

*THE PROPOSED DEVELOPMENT OF A 3.5  
MEGAWATT SOLAR PHOTOVOLTAIC (PV) FACILITY  
ON ERF 77, GREENBUSHES, WITHIN THE NELSON  
MANDELA BAY MUNICIPALITY, EASTERN CAPE*

**SITE SENSITIVITY VERIFICATION  
REPORT**



Prepared by:



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JULY 2023

## Report Details

<b>Report Title</b>	Site Sensitivity Verification Report, The Proposed Development of a 3.5 Megawatt Solar Photovoltaic (PV) Facility on Erf 77, Greenbushes, within the Nelson Mandela Bay Municipality, Eastern Cape Province
<b>Report Status</b>	Final Report
<b>Report Date</b>	July 2023
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# 1. Introduction

## 1.1 Background and Project Overview

Habitat Link Consulting (Pty) Ltd has been appointed by Rent-A-Store (Pty) Ltd, to apply for an Environmental Authorisation (EA) for the development of a solar photovoltaic (PV) facility in Greenbushes, within the Nelson Mandela Bay Municipality (NMBM). The proposed development requires the submission of a Basic Assessment Report (BAR) in terms of the 2014 National Environmental Management Act (NEMA) EIA Regulations (as amended).

## 1.2 Scope of this Report

As part of the BAR for the proposed development, a Screening Tool Report was generated from the Department of Forestry, Fisheries and the Environment (DFFE) National Web based Environmental Screening Tool (<https://screening.environment.gov.za/screeningtool/>) – please refer to Appendix G.4 of the Basic Assessment Report. This site sensitivity verification report is compiled to determine whether any Compliance Statements or Assessments are required for the environmental themes identified by the Screening Tool Report. The sensitivity of each theme identified by the Screening Tool Report is related to the nature and specific condition of the proposed site location as observed during ground-truthing undertaken by the EAP and/or the appointed specialist(s).

## 1.3 The Environmental Assessment Practitioner (EAP)

Habitat Link Consulting is an environmental consulting company offering a complete range of integrated environmental management services for all phases of development, from initial assessment and inception, to planning and implementation (construction and operation).

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Please refer to Appendix G.1 of the Basic Assessment Report for the CV of the EAP.

## 2. Project Description

### 2.1 Project Locality

The development will take place on Erf 77, Greenbushes, situated approximately 15 km west of the Gqeberha (Port Elizabeth) city centre, within the NMBM, Eastern Cape Province (Figure 2.1).

