SITE VERIFICATION AND SPECIALIST ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR PORTION 1 OF FARM 331 AND PORTION 4 OF FARM RHEEBOKSFONTEIN 142, MID-BRAK, WESTERN CAPE

Terrestrial Biodiversity

Date:	30 DECEMBER 2025
Version:	Draft
Author:	JA van der Walt (Pr. Sci. Nat: 116549)
EAP:	Sharples Environmental Services
Applicant:	De Jager Brothers

ADVANCED ENVIRONMENTAL CORPORATION

EXECUTIVE SUMMARY

VEGETATION UNITS	**Hartenbos Dune Thicket**: This is the only vegetation mapped on the property (Vegmap 2024). The conservation status of this vegetation unit is **Endangered.**
VEGETATION CONDITION	The vegetation on the property is degraded due to invasive alien vegetation, historical sandmining, and 4x4 vehicle tracks.
VEGETATION SIZE	The property is 15,24 ha in size, and the proposed development intends to clear 9,47 ha of natural vegetation on the property.
LANDUSE PLANNING	Approximately 95% of the property is regarded as Critical Biodiversity Areas (CBA1 and CBA2). The remaining 5% is roads.
CONNECTIVITY	The property is isolated between major roads, agricultural, and urban development.
TERRESTRIAL BIODIVERSITY SENSITIVITY	The specialist rates the terrestrial biodiversity sensitivity as medium, as opposed to the very high rating by the Environmental Screening tool report.
WATER COURSES AND WETLANDS	None of the aquatic features are present on the property. Stormwater drainage pipes from the urban environment intersect the property.
MAIN CONCLUSIONS	The property has been assessed as having a very high sensitivity towards the terrestrial biodiversity theme by the Environmental Screening Tool. The specialist rates the property as medium sensitivity due to the location, isolation, and degraded vegetation. The proposed development is supported from a terrestrial biodiversity perspective if the mitigation measures are implemented.

DECLARATION OF INDEPENDENCE IN TERMS OF CHAPTER 5 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT (NEMA), ACT 107 OF 1998:

I, Johannes Adriaan van der Walt, ID: 6706225172085, declare that:

• I act as the independent environmental specialist in this report.

• I will perform the work relating to the report objectively, even if this results in views and findings that are not favourable to the applicant;

• I declare that there are no circumstances that may compromise my objectivity in performing such work;

• I have expertise in conducting environmental impact assessments and specialist reports, including knowledge of the Act, Regulations, and any guidelines that have relevance to the proposed activity;

• I will comply with the Act, Regulations, and all other applicable legislation;

• I do not have and will not have any vested interest (either business, financial, personal, or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations

ENVIRONMENTAL SPECIALIST:

Johannes Adriaan van der Walt

Tel: +27 (82) 305 8945

Email: admin@aecorp.co.za

Signature **Date:** 30 December 2025

Abridged Curriculum Vitae – Johannes Adriaan van der Walt

PROFESSIONAL REGISTRATION

Professional Natural Scientist: South African Council for Natural Science Professionals (SACNASP) nr116549

QUALIFICATIONS

MTech Nature Conservation (cum laude) 2014, CPUT

BTech Nature Conservation (cum laude) 2012, CPUT

NDip Nature Conservation (cum laude) 1994, CPUT

LANGUAGES

English – fluent
Afrikaans – fluent

EXPERIENCE

37 years of biodiversity conservation and botanical experience in the Fynbos and Succulent Karoo Biomes

EMPLOYMENT

1988 – 2006 CapeNature

2007 – 2010 Botanical Insight cc

2010 - 2017 CapeNature

2017 – present: Director at Advanced Environmental Corporation (Pty) Ltd and Fynbos Fish Trust Trustee

BOTANICAL, ANIMAL, AND BIODIVERSITY EXPERTISE WAS GAINED THROUGH:

- Employment as a nature conservationist with CapeNature for 25 years;
- biodiversity assessments (including botanical, animal species, and biodiversity) since 1994;
- participating as a SANBI-CREW volunteer for botanical assessments for threatened plants;
- participating in the Protea Atlas project as a volunteer;
- contributing as a Red-list assessor for a selection of Fynbos species;
- conservation initiatives for threatened flora with CapeNature;
- compliance monitoring of wildflower shows (Clanwilliam, Leipoldtville, Porterville, Tulbagh, and Darling) between 1994 and 2006;
- compilation of species lists for protected areas;
- compilation of specialist botanical assessments for DEA&DP and private landowners since 2017;
- discovering five new plant species in the CFR since 2019;
- keeping up to date with new plant descriptions and taxonomic revisions in the CFR and
- keeping an extensive private collection of applicable literature, including field guides and other botanical reference books.

PUBLICATIONS:

- Author and co-author of 14 biodiversity conservation and botanical scientific papers

CONTENT

1. INTRODUCTION

1.1 Background

Portion 1 of farm 331 and portion 4 of farm Rheeboksfontein 142, is a 15,24-ha undeveloped linear property between the N1 National Road and the R102 Provincial Road next to Reebok in the Southern Cape. The owners intend to divide the property into approximately 154 erven as part of a residential development. The proposed development triggers environmental regulations promulgated under the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") and requires environmental authorization. The owners of the property have appointed Sharples Environmental Services cc to undertake the environmental aspects of the development. Sharples Environmental Services cc appointed Riaan van der Walt, an independent environmental scientist, to conduct the specialist reports (plants, animals, and terrestrial biodiversity) that are required as part of the environmental authorisation process.

1.2 Environmental Screening Tool Report

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations requires that an applicant for an Environmental Authorisation submit a report generated by the Environmental Screening Tool as part of their application. This tool, developed by the Department of Forestry, Fisheries, and the Environment (DFFE), became operational on July 5, 2019, as announced in the Government Gazette. The screening tool report will identify the environmental sensitivities that intersect with the proposed development footprint as defined by the applicant, as well as the relevant protocols that the applicant would need to follow. The screening tool is accessible at https://screening.environment.gov.za.

An environmental screening tool report for the proposed development was completed on the 20th of August 2025. A **"Very High"** environmental sensitivity rating was indicated for the Terrestrial Biodiversity theme. As per the procedures for the assessment and minimum criteria for reporting on identified environmental themes (Terrestrial Biodiversity) in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation (October 2020), "*An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of "**very high sensitivity**" for terrestrial biodiversity, must submit either a Terrestrial Biodiversity Specialist Assessment Report or a Terrestrial Biodiversity Compliance Statement, depending on the outcome of a site inspection/site sensitivity verification undertaken*".

The site sensitivity verification was conducted on 26 October 2025 and 30 November 2025, and the outcome, as reported in **Section 7** of this report, indicated a **medium sensitivity** towards terrestrial biodiversity and therefore a specialist assessment was compiled and included in this report.

2. TERMS OF REFERENCE

2.1 Site verification

Phase 1

The assessment must provide a baseline description of the site, which includes, as a minimum, the following aspects:

- A description of the ecological drivers or processes of the system and how the proposed development will impact these;
- A description of the ecological infrastructure, functioning, processes, and services (e.g., fire, migration, pollination, etc.) that operate within the preferred site;
- A description of the ecological corridors that the proposed development would impede, including migration and movement of flora and fauna;
- Indicate whether the proposed development will have any impact on biodiversity features.
- An indication and description of any significant terrestrial landscape features, including rare or important flora-faunal associations, presence of strategic water source areas (SWSAs) or freshwater ecosystem priority area (FEPA) sub catchments;
- A description of terrestrial biodiversity and ecosystems on the preferred site, including: main vegetation types;
    - threatened ecosystems, including listed ecosystems as well as locally important habitat types identified;
    - ecological connectivity, habitat fragmentation, ecological processes, and fine-scale habitats; and
    - species, distribution, important habitats (e.g., feeding grounds, nesting sites, etc.), and movement patterns identified;
    - Species of Conservation Concern
- Refer to the allocated sensitivity as per the screening tool, state whether this sensitivity is accurate, and recommend appropriate reclassification if it is not.
- The assessment must identify any alternative development footprints within the preferred site that would be of a "low" sensitivity as identified by the screening tool and verified through the site sensitivity verification.

