversity Areas), systematic conservation planning assessments and plans (as above), and any pertinent masters and doctoral theses, among others.

This terrestrial biodiversity assessment has been undertaken as per 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 the National Environmental Management Act, 1998, when applying for environmental authorisation (GN 320, 20 March 2020).

8.6.5 Site visit

A site inspection was conducted on **08 August 2020**, during late summer/early spring. The site falls within a temperate climate with rainfall occurring throughout the year but is often higher in winter, hence for the purposes of this report, a single site visit is deemed to be adequate, specifically due to the disturbed nature of the site.

8.6.6 Assumptions, Uncertainties and Gaps in Knowledge

The findings and recommendations of this report may be susceptible to the following uncertainties and limitation:

- No assessment has been made of aquatic aspects relating to any wetlands, pans, and/or rivers/seep ecosystems outside of the scope of a terrestrial biodiversity report. Refer to separate reporting.
- Any botanical surveys based upon a limited sampling time-period, may not reflect the actual species composition of the site due to seasonal variations in flowering times. Additionally, the composition of fire adapted vegetation may vary depending on level of maturity or time since last burn. As far as possible, site collected data has been supplemented with desktop and database-centred distribution data.
- As far as possible, site collected data has been supplemented with desktop and database-centred distribution data as well as previous studies undertaken in the area.

8.6.7 National Environmental Screening Tool

The DFFE Screening Tool for the site indicates the following, summarised in Table 5:

- Terrestrial Biodiversity is Very High (Figure 29).
- Plant species sensitivity is Low & Medium (Figure 30).
- Animal Species sensitivity is Medium (Figure 31).
- Aquatic Sensitivity is Low (Figure 32).

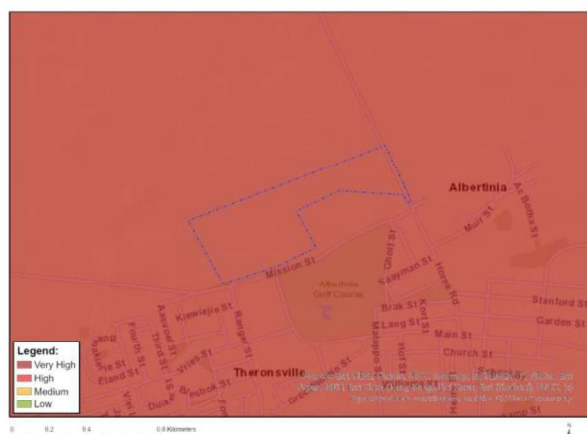


Figure 29: Terrestrial Biodiversity Sensitivity

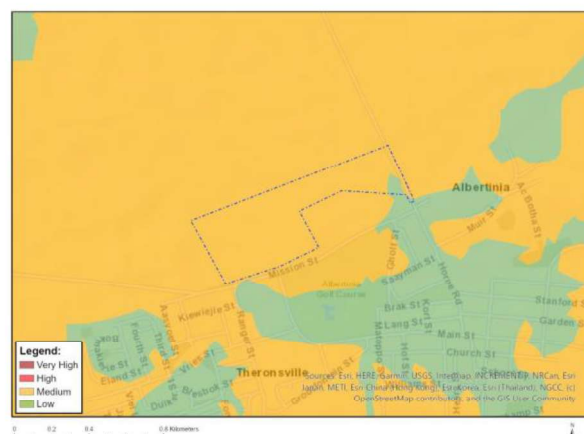


Figure 30: Plant Species Sensitivity.



Figure 31: Animal Species Sensitivity.



Figure 32: Aquatic Sensitivity.

Table 5: Summary of Screening tool designations.

Terrestrial Sensitivity	Feature(s) in proximity
Very High	CBA 1 & CBA 2, Albertinia Sand Fynbos (Endangered)
High	None
Medium	None
Low	None
Plant Sensitivity	
Very High	None
High	None
Medium	Lampranthus ceriseus, Lampranthus diutinus, Lampranthus fergusoniae, Lampranthus pauciflorus, Ruschia leptocalyx, Aspalathus acutiflora, Aspalathus campestris, Aspalathus dasyantha, Aspalathus odontoloba, Aspalathus quadrata, Aspalathus sanguinea subsp. foliosa, Aspalathus steudeliana, Aspalathus zeyheri, Lebeckia gracilis, Leucadendron galpinii, Leucadendron linifolium, Leucospermum muirii, Leucospermum praecox, Wahlenbergia polyantha, Hesperantha muirii, Freesia fergusoniae, Erica baueri subsp. baueri, Erica viscosissima, Erica Platycalyx, Hermannia lavandulifolia, Sebaea rara, Anisodonteia pseudocapensis, Gnidia ericoides, Athanasia cochlearifolia, Relhania garnotii, Agathosma eriantha, Agathosma muirii, Agathosma pallens, Agathosma riversdalensis, Acmadenia macropetala, Euchaetis albertiniana, Muraltia cliffortiifolia, Polygala pubiflora, Ruellia pilosa, Phylica elimensis, Phylica incurvata, Orthochilus litoralis, Aspalathus tylodes, Diosma passerinoides, Agathosma microcarpa, Sensitive species 1142, 339, 1024, 980, 800, 654 & 763
Low	Present