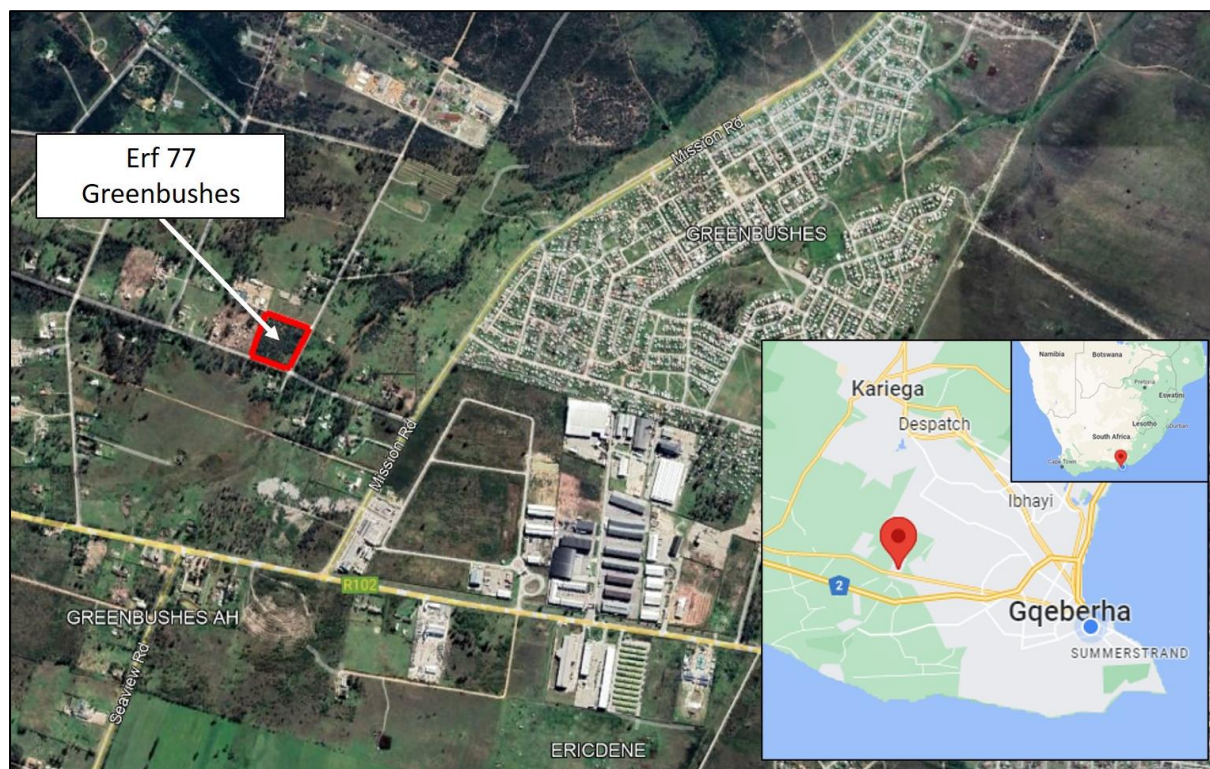


Figure 2.1: Locality map of the proposed solar PV development on Erf 77, Greenbushes, within the Nelson Mandela Bay Municipality, Easter Cape.

### 2.2 Detailed Project Description

The applicant, Rent-A-Store (Pty) Ltd, proposes to develop a new 3.5 megawatt (MW) solar PV facility within the 2.2 hectare (ha) property located in Greenbushes. The proposed development will include the installation of a number of solar panels to be connected to the municipal electricity grid in order to supply renewable (solar) energy.

The proposed facility will consist of approximately 4 000 solar panels that will feed renewable energy to the existing municipal electrical connection via a new municipal substation. The development will also consist of several out-buildings including ablution facilities, security control, store room, transformer/switch gear room and electrical metering room. Stormwater from the site will be diverted to a proposed pond in the south-east corner. Access to the site will be obtained off Pennelsdrift Road on the south-west corner and a new internal access road will be established along the boundary of the property. Several parking spaces will be allocated near the buildings (Figure 2.2 and Figure 2.3).

The proposed solar energy generation facility will initially produce 2.3 MW of green power (and later be upgraded to 3.5 MW), which can then be distributed to businesses in the area. This green power will allow these businesses to meet their sustainable mandates and assist with the exponential costs

of electricity. This facility will also help to alleviate electrical consumption, improving grid stability and reducing load shedding.