Phase 2

Based on the results of a site visit, the following aspects are to be identified, discussed, and applied to form the base for assessment:

- Terrestrial Critical Biodiversity Areas (CBAs), including:
    - the reasons why an area has been identified as a CBA;
    - an indication of whether the proposed development is consistent with maintaining the CBA in a natural or near-natural state or in achieving the goal of rehabilitation;
    - percentage of site (erven/farm portions) covered by CBA

  - percentage of CBA (specify degraded/transformed and pristine) lost to proposed development layout alternatives (if layout is available).
  - the impact on species composition and structure of vegetation with an indication of the extent of clearing activities in proportion to the remaining extent of the ecosystem type(s);
  - the impact on ecosystem threat status;
  - the impact on explicit subtypes in the vegetation;
  - the impact on overall species and ecosystem diversity of the site; and
  - the impact of any changes to the threat status of populations of species of conservation concern in the CBA;
  - Inclusion of any necessary buffer areas, including the identification of zones of sensitivity within the CBA that are priority to maintain ecological integrity.
- Terrestrial Ecological Support Areas (ESAs), including:
  - Percentage/quantity of site (erven/farm portions) covered by ESA
  - percentage of ESA lost to development (if layout is available)
  - the impact on the ecological processes that operate within or across the site;
  - the extent the proposed development will impact the functionality of the ESA; and
  - loss of ecological connectivity (on-site, and in relation to the broader landscape) due to the degradation and severing of ecological corridors or introducing barriers that impede the migration and movement of flora and fauna;
  - Inclusion of any necessary buffer areas, including the identification of zones of sensitivity within the ESA that are priority to maintain ecological integrity.
- Protected areas as defined by the National Environmental Management: Protected Areas Act, 2004, including-
  - an opinion on whether the proposed development aligns with the objectives or purpose of the protected area and the zoning as per the protected area management plan;
- Priority areas for protected area expansion, including-
  - the way in which in which the proposed development will compromise or contribute to the expansion of the protected area network;
- SWSAs including:
  - the impact(s) on the terrestrial habitat of a SWSA; and
  - the impacts of the proposed development on the SWSA water quality and quantity (e.g., describing potential increased runoff)
- FEPA sub catchments, including-
  - the impacts of the proposed development on habitat condition and species in the FEPA sub-catchment;
- Indigenous forests, including:
  - impact on the ecological integrity of the forest; and
  - percentage of natural or near-natural indigenous forest area lost and a statement on the implications in relation to the remaining areas.
- Vegetation present onsite, including:
  - percentage of vegetation cover on the proposed site (erven/farm portions)
    - ✓ percentage of indigenous vegetation cover

    - ✓ percentage of alien invasive vegetation cover
  - percentage of vegetation cover to be lost due to development (provision of layouts depending)
    - ✓ percentage of indigenous vegetation lost
    - ✓ percentage of alien invasive vegetation to be cleared
  - visualisation (map/illustration) of alien and indigenous vegetation loci.
- Identification of core ecosystem areas within the proposed site, as well as a description of the Ecosystem services and processes provided.
- An indication and description of any Species of Conservation Concern
  - If search and rescue is recommended, please describe appropriate removal, maintenance, and reinstatement methodology.
- Specify the location of the areas not suitable for development, which are to be avoided during construction and operation (where relevant)
- Determine the need for a Compliance Statement or a Terrestrial Biodiversity Assessment Report, as per point 1: General Information of the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity, it is stated:
  - However, where the information gathered from the site sensitivity verification differs from the designation of "very high" terrestrial biodiversity sensitivity on the screening tool, and it is found to be of a "low" sensitivity, then a Terrestrial Biodiversity Compliance Statement must be submitted.
  - If any part of the proposed development footprint falls within an area of "very high" sensitivity, the assessment and reporting requirements prescribed for the "very high" sensitivity apply to the entire footprint, excluding linear activities for which impacts on terrestrial biodiversity are temporary and the land in the opinion of the terrestrial biodiversity specialist, based on the mitigation and remedial measures, can be returned to the current state within two years of the completion of the construction phase, in which case a compliance statement applies. Development footprint in the context of this protocol means the area on which the proposed development will take place and includes any area that will be disturbed.

2.2 Specialist terrestrial biodiversity assessment

The Terrestrial Biodiversity Specialist Assessment Report must discuss the following aspects:

- A description of the areas not suitable for development, which are to be avoided during construction and operation (where relevant);
- additional environmental impacts expected from the proposed development;
- any direct, indirect, and cumulative impacts of the proposed development;
- the degree to which impacts and risks can be mitigated;
- the degree to which the impacts and risks can be reversed;
- the degree to which the impacts and risks can cause loss of irreplaceable resources;

- proposed impact management actions and impact management outcomes proposed by the specialist for inclusion in the Environmental Management Programme (EMPr);
- how the mitigation hierarchy was applied when determining mitigation measures and recommendations.
- a motivation must be provided if there were development footprints identified as the site verification visit, that were identified as having a "low" terrestrial biodiversity sensitivity and that were not considered appropriate;
- a substantiated statement, based on the findings of the specialist assessment, regarding the acceptability, or not, of the proposed development, if it should receive approval or not; and
- any conditions to which this statement is subjected.
- Identification of any buffer areas.

General

- Reference all sources of information and/or data used.
- Include contact details, relevant experience, CV, and SACNASP registration number.
- A signed statement of independence by the specialist;
- A statement on the duration, date, and season of the site inspection and the relevance of the season to the outcome of the assessment;
- A description of the methodology used to undertake the site survey, prepare the assessment, and verify the sensitivities of the terrestrial biodiversity features on the site, including equipment and modelling used, where relevant.
- The assessment must be undertaken on the preferred site and within the proposed development footprint.
- Where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMPr;
- A description of the limitations, assumptions made, and any uncertainties or gaps in knowledge or data, as well as a statement of the timing and intensity of site inspection observations;
- Any conditions to which the assessment is subjected.
- The specialist and the assessment must comply with the following guidelines and legislation:

2.3. Legal requirements applicable to the specialists conducting assessments

The Environmental Impact Assessment Regulations that were published on 4 December 2014 and amended on 7 April 2017, state that:

(1) an EAP and a specialist, appointed in terms of regulation 12(1) or 12(2), must-

(a) be independent;

(b) have expertise in conducting environmental impact assessments or undertaking specialist work as required, including knowledge of the Act, these Regulations, and any guidelines that have relevance to the proposed activity;

(c) ensure compliance with these Regulations;

(d) perform the work relating to the application objectively, even if this results in views and findings that are not favourable to the application;

(e) take into account, to the extent possible, the matters referred to in regulation 18 when preparing the application and any report, plan, or document relating to the application; and

(f) disclose to the proponent or applicant, registered interested and affected parties and the competent authority all material information in the possession of the EAP and, where applicable, the specialist, that reasonably has or may have the potential of influencing-

(i) any decision to be taken concerning the application by the competent authority in terms of these Regulations; or

(ii) the objectivity of any report, plan or document to be prepared by the EAP or specialist, in terms of these Regulations for submission to the competent authority; unless access to that information is protected by law, in which case it must be indicated that such protected information exists and is only provided to the competent authority.

(2) In the event where the EAP or specialist does not comply with sub-regulation (1)(a), the proponent or applicant must, before conducting public participation as contemplated in chapter 5 of these Regulations, appoint another EAP or specialist to externally review all work undertaken by the EAP or specialist, at the applicant's cost.

(3) An EAP or specialist appointed to externally review the work of an EAP or specialist as contemplated in sub-regulation (2) must comply with sub-regulation (1).