Animal Sensitivity	
Very High	None
High	<i>Circus maurus</i> , - <i>Neotis denhami</i> & <i>Polemaetus bellicosus</i> (birds)
Medium	<i>Aneuryphymus montanus</i> (insect), <i>Afrotis afra</i> (birds) & Sensitive species 5
Low	None
Aquatic Sensitivity	
Very High	None
High	None
Medium	None
Low	Present

The terrestrial biodiversity assessment will also physically screen for the presence of the listed, and other possible species and/or sensitivities that are not identified in the screening tool in addition to those that are flagged. Not all features are directly affected, but being in proximity, the risks associated with the activity will be investigated further and addressed in the report.

The following is deduced from the DFFE National Environmental Screening Tool for the site:

- The terrestrial biodiversity theme is Very High due to the site overlapping with designated CBA 1 & 2 areas as well as an Endangered vegetation unit (Albertinia Sand Fynbos). The Very High sensitivity designation for the specific footprints is disputed due to the significant levels of historical transformation and high levels of alien infestation within the site and would be considered to have no natural vegetation remaining. The specialist thus assigns a low terrestrial biodiversity sensitivity.
- Several flora (plant) species regarded as being of concern are flagged as potentially being present (Medium sensitivity) and are assessed further in the report, however none were found to be present during the site visit and are furthermore due to the transformed nature of the site, it is not deemed to be suitable habitat for any functional species population. The Medium sensitivity designation is thus disputed for the specific footprints, and the specialist this assigns a low plant species sensitivity.
- Fauna (animal) species regarded as being of concern are flagged as potentially being present (High sensitivity) and are assessed further in the report. Due to the limited size of the site and transformed nature of the surrounding landscape, the site would not be deemed to be viable for any species population. The Medium faunal sensitivity designation is thus disputed for the specific footprints, and the specialist this assigns a low animal species sensitivity.
- The aquatic sensitivity is Low, which is confirmed as per the separate Aquatic Assessment.
- The impacts are assessed further in the relevant report sections in the accompanying report.

The DFFE Screening Tool specific to the solar PV area within the site, indicates the following, summarised in Table 6:

- Terrestrial Biodiversity is Very High (Figure 29).
- Plant species sensitivity is Medium (Figure 30).
- Animal Species sensitivity is Medium (Figure 31).
- Aquatic Sensitivity is Low (Figure 32).

Table 6: Summary of Screening tool designations for PV area.

Terrestrial Sensitivity		Feature(s) in proximity
Very High		CBA 1 & CBA 2, Albertinia Sand Fynbos (Endangered)
High		None
Medium		None
Low		None
Plant Sensitivity		
Very High		None

High	None
Medium	<i>Orthochilus litoralis</i> , <i>Leucospermum muiirii</i> , <i>Leucospermum praecox</i> , <i>Selago ramosissima</i> , <i>Aspalathus sanguinea</i> subsp. <i>foliosa</i> , <i>Aspalathus quadrata</i> , <i>Aspalathus acutiflora</i> , <i>Aspalathus dasyantha</i> , <i>Lampranthus pauciflorus</i> , <i>Erica bauera</i> subsp. <i>bauera</i> , <i>Erica Platycalyx</i> , <i>Sebaea rara</i> , <i>Agathosma pallens</i> , <i>Thamnochortus pluristachyus</i>
Low	Present
Animal Sensitivity	
Very High	None
High	None
Medium	<i>Aneuryphymus montanus</i> (insect), <i>Afrodis afra</i> (birds) & Sensitive species 5 (24), <i>Pseudobarbus asper</i> (fish, not relevant)
Low	None
Aquatic Sensitivity	
Very High	None
High	None
Medium	None
Low	Present



Figure 33: Terrestrial Biodiversity Sensitivity

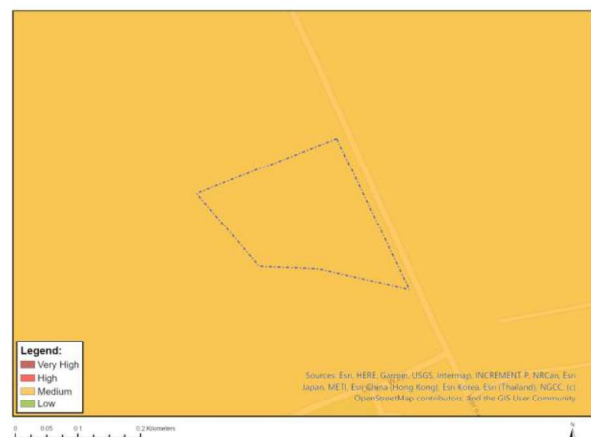


Figure 34: Plant Species Sensitivity.



Figure 35: Animal Species Sensitivity.