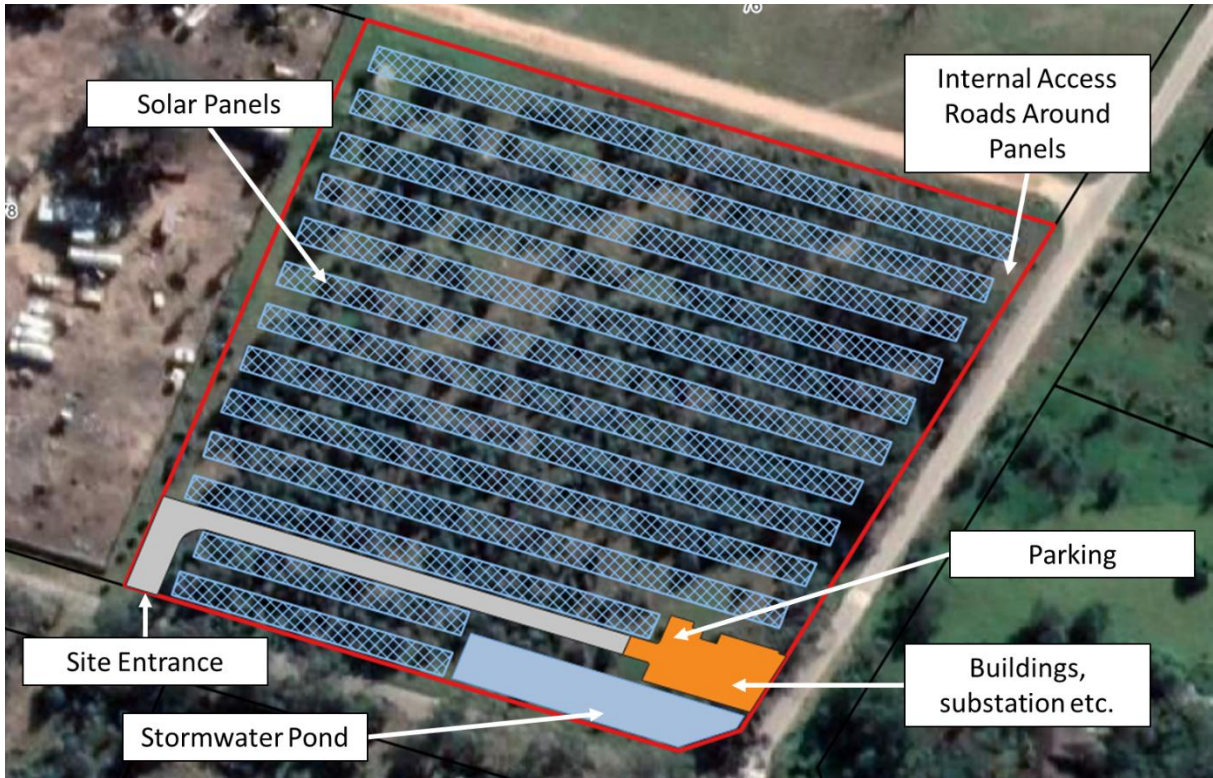


Figure 2.2: Proposed site layout.

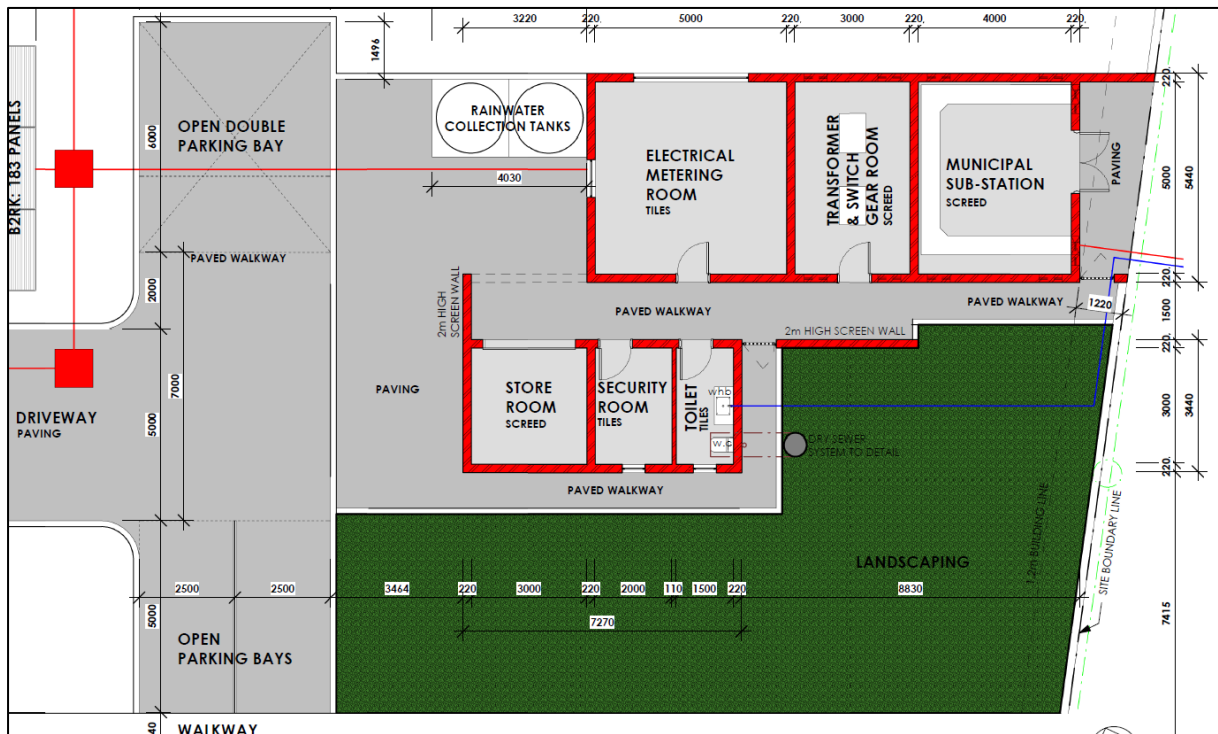


Figure 2.3: Detailed layout of the proposed buildings, substation etc.