2.4 Report Content Requirements

The following legislation and guideline documents are applicable and were adhered to in compiling this report:

2.4.1 Guidelines documents

a) Department of Environmental Affairs and Development Planning (DEA&DP) Guidelines for Involving Biodiversity Specialists in the EIA Process (Brownlie 2005).

b) Ecosystem Guidelines for Environmental Assessments in the Western Cape (Cadman 2016).

c) The Western Cape Biodiversity Spatial Plan Handbook (Pool-Stanvliet *et al.* 2017)

d) South African National Biodiversity Institute (SANBI), 2020. Species Environmental Assessment Guideline. Guidelines for the implementation of the Terrestrial Fauna and Terrestrial

Flora Species Protocols for environmental impact assessments in South Africa. South African National Biodiversity Institute, Pretoria. Version 3.1. 2022.

2.4.2 Legal documents

a) 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 (Act No. 107 of 1998) ("NEMA"), when applying for Environmental Authorisation" ("the Protocols") (GN No. 320 as published in Government Gazette No. 43110 on 20 March 2020) came into effect on 09 May 2020 the Protocol.

b) Appendix 6 of the 2014 EIA Regulations (National Environmental Management Act, 1998 (Act No. 107 of 1998)

3. LIMITATIONS AND ASSUMPTIONS

The field surveys for this report were conducted on October 26 and November 30, 2025. This is within the optimal time for conducting terrestrial biodiversity assessments, unlike botanical assessments. The size and topography of the property also enabled a thorough assessment over two days. The specialist is confident in the findings of this report.

4. STUDY AREA

4.1 Location

The study area, comprising Portion 1 of Farm 331 and Portion 4 of Farm Rheeboksfontein 142, is situated to the north of Reebok, between the Klein Brak River and Groot Brak River, as illustrated in **Figure 1**.

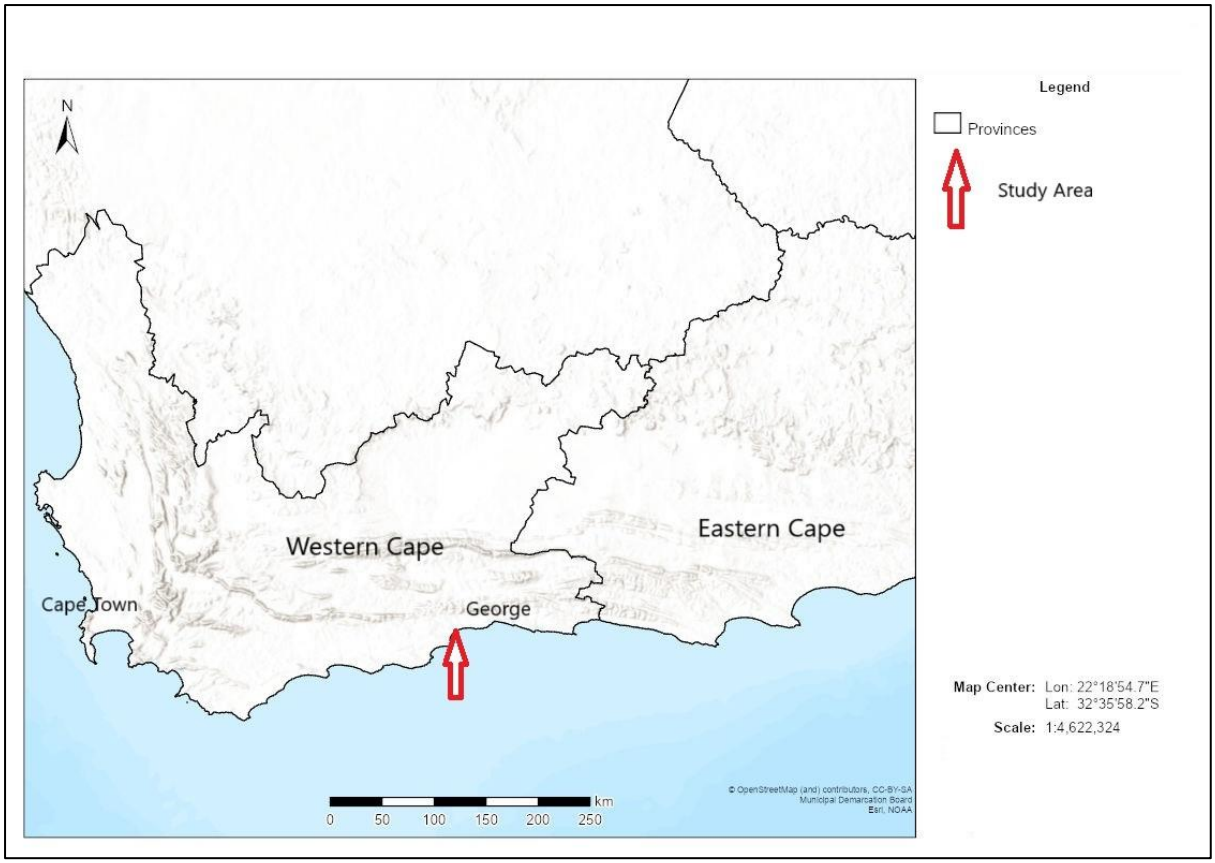

Figure 1. Map showing the location of the study area.

The study area (Portion 1 of farm 331 and Portion 4 of farm Rheeboksfontein 142) covers 15.24 hectares, and the boundary is shown in **Figure 2** below. The linear property is situated between the N2 (National Road) and the R102 (Provincial Road). About 95% of the land is covered by natural vegetation. Transformed areas consist of roads, 4x4 tracks, and stormwater drainage infrastructure.

North of the study area features varied agriculture, including crops, livestock, and horticulture. South of the site is a densely built residential area with a few open spaces containing natural vegetation. **Figure 3** is a photo of the central study area that indicates the natural vegetation and the cultivated agricultural areas north of the property.

Figure 2. Map showing the boundary of the study area north of Reebok

Figure 3: General photo of the property with the agricultural areas in the background

4.2 Proposed Development Footprint (PDI) and Project Area of Influence (PAOI)

The owners intend to develop the property for residential housing. The different categories of development planned for the property are displayed in **Table 1** and **Figure 4**.

Table 1: Proposed development categories for the property

Area and description	**Size in Ha**
General residential erven x 143	4,61
Utility Zones x 3 (pumpstation, electrical sub-station, refuse collection)	0,1
Open space 2	2,06
Open space 3 (conservation)	3,71
Transport zones (roads)	4,76
Total Ha of property/study area	**15,24**