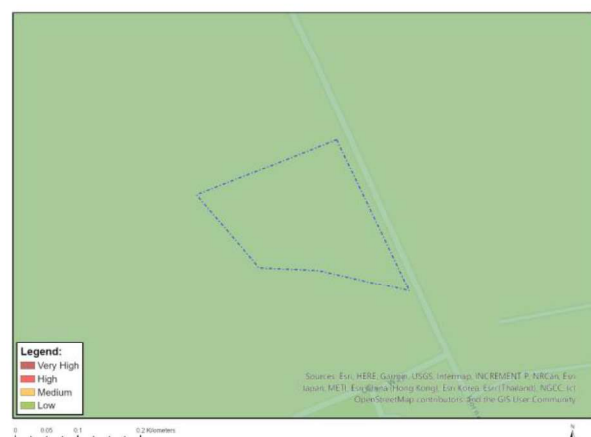


Figure 36: Aquatic Sensitivity.

The following is deduced from the DFFE [National Environmental Screening Tool](#) for the solar PV area:

- The terrestrial biodiversity theme is Very High due to the site overlapping with designated CBA 1 & 2 areas as well as an Endangered vegetation unit (Albertinia Sand Fynbos). The Very High sensitivity designation for the specific PV footprints is disputed due to the significant levels of historical transformation and high levels of alien infestation within the site and would be considered to have

no natural vegetation remaining (or transformed). The specialist thus assigns a low terrestrial biodiversity sensitivity.

- Several flora (plant) species regarded as being of concern are flagged as potentially being present (Medium sensitivity) and are assessed further in the report, however none were found to be present during the site visit and are furthermore due to the transformed nature of the site, it is not deemed to be suitable habitat for any functional species population. The Medium sensitivity designation is thus disputed for the specific PV footprints, and the specialist this assigns a low plant species sensitivity.
- Fauna (animal) species regarded as being of concern are flagged as potentially being present (High sensitivity) and are assessed further in the report. Due to the limited size of the site and transformed nature of the surrounding landscape, the site would not be deemed to be viable for any species population. The Medium faunal sensitivity designation is thus disputed for the specific footprints, and the specialist this assigns a low animal species sensitivity for the PV site.
- The aquatic sensitivity is Low, which is confirmed as per the separate Aquatic Assessment.
- The impacts are assessed further in the relevant report sections in the accompanying report.

8.6.8 Findings, Outcomes and Recommendations

Terrestrial Biodiversity

Site verification of the Terrestrial Biodiversity sensitivities is summarised in Table 7 and depicted in Figure 11, where CBA is green and ESA is light blue/yellow. The CBA and ESA designation are primarily associated with feature adjacent to the site and/or outside of the proposed development/activity footprint.

Table 7: Terrestrial Biodiversity Features flagged in the National Environmental Screening Tool.

Feature		COMMENT
Critical Biodiversity Area 1	CBA 2	Dispute – No Natural Area remaining.
Critical Biodiversity Area 2	ESA 2	Dispute – No Natural Area remaining and site provides no value in terms of habitat conservation.
Endangered Vegetation		Dispute – No Natural vegetation remaining.

The SSVR thus disputes the flagged terrestrial biodiversity high designation, and the specialist thus assigns a terrestrial biodiversity sensitivity.

Plant Species (Flora)

National Environmental Screening Tool flagged several flora species. Almost the entire site is situated within a significantly altered and degraded landscape, where no natural vegetation remains. No significant pockets of natural vegetation were found that might provide suitable habitat for these species and it is confirmed that no species of conservation concern having an elevated status and/or limited distribution range as flagged in the screening tool are present.

The SSVR thus disputes the flagged flora ('plant') species of conservation concern and medium plant species designations, and the specialist thus assigns a low plant species sensitivity.

Animal Species (Fauna)

National Environmental Screening Tool flagged several fauna species. Almost the entire site is situated within a significantly altered and degraded landscape, where little natural vegetation remains. No significant pockets of natural vegetation were found that might provide suitable habitat for these

species and it is confirmed that no species of conservation concern having an elevated status and/or limited distribution range as flagged in the screening tool are present.

The SSVR thus disputes the flagged fauna ('animal') species of conservation concern designations and medium animal species designations, and the specialist thus assigns a low animal species sensitivity.

Aquatic

As per the separate Aquatic Assessment, the aquatic sensitivity is confirmed to be low. No terrestrial features associated with any artificial aquatic habitat are likely to provide any significant terrestrial habitat.

8.6.9 Conclusions

The site verification thus confirms that the site does not fall within a terrestrial biodiversity screening tool designated CBA area, as there is no evidence of any ecologically significant remaining naturel vegetation that will be affected by the specific activity, as the footprint is within degraded, transformed or densely invaded areas, which will have limited and significantly modified ecological function.

It further disputes that any of the screening tool flagged flora or fauna species of conservation concern are likely to be affected by the proposed activity within a degraded, modified and transformed landscape where no suitable habitat for such species is present.

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