Each row of solar panels will be fitted with two 80 kilowatt (kW) inverters, which will be connected, via cabling, to the on-site mini-substation/transformer via the electrical metering room. The mini-

substation will be connected to the nearest municipal supply by either tapping into an existing 11 kilovolt (kV) or 22 kV cables by means of a Ring Main Unit, or by connecting to the nearest substation by means of an additional switch. If required, permissions for connecting to existing infrastructure via the municipal road will need to be obtained from the NMBM as well as from the adjacent landowner. For future upgrades to the 3.5 MW capacity, it is possible (although unlikely) that 33 kV underground cabling will be required for the development. The cable upgrades will occur within the footprint of any existing cabling and will not exceed 2 km in length.

While the majority of the property will consist of solar panels, the southern portion of the site has been earmarked for the development of the abovementioned associated infrastructure which include ablution facilities, security control room, store room, municipal sub-station, transformer/switch gear room and electrical metering room and parking. There is also proposed to be a 700 m<sup>2</sup> stormwater retention pond in the south-east corner of the site. It is proposed that the entire site will be fenced-off with mesh fencing, fitted with electrified fencing, in order to ensure security of the site. Further security measures will include full CCTV cameras fitted around the property boundary and at strategic points within the property. Remote off-site security monitoring will be carried out from a central control room.

Please refer to the detailed project description included in the Basic Assessment Report (BAR).

### 3. Screening Tool Report

#### 3.1 Proposed Development Area Environmental Sensitivities

The following environmental themes and their associated sensitivities were identified in the Screening Tool Report:

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

#### 3.2 Specialist Assessments Identified

The following specialist assessments were identified the Screening Tool Report:

1. Agricultural Impact Assessment
2. Landscape/Visual Impact Assessment
3. Archaeological and Cultural Heritage Impact Assessment
4. Palaeontology Impact Assessment
5. Terrestrial Biodiversity Impact Assessment
6. Aquatic Biodiversity Impact Assessment
7. Civil Aviation Assessment
8. Defence Assessment
9. RFI Assessment
10. Geotechnical Assessment
11. Socio-Economic Assessment
12. Plant Species Assessment
13. Animal Species Assessment

This Site Sensitivity Verification Report will determine whether any Compliance Statements or the assessments listed above are required for the aforementioned themes due to the nature and specific condition of the proposed site location as observed during ground-truthing.



## 4. Desktop Analysis and Inspection of Study Site

### 4.1 Desktop Analysis

Upon desktop review, the proposed development area appears to be an undeveloped site covered entirely with vegetation. According to the Nelson Mandela Bay Bioregional Plan (2009), the property is not classified as a protected area or critical biodiversity area (CBA), but is located within vegetation classified as Rowallan Park Grassy fynbos, listed as ‘vulnerable’ and listed as a Threatened Ecosystem. While vegetation on the proposed development site is listed as Critically Endangered Algoa Sandstone Fynbos (SANBI, 2018), it is clear from Google Earth imagery that the actual vegetation on the property is typical of alien trees within a grassland area (Figure 4.1).



Figure 4.1: Desktop analysis of the proposed residential development site.

The south-eastern corner of the property is located within 100 m of a non-perennial tributary and the entire property is located within 500 m of a wetland, as defined by the National Freshwater Ecosystem Priority Areas (NFEPA, 2011). The property itself is located outside of all aquatic CBA and Ecological Support Areas (ESAs) however, the nearby drainage area is classified as an ESA 1 area according to the Eastern Cape Biodiversity Conservation Plan (ECBCP, 2019). Although there is a roadway between these watercourses and the site, the topography of the site is such that surface water flows from the site would likely drain towards these nearby watercourses.

Although the property earmarked for the facility is located within the urban edge according to the Spatial Development Framework (SDF) for NMBM, the current land use of the property, as well as the surrounding properties, is predominantly rural in nature and is likely to be considered ‘outside urban areas’, as per the interpretation implemented by the environmental authorities.

## 4.2 Site Inspection

A site inspection was conducted by the EAP on 22 July 2022. The study site can be considered transformed, and no indigenous vegetation remains. There is evidence of historical soil disturbance, and building rubble and litter is present across the site. The site can be described as an open Eucalyptus woodland, with the majority of the site dominated by the invasive Eucalyptus tree species. The ground layer consists of weedy and common grasses, succulents and herbs. Since the site is surrounded by three (3) different municipal roads as well as a construction plant hire facility to the west, it can be considered to be completely fragmented from any natural area. The site is currently unfenced, which has resulted in illegal dumping without the knowledge of the property owner. There is also some evidence to suggest that the site is utilised by vagrants. No terrestrial fauna was observed during the site inspection, while some avifaunal species were observed within the Eucalyptus trees.