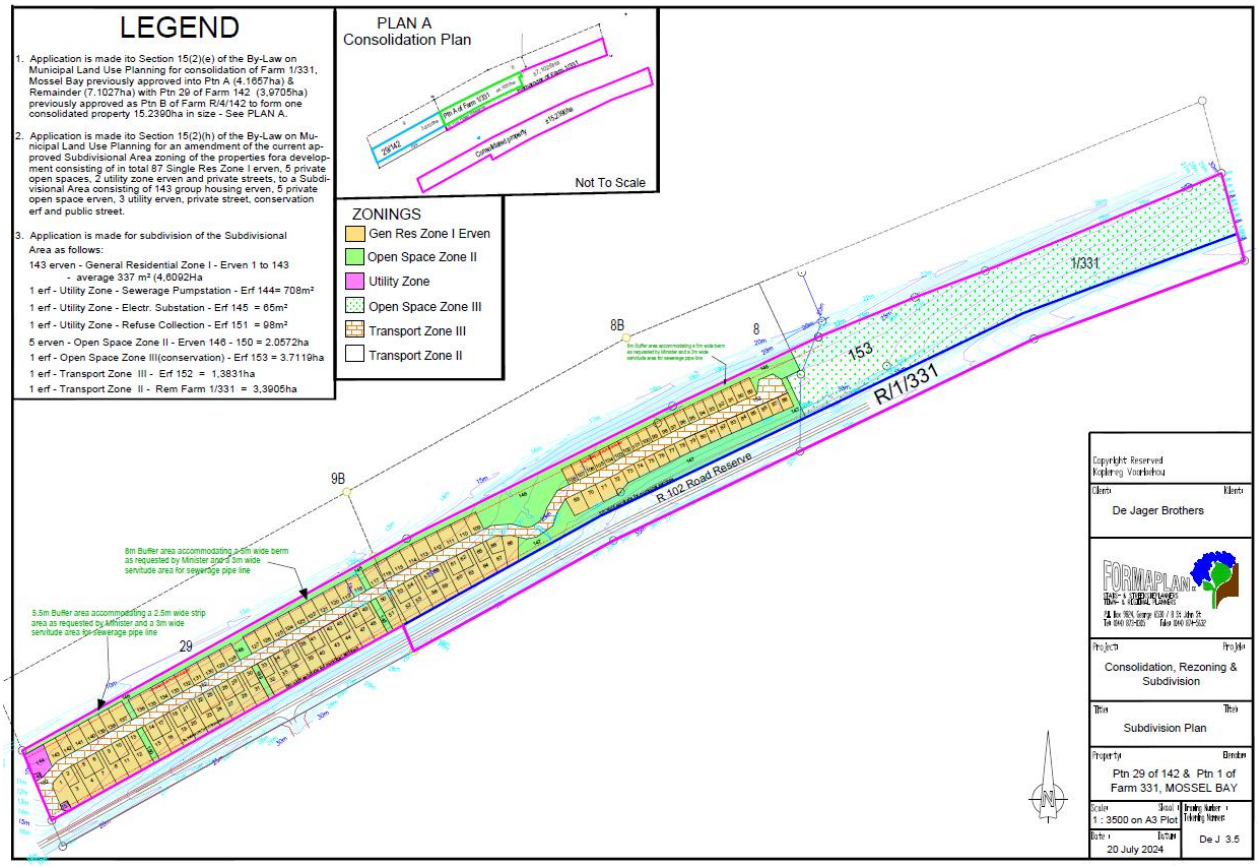

Figure 4: Development plan for the property/study area. (Orange= 143 general residential erven, pink= utility zones, Green= open spaces, White= transport zones)

The development proposal will effectively clear 9,47 ha of natural vegetation if approved.

5. METHODOLOGY

5.1 Desktop assessment

The specialist used various sources of information to assess the terrestrial biodiversity within the study area.

5.1.1 **The Environmental Screening Tool Report**: The environmental screening tool report indicates the sensitivity of the plant theme across the study area, and lists threatened and sensitive plant species that could potentially occur within or near the proposed development footprint.

5.1.2 **CapeFarmMapper 3**: The following spatial data were obtained from CapeFarmMapper 3 (CFM 3). CMF 3 is GIS software provided by the Western Cape Department of Agriculture, available at https://gis.elsenburg.com/apps/cfm/.

- Vegetation units
- Vegetation unit threat status
- Spatial planning data: Critical Biodiversity Areas, Ecological Support Areas.

5.1.3 **iNaturalist**: iNaturalist is a crowdsourced species identification system and an organism occurrence recording tool. Sightings are graded, and only research-grade sighting is used in specialist assessments.

5.1.4 **Google Earth**: Google Earth is a web and computer program created by Google that renders a 3D representation of Earth based primarily on satellite imagery but also on street-level views. This imagery is useful when historical aerial imagery is needed of a proposed development footprint. It also gives a good perspective of the level of transformation before a field assessment is undertaken.

5.1.5 **Other sources of data**: Additional data were collected from a range of pertinent sources, including Mucina & Rutherford (2006), the National Vegetation Map (2018), and relevant biodiversity plans (Pool-Stanvliet 2017, SANBI 2021).

5.2 Field Assessment

The field assessment was undertaken across two days, specifically on October 26 and November 30, 2025. During these assessments, the specialist systematically surveyed the study area by traversing the area in a grid pattern. Data collection was meticulously carried out throughout this process.

Every plant and tree species encountered during the survey was recorded, photographed, and identified on-site wherever possible. In instances where immediate identification was not feasible, specimens were later identified with the assistance of available literature and consultation with taxonomic experts.

6. CLIMATE, TOPOGRAPHY, GEOLOGY, AND SOILS

6.1 Climate

The Mean Annual Precipitation (MAP) for the Reebok area is approximately 450mm, with approximately 40% of the rain falling in summer (October–March) and 60% in winter (April–September). Mean daily maximum and minimum temperatures are 26.8°C and 7.7°C for February and July, respectively (Mucina & Rutherford 2006).

6.2 Topography, geology, and soils

The study area is located inland of the coastal dunes at Reebok. The area is generally flat with a slight north-to-south aspect, as indicated in **Figure 5**. The highest elevation on the property is at 33 metres above sea level (MASL), while the lowest point is at 8 MASL. The study area is covered by deep sand with no exposed bedrock.

Figure 5: Map indicating the aspect and 5 m contours on the study area.

7. RESULTS: DESKTOP ASSESSMENT: TERRESTRIAL BIODIVERSITY

7.1 Environmental Screening Tool Results

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations requires an applicant for an Environmental Authorisation to submit a report generated by the Environmental Screening Tool as part of their application. This tool became operational on 5 July 2019, as announced in the Government Gazette. The screening tool report will identify the environmental sensitivities that intersect with the proposed development footprint, as defined by the applicant, as well as the relevant protocols that the applicant must follow. The screening tool is accessible at https://screening.environment.gov.za. The Environmental Screening Tool Report for the property rated the terrestrial biodiversity theme as **Very High** sensitivity. The image from the Environmental Screening Tool Report is displayed in **Figure 6.**

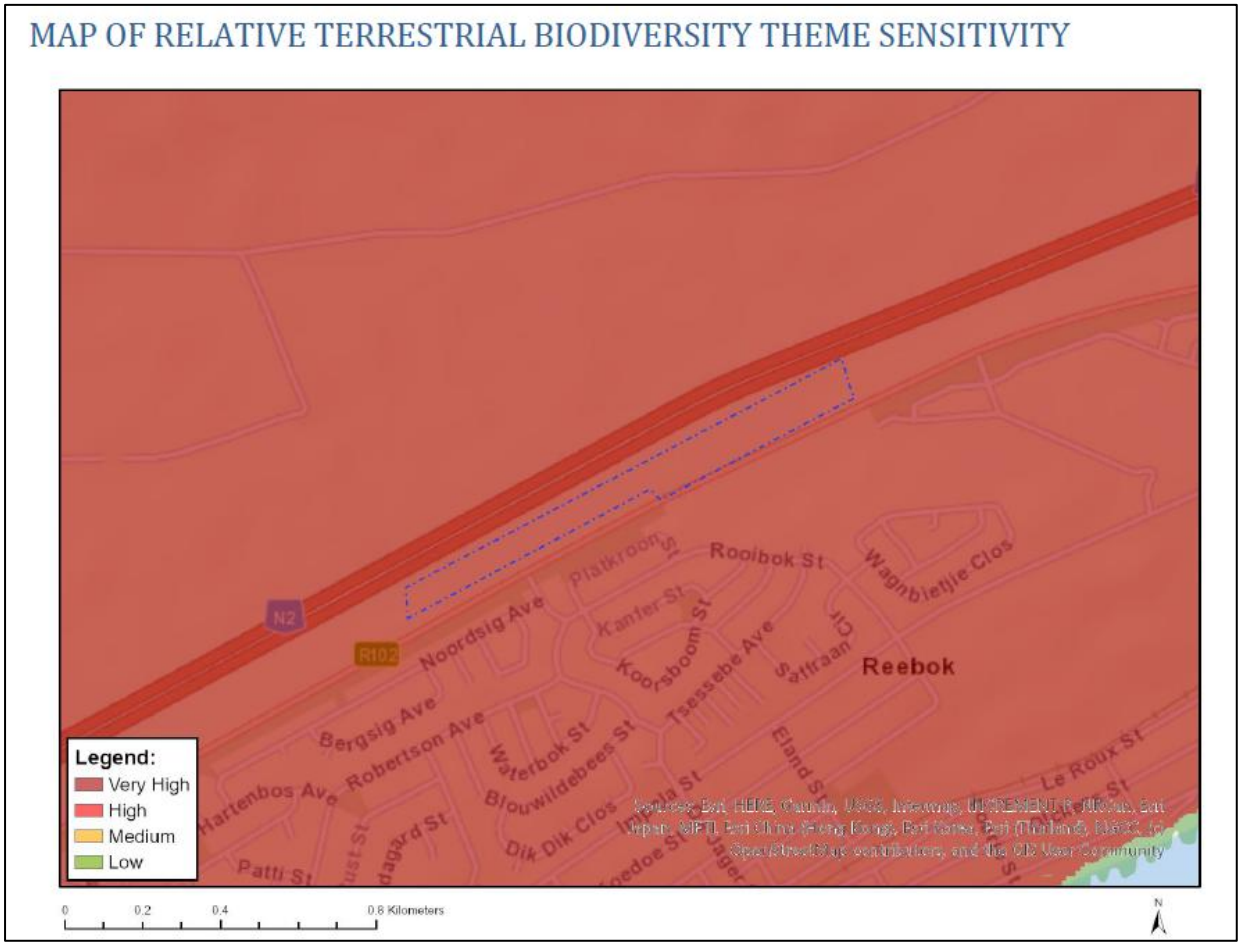

Figure 6: Map indicating the relative terrestrial biodiversity theme sensitivity rating of the property

The Environmental Screening Tool report also lists the features that are responsible for the rating, and these are displayed in **Table 2**. These features and ratings will be reported on in **Section 8** of this report.

Table 2: List of terrestrial biodiversity features and sensitivity ratings for these features

Sensitivity	Feature(s)
Very High	CBA: Terrestrial
Very High	CBA2: Terrestrial
Very High	Hartenbos Dune Thicket (EN)

7.2 Vegetation

The vegetation on the property is classified as **Hartenbos Dune Thicket**, which is a vegetation unit that falls within the Thicket Biome. The Thicket Biome in South Africa, including Hartenbos Dune Thicket, is a dense, often spiny, evergreen shrubland or low forest rich in succulents and trees, thriving in semi-arid Eastern and Western Cape areas, characterized by impenetrable vegetation with high plant and mammal diversity, with Dune Thickets specifically found in coastal sands, like those near Hartenbos, protected within dune slacks.

Hartenbos Dune thicket is a mosaic of low (1-3 meters) thicket and low (1-2 meters) asteraceous fynbos. Thicket clumps typically develop in fire-protected dune slacks (depressions), while the fynbos shrubland occupies the more exposed upper dune slopes and crests. The thicket component is often dense, thorny, and may include evergreen, sclerophyllous, or succulent trees, shrubs, and vines.

Hartenbos Dune Thicket is one of 171 terrestrial ecosystems (vegetation units) in the Western Cape, of which 64 are listed as threatened and 25 as Critically Endangered. Under-protected ecosystems and strategic landscapes: The provincial protection target has only been met for 44 of the 171 ecosystem types in the Western Cape. To meet outstanding targets, over one million hectares across 116 different terrestrial ecosystem types must still be protected (CapeNature 2025).

Hartenbos Dune Thicket is listed as Endangered (EN) and occurs in coastal areas between Stilbaai and Glentana. This vegetation unit has lost approximately 24% of its historical distribution. The vegetation unit is not protected in statutory conservation areas and is threatened by development and invasive alien vegetation. In 1990, 85% of the original extent of this vegetation was still present, and in 2018, this had declined to 79%. The Vegmap 2024 for the property is displayed in **Figure 7**

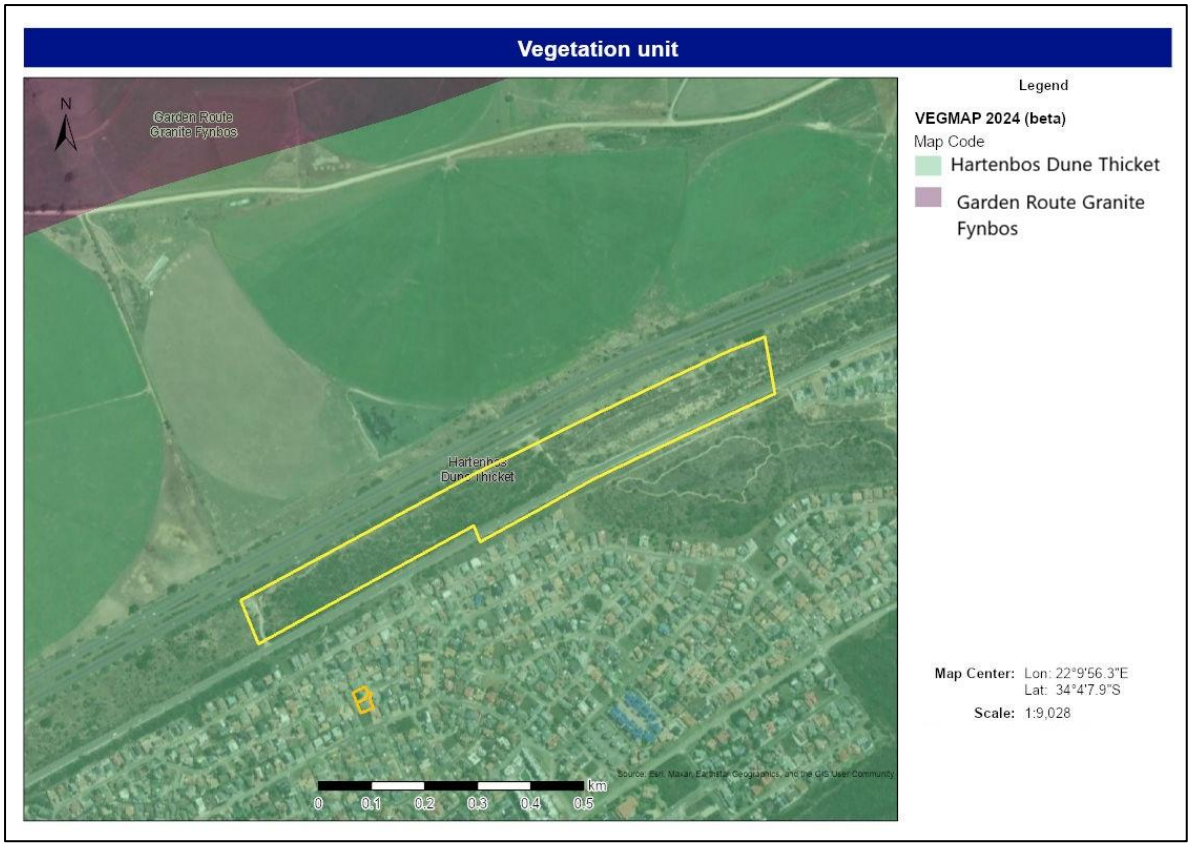

Figure 7: Vegetation unit map for the study area (Vegmap 2024)

7.3 Plant Species of Conservation Concern (SOCC)

Plant Species of Conservation Concern (SOCC) refers to plants that are either threatened or rare and require special management attention within the study area. These species are identified based on their conservation status and their potential vulnerability to habitat loss, disturbance, or other environmental pressures. The presence of SOCC within the property highlights the importance of implementing suitable conservation measures to ensure their long-term survival.

The specialist botanical report for the property (Van der Walt, 2025) recorded three plant SOCC on the property: *Muraltia knysnaensis* EN, *Hermannia lavandulifolia* VU, and *Gnidia chrysophylla* NT.

Figure x: *Muraltia knysnaensis*

7.4 Spatial Planning

7.4.1 Critical Biodiversity Areas and Ecological Support Areas

Critical Biodiversity Areas (CBAs) are regions that must be protected in their natural or near-natural state because they are vital for conserving biodiversity and maintaining ecosystem functions. The spatial planning map for the property (**Figure 9**) shows that about 90% of the property is designated as CBAs. There are two types of CBAs: CBA 1 and CBA 2. CBA 1 mainly consists of pristine vegetation, while CBA 2 indicates some level of vegetation degradation.