Figure 4.2: Photos of the proposed development site taken by the EAP during the site visit on 22 July 2022.

## 5. Site Sensitivity Verification

The following observations were made regarding each specific environmental theme identified by the Screening Tool Report. Observations of the Site Sensitivity Verification is restricted to a once-off observation during daylight hours and does not make allowances for any nocturnal observations or long-term biological interaction or processes.

### 5.1 Agriculture Theme

The agricultural theme was identified as having a *High* sensitivity according to the Screening Tool Report. Although the nature of the surrounding areas and current zoning of the property does not promote large-scale agricultural activities, an agricultural specialist was consulted to provide input into the BAR. The agricultural specialist compiled an Agricultural Compliance Statement – please refer to [Appendix D.6](#) of the BAR.

The Compliance Statement concluded that the land contained within the proposed study site is considered as ‘moderate’ sensitivity for the agricultural theme and that a full assessment was not required to address this theme.

### 5.2 Animal Species Theme

The animal species theme was identified as having a *Medium* sensitivity according to the Screening Tool Report. Due to the transformed nature of the site, there is limited likelihood of any protected faunal species occurring within the proposed development area, and therefore it was not deemed necessary by the EAP that a faunal specialist be consulted to provide input into the BAR. The ecological specialist compiled a Terrestrial Biodiversity Compliance Statement, which also refers to the unlikely occurrence of protected animals within the site – please refer to [Appendix D.2](#) of the BAR. The animal species theme sensitivity is thus reduced to ‘low’.

### 5.3 Aquatic Biodiversity Theme

The aquatic biodiversity theme was identified as having a *Low* sensitivity according to the Screening Tool Report. Due to the development being more than 100 m from the non-perennial drainage line as well as within 500 m of an NFEPA wetland, an aquatic specialist was consulted to provide input into the BAR – please refer to [Appendix D.3](#) of the BAR. The Compliance Statement concluded that the aquatic biodiversity theme remains as ‘low’ sensitivity and that a full assessment was not required to address this theme.

### 5.4 Archaeological and Cultural Heritage Theme

The archaeological and cultural heritage theme was identified as having a *Low* sensitivity according to the Screening Tool Report. Due to the requirements in terms of the National Heritage Resources Act (NHRA), an archaeological specialist was nevertheless appointed to provide an opinion on the archaeological and cultural heritage aspects of the site – please refer to [Appendix D.4](#) of the BAR. The opinion letter concluded that the proposed development area appears to be of low archaeological sensitivity and it is therefore unlikely that any significant archaeological remains will be found on the property.

## 5.5 Avian Theme

The avian theme was identified as having a *Low* sensitivity according to the Screening Tool Report. Due to the transformed nature of the site, there is limited likelihood of any protected bird species occurring within the proposed development area, and therefore it was not deemed necessary by the EAP that an avifaunal specialist be consulted to provide input into the BAR. The ecological specialist compiled a Terrestrial Biodiversity Compliance Statement, which also refers to the bird species that may occur within this geographical area – please refer to [Appendix D.2](#) of the BAR. The avian species theme sensitivity thus remains as ‘low’.

## 5.6 Civil Aviation (Solar PV) Theme

The civil aviation theme was identified as having a *Medium* sensitivity as the site is located ‘*within 8 km of an other civil aviation aerodrome*’. Since the proposed development is not expected to have any impact on (or be impact by) any nearby civil aviation aerodromes, the EAP is of the opinion that the sensitivity associated with this theme should be reduced to ‘low’. No further investigation of this theme is deemed necessary during the EIA process.

## 5.7 Defence Theme

The defence theme was identified as having a *Medium* sensitivity. Since the proposed development is not expected to have any impact on (or be impact by) any aspects associated with the Defence Theme, the EAP is of the opinion that no further investigation of this theme is deemed necessary during the EIA process.

## 5.8 Palaeontology Theme

The palaeontology theme was identified as having a *High* sensitivity according to the Screening Tool Report. Due to the possibility of paleontological finds (e.g. fossils) being present within the proposed development area, it was deemed necessary by the EAP that a paleontological specialist be consulted to provide input into the BAR. The paleontological specialist compiled a Palaeontological Specialist Study – please refer to [Appendix D.5](#) of the BAR.

The Palaeontological Specialist Study concluded that fossils, consisting mostly of trace fossils, are sparse within the relevant geological unit. The proposed development in question has a small footprint, and it is unlikely that fossils will be discovered, damaged, or lost during its construction.