No Ecological Support Areas (ESAs) are mapped on the property. ESAs, which are not essential for meeting biodiversity targets but support the functioning of protected areas or critical biodiversity areas, are often important for providing ecosystem services. The 2023 Western Cape Biodiversity Spatial Plan (WC BSP) was officially adopted into law on December 13, 2024 (Gazette Extraordinary 9017), aligning with the Western Cape Biodiversity Act (No. 6 of 2021). This officially replaces the 2017 WC BSP with the 2023 version.

The only areas on the property not mapped as CBAs are roads.

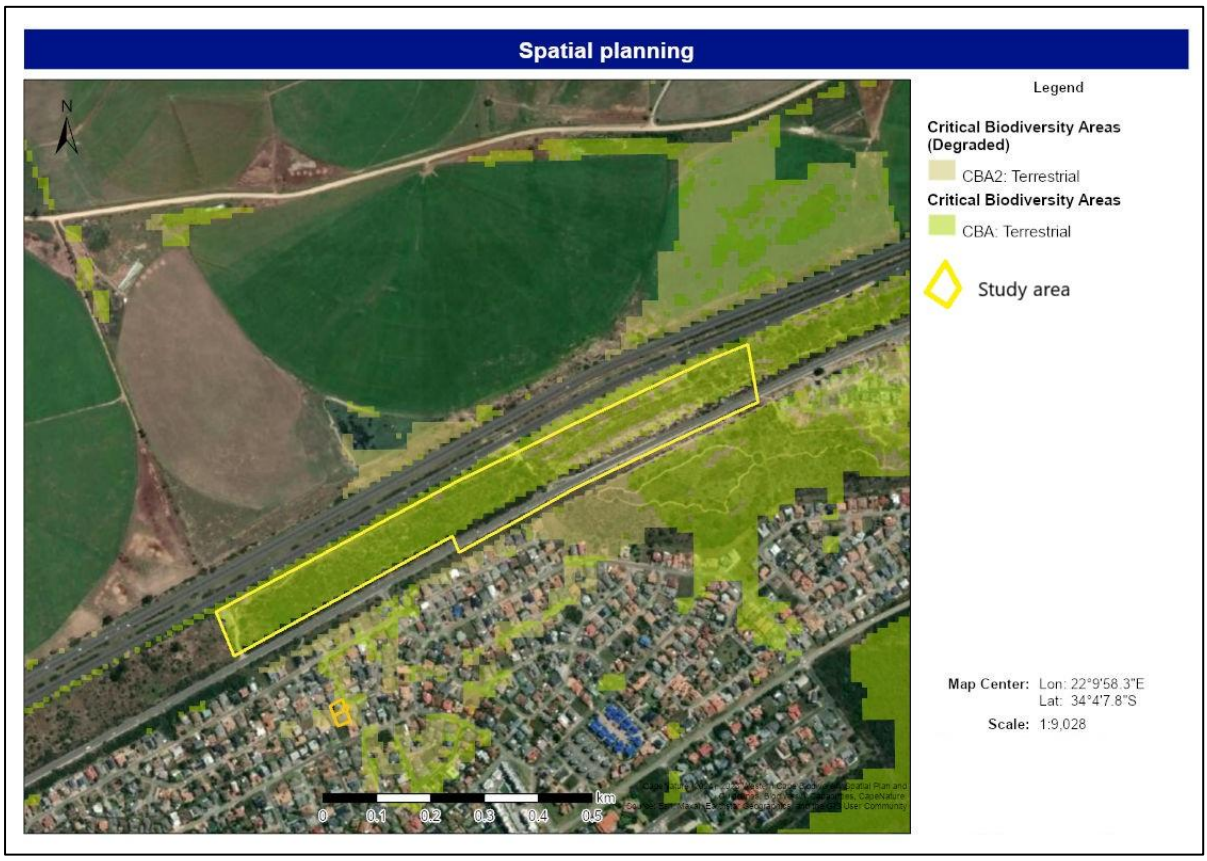

Figure 9: Spatial planning map for the property

7.4.2 Reasons for CBA status on the property

The Biodiversity Spatial Plan (2017) for the Western Cape provides reasons for the inclusion of areas into CBAs. These reasons for the CBAs on the property are summarized in **Table 4**. Most of the natural vegetation on the property (95%) is mapped as CBA 1, while the remaining natural areas are mapped as CBA 2. This is most likely due to the areas degraded by alien vegetation and/or sandmining.

Table 4: Reasons for the inclusion of CBAs on the property

Summary 1:	SA Vegetation Type (2.73), Threatened SA Vegetation Type (0.17), Threatened Vertebrate (7.87)
Feature 1:	Bontebok Extended Distribution Range
Feature 2:	Canca Limestone Fynbos (LT)
Feature 3:	Eastern Fynbos Renosterveld Granite Fynbos Channelled Valley Bottom Wetland
Feature 4:	Groot Brak Dune Strandveld (EN)
Feature 5:	Watercourse protection- Southern Coastal Belt

7.4.3 Special Habitats, Indigenous Forest, Connectivity, and Corridors

The property is isolated between the N2 National Road and the R102 Provincial Road as indicated in **Figure 2**. The only remaining linkage with near-natural vegetation is on the eastern side. The planned Open Space (Conservation) is also on the eastern side of the property, as indicated in **Figure 4.**

7.4.4 Protected Areas

There are no statutorily protected areas near the property, but the property falls within the domain of the Gouritz Cluster Biosphere Reserve as indicated in **Figure 10**.

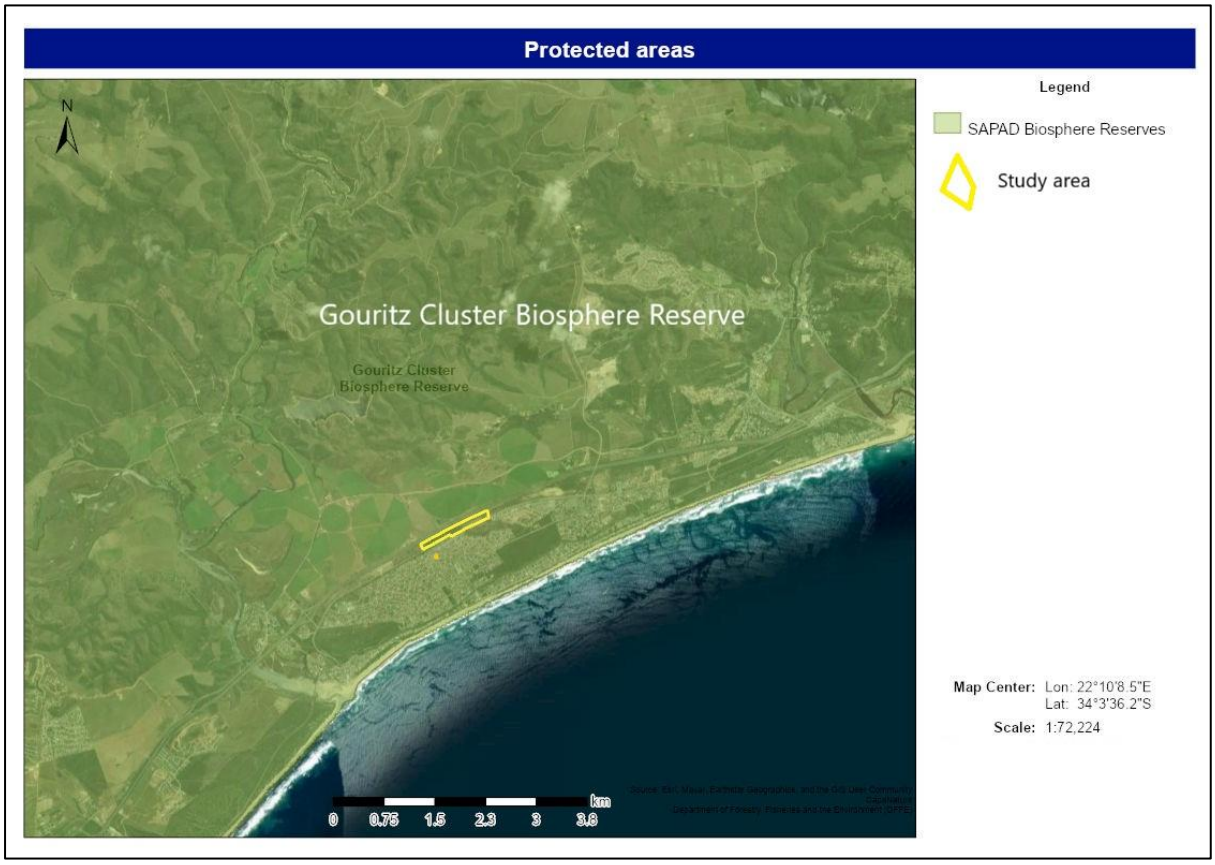

Figure 10: Map indicating the conservation areas closest to the property

7.4.5 Protected Area expansion

The Western Cape provincial conservation target is linked to ecosystems. CapeNature has prioritised specific species/groups to ensure their long-term survival in the wild. The current protected area network is inadequate in meeting their specific spatial requirements: These species/groups are:

- Cape mountain zebra

- Bontebok
- Riverine rabbit
- Geometric tortoise
- African Penguin
- Endemic fish species
- Threatened and unprotected plant species hotspots
- Bird congregation sites
- Endemic butterfly species of conservation concern

8. RESULTS: FIELD ASSESSMENT

The field surveys for this report were conducted on October 26 and November 30, 2025.

8.1 Vegetation

The specialist confirmed the presence of natural vegetation on the property. Although the vegetation is mapped as **Hartenbos Dune Thicket** as described by Grobler et al. (2018), it also contains elements of other vegetation units. The specialist observed historical disturbances on the property, including 4x4 tracks (**Figure 11**), stormwater control management (**Figure 12A & 12B**), and alien vegetation (**Figure 13**). Most of the vegetation on the property is not in a pristine condition.

Figure 11: Evidence of sand mining and off-road tracks on the property

Figure: 12A: Flood damage repairs

Figure 12B: Stormwater management structures across the central area of the property

Figure 13: Areas with signs of historical alien vegetation clearing

8.2 Critical Biodiversity Areas and Ecological Support Areas

The specialist confirmed the presence of Hartenbos Dune Thicket on the property, and this is one of the reasons the property is mapped as CBA 1 and CBA 2. The specialist also confirmed that the CBA 2 areas were degraded through historical sandmining, 4x4 roads, and invasive *Acacia cyclops* vegetation. Extreme flooding events in recent years were also responsible for the degradation of a section of the property, and this area was recently repaired by the Mossel Bay Municipality. All the reasons for the CBA status on the property are provided in **Table 4**. Most of the natural vegetation on the property (95%) is mapped as CBA 1, while the remaining natural areas are mapped as CBA 2. This is most likely due to areas degraded by alien vegetation and/or sandmining.

Table 4: Reasons for the inclusion of CBAs on the property

Feature	Reason for inclusion of CBAs on the property (Vegmap 2017)	Comment by the specialist
Feature 1:	Bontebok Extended Distribution Range	The property does not contain Bontebok habitat, and the size and location are not suitable for game
Feature 2:	Canca Limestone Fynbos (LT)	On the new Vegmap (2023) the vegetation is classified as Hartenbos Dune Thicket (EN), although this vegetation unit would not have been present on the property.
Feature 3:	Eastern Fynbos Renosterveld Granite Fynbos Channelled Valley Bottom Wetland	On the new Vegmap (2023), the vegetation is classified as Hartenbos Dune Thicket (EN), although this vegetation unit would not have been present on the property.
Feature 4:	Groot Brak Dune Strandveld (EN)	Elements of this vegetation unit are present on the property
Feature 5:	Watercourse protection- Southern Coastal Belt	Two stormwater drainage pipes cross the property, diverting stormwater from the Reebok urban area to the low-lying areas north of the property. The property itself has deep sand with no wetlands or watercourses.

The environmental screening tool report also listed features for the very high sensitivity rating for the terrestrial biodiversity theme. These features are listed in **Table 5** with comments from the specialist.

Table 5: Features and sensitivity ratings from the Environmental Screening Tool Report with comments from the specialist

Sensitivity	Feature(s)	Comment from specialist
Very High	CBA: Terrestrial	Vegetation degraded and isolated by developments (roads, agriculture, housing, alien vegetation)
Very High	CBA2: Terrestrial	Vegetation degraded and isolated by developments (roads, agriculture, housing, alien vegetation)
Very High	Hartenbos Dune Thicket (EN)	Vegetation degraded and isolated by developments (roads, agriculture, housing, alien vegetation)

8.3 Special Habitats, Indigenous Forest, Connectivity, and Corridors

The property contains no special habitat listed in an official state document. *Sideroxylon inerme* and Pittosporum *viridiflorum* are listed as protected tree species under the National Forests Act (Act 84 of 1998). There are a few of both species on the property that would be impacted by the proposed development.

8.4 Alien invasive vegetation

The property is mostly free of alien vegetation with low densities in a few areas. There is also evidence of historical *Acacia cyclops* clearing across the property, as can be seen in **Figure 15.** A full list of the alien vegetation recorded during the field surveys is contained in **Appendix A**.

Figure 15: Evidence of *Acacia cyclops* (Rooikrans) clearing on the property.

8.5 Protected Area expansion

The property is not earmarked for protected area expansion by CapeNature, the provincial conservation authority in the Western Cape. Their protected area expansion map (CapeNature 2025) for the greater area is displayed in **Figure 16**.

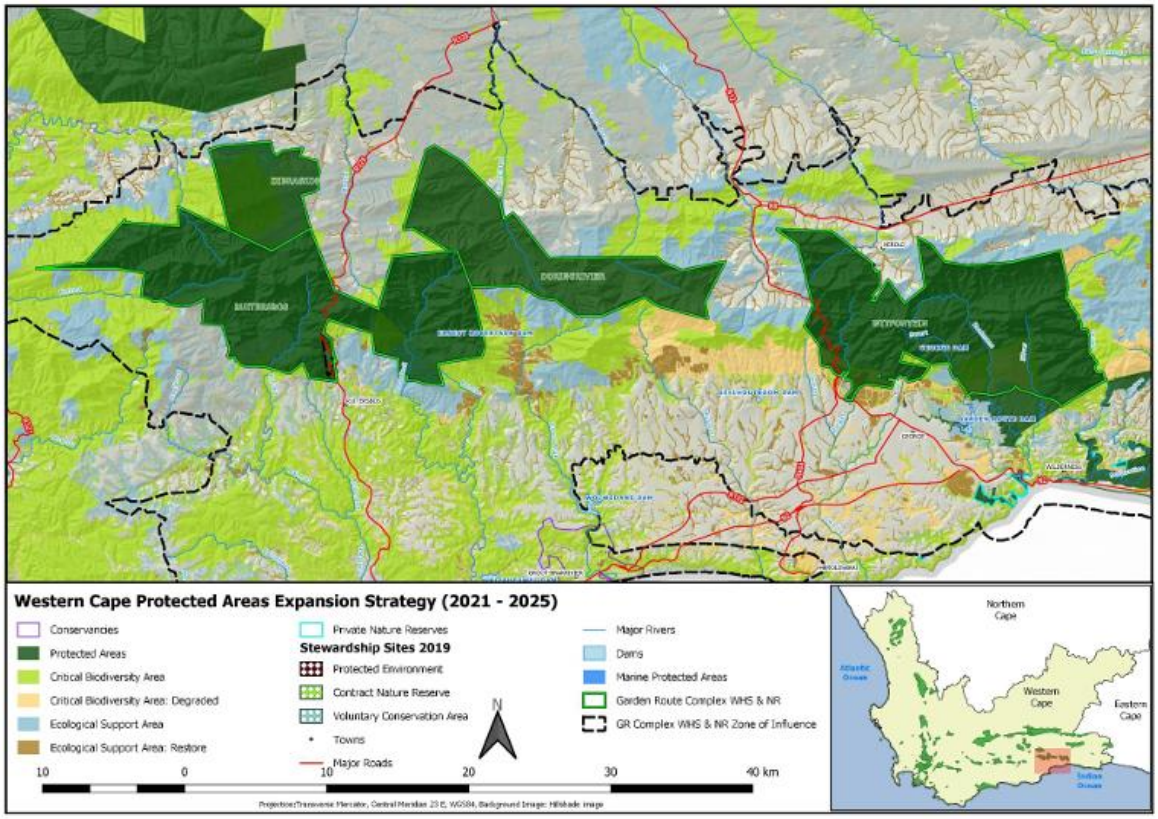

Figure 16: Map showing CapeNature's protected area expansion strategy for the greater George area.