## 5.9 Plant Species Theme

The plant species theme was identified as having a *Low* sensitivity according to the Screening Tool Report. Due to the various plant species present within the proposed development area (although mostly invasive), it was deemed necessary by the EAP that a botanical specialist be consulted to provide input into the BAR. The ecological specialist compiled a Terrestrial Biodiversity Compliance Statement – please refer to [Appendix D.2](#) of the BAR.

The Terrestrial Biodiversity Compliance Statement confirmed that the site theme sensitivity is low as the development area is largely transformed and has little conservation value. No plant Species of Conservation Concern (SCC) were identified on site. The site is transformed, previous soil disturbance has taken place, and no habitat for SCCs remain. The likelihood of any SCCs occurring on site is considered low.

## 5.10 RFI Theme

The civil aviation theme was identified as having a *High* sensitivity as the site is located '*between 18 and 30 km from a Weather Radar installation and within the radar's line of sight*' as well as '*within 5 km of a Sentech High Power Terrestrial Broadcasting Facility*'. Since the proposed development is not expected to have any impact on (or be impact by) any weather radar or broadcasting facilities, the EAP is of the opinion that the sensitivity associated with this theme should be reduced to 'low'. No further investigation of this theme is deemed necessary during the EIA process. Furthermore, both the South African Weather Service (SAWS) and Sentech have been included as Interested and Affected Parties (I&APs) for this project.

## 5.11 Terrestrial Biodiversity Theme

The terrestrial biodiversity theme was identified as having a *Very High* sensitivity according to the Screening Tool Report. Due to the variety of terrestrial biodiversity aspects associated with the proposed development area, it was deemed necessary by the EAP that a terrestrial biodiversity specialist be consulted to provide input into the BAR. The ecological specialist compiled a Terrestrial Biodiversity Compliance Statement – please refer to [Appendix D.2](#) of the BAR.

The Terrestrial Biodiversity Compliance Statement confirmed that the site theme sensitivity is low as the development area is largely transformed and has little conservation value. Although the site was not situated within a CBA or any other priority area, it was located in Algoa Sandstone Fynbos, a Critically Endangered vegetation type. However, the site visit determined that the site has been transformed, with little fynbos remaining. The conservation status of the site was rated as 'low.' The whole site can be developed as no 'No-Go' areas were identified in the terrestrial biodiversity study.

## 6. Motivation for Exclusion of Specialist Studies

The following specialist studies (or compliance statements) have been included in the BAR:

- Terrestrial Biodiversity Compliance Statement inclusive of:
  - a. Terrestrial biodiversity statement
  - b. Plant species component
  - c. Animal species component
  - d. Avian species component
- Agricultural compliance statement
- Desktop Visual Impact Assessment
- Archaeological opinion letter
- Paleontological Impact Assessment
- Aquatic compliance statement

The following remaining specialist studies as identified in the Screening Tool Report have thus been omitted for the reasons provided below:

1. Civil Aviation Assessment  
Refer to Section 5.6 above.

2. Defence Assessment  
Refer to Section 5.7 above.

3. RFI Assessment  
Refer to Section 5.10 above.

4. Geotechnical Assessment  
A geotechnical assessment specific to the proposed solar development was not deemed necessary for the purposed of completing a comprehensive environmental impact assessment. Impacts associated with erosion and sedimentation can be suitably addressed in the BAR without input from a geotechnical specialist.

Nevertheless, the applicant provided the EAP with an 'Engineering Geological Investigation for the Proposed New Storage Facility on Erf 77, Greenbushes, Port Elizabeth', which is relevant to this property, but was completed for an alternative development in June 2008 – please refer to Appendix G.5 of the BAR.

5. Socio-Economic Assessment  
A Socio-Economic Assessment was not deemed necessary as impacts on the socio-economic aspects will be adequately addressed in the BAR.

## 7. Conclusion

A Screening Tool Report which was generated for the proposed development yielded several themes that were considered as having very high, high, medium and low sensitivity. Overall, due consideration has been given to the potential impact of the proposed development on the recorded sensitivity themes and those that are not 'low' have been addressed via specialist assessments or compliance statements.

It is the opinion of the EAP that all factors regarding the above-mentioned themes were considered in this site sensitivity verification report and that the development will not have a significant impact on the recorded sensitivities other than those detailed in the BAR.

Based on the outcome of this Site Sensitivity Verification report, no additional Compliance Statements or Assessments for the abovementioned themes should be required other than those presented as part of the BAR.