8.6 Terrestrial biodiversity sensitivity of the property

The specialist rates the sensitivity in terms of the terrestrial biodiversity theme as medium. Although the vegetation unit has an endangered conservation status, the property is isolated between major roads, agricultural development, and urban environments (Reebok). The vegetation on the property is also degraded due to invasive alien vegetation, historical sandmining, and 4x4 vehicle tracks. A representative section of the property will be protected in the proposed open space.

9. IDENTIFICATION AND RATING OF BOTANICAL IMPACTS DUE TO THE PROPOSED NEW DEVELOPMENT

9.1 The impact on plant Species of Conservation Concern on 9,47 ha earmarked for development.

9.1.1 Direct

Direct impacts are those that occurred as a direct result of the construction and operational activities of the clearing of the vegetation.

9.1 .1A. Loss of 9,47 ha of a threatened habitat (Hartenbos Dune Thicket EN)

9.1.1B. Loss of 9,47 ha of Critical Biodiversity Area

These two impacts are rated in **Tables 6** and **7**

9.1.2 Indirect / Long-term

Trampling of vegetation in proposed open spaces

Alien vegetation degrades proposed open spaces

9.1.3 Cumulative impacts

No cumulative impacts are expected.

9.1.4 Residual impacts (impacts that remain following the implementation of mitigation measures).

No residual impacts are expected after the implementation of the proposed mitigation measures. The botanical impact tables for the property are contained in **Section 9.3.**

9.2 Rating the impacts (Methodology)

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

The assessment criteria utilised in this report are based on and adapted from the Guideline on Impact Significance, Integrated Environmental Management Information Series 5 (Department of Environmental Affairs and Tourism (DEAT), 2002) and the Guideline 5: Assessment of

Alternatives and Impacts in Support of the Environmental Impact Assessment Regulations (DEAT, 2006).

Determination of Extent (Scale):

Site specific	On site or within 100 m of the site boundary, but not beyond the property boundaries.
Local	The impacted area includes the whole or a measurable portion of the site and property, but could affect the area surrounding the development, including the neighboring properties and wider municipal area.
Regional	The impact would affect the broader region (e.g., neighboring towns) beyond the boundaries of the adjacent properties.
National	The impact would affect the whole country (if applicable).

Determination of Duration:

Temporary	The impact will be limited to the construction phase.
Short term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than 8 months after the completion of the construction phase.
Medium term	The impact will last up to the end of the construction phase, where after it will be entirely negated in a period shorter than 3 years after the completion of construction activities.
Long term	The impact will continue for the entire operational lifetime of the development but will be mitigated by direct human action or by natural processes thereafter.
Permanent	This is the only class of impact that will be non-transitory. Such impacts are regarded to be irreversible, irrespective of what mitigation is applied.

Determination of Probability:

Improbable	The possibility of the impact occurring is very low, due to either the circumstances, design, or experience.
Probable	There is a possibility that the impact will occur to the extent that provisions must therefore be made.
Highly probable	It is most likely that the impacts will occur at some stage of development. Plans must be drawn up to mitigate the activity before the activity commences.
Definite	The impact will take place regardless of any prevention plans.

Determination of Significance (without mitigation):

No significance	The impact is not substantial and does not require any mitigation action.
Low	The impact is of little importance but may require limited mitigation.
Medium	The impact is of sufficient importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
Medium-High	The impact is of high importance and is therefore considered to have a negative impact. Mitigation is required to manage the negative impacts to acceptable levels.
High	The impact is of great importance. Failure to mitigate, to reduce the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.
Very High	The impact is critical. Mitigation measures cannot reduce the impact to acceptable levels. As such the impact renders the proposal unacceptable.

Determination of Significance (with mitigation):

No significance	The impact will be mitigated to the point where it is regarded to be insubstantial.
Low	The impact will be mitigated to the point where it is of limited importance.
Medium	Notwithstanding the successful implementation of the mitigation measures, the impact will remain of significance. However, taken within the overall context of the project, such a persistent impact does not constitute a fatal flaw.
High	Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and taken within the overall context of the project, is a fatal flaw in the project proposal.

Determination of Reversibility:

Completely Reversible	The impact is reversible with implementation of minor mitigation measures
Partly Reversible	The impact is partly reversible but more intense mitigation measures

Barely Reversible	The impact is unlikely to be reversed even with intense mitigation measures
Irreversible	The impact is irreversible, and no mitigation measures exist

Determination of Degree to which an Impact can be Mitigated:

Can be mitigated	The impact is reversible with implementation of minor mitigation measures
Can be partly mitigated	The impact is partly reversible but more intense mitigation measures
Can be barely mitigated	The impact is unlikely to be reversed even with intense mitigation measures
Not able to mitigate	The impact is irreversible, and no mitigation measures exist

Determination of Loss of Resources:

No loss of resource	The impact will not result in the loss of any resources
Marginal loss of resource	The impact will result in marginal loss of resources
Significant loss of resources	The impact will result in significant loss of resources
Complete loss of resources	The impact will result in a complete loss of all resources

Determination of Cumulative Impact:

Negligible	The impact would result in negligible to no cumulative effects
Low	The impact would result in insignificant cumulative effects
Medium	The impact would result in minor cumulative effects
High	The impact would result in significant cumulative effects

Determination of Consequence significance:

Negligible	The impact would result in negligible to no consequences
Low	The impact would result in insignificant consequences
Medium	The impact would result in minor consequences
High	The impact would result in significant consequences

9.3 Rating the impacts (Table)

Table 6: Impact table for the loss of 9,47 ha of a threatened ecosystem

Alternative:	Alternative A (Option 1) **Clearing of 9,47 ha of vegetation**	Alternative B (Option 2) **No development**
Potential impact and risk:	Loss of 9,47 ha of a threatened ecosystem	No operational impact
Nature of impact:	Permanent loss of 9,47 ha of Hartenbos Dune Thicket (EN)	No impact
Extent and duration of impact:	Permanent	No impact
Consequence of impact or risk:	Medium	No impact
Probability of occurrence:	Definite	Probable
The degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource	No loss
Degree to which the impact can be reversed:	Irreversible	No need to reverse
Indirect impacts:	Marginal loss of an ecological corridor	SOCC could be lost if alien vegetation is not managed
Cumulative impact prior to mitigation:	Medium	Low
Significance rating of impact before mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low
Degree to which the impact can be avoided:	Low	High
Degree to which the impact can be managed:	Low	High
Degree to which the impact can be mitigated:	Low	High
Proposed mitigation:	1) Removal of alien invasive vegetation in planned open spaces 2) Access control to open spaces (demarcated paths)	1) Total removal of alien invasive vegetation on the property
Residual impacts:	None	None
Cumulative impact post mitigation:	Low	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-low	Low

Table 7: Impact table for the loss of 9,47 ha Critical Biodiversity Area

Alternative:	Alternative A (Option 1) **Clearing of 9,47 ha of vegetation**	Alternative B (Option 2) **No development**
Potential impact and risk:	Loss of 9,47 ha CBA	No operational impact
Nature of impact:	Permanent loss of 9,47 ha of CBA	No impact
Extent and duration of impact:	Permanent	No impact
Consequence of impact or risk:	Medium	No impact
Probability of occurrence:	Definite	Probable
The degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource	No loss
Degree to which the impact can be reversed:	Irreversible	No need to reverse
Indirect impacts:	Marginal loss of an ecological corridor	SOCC could be lost if alien vegetation is not managed
Cumulative impact prior to mitigation:	Medium	Low
Significance rating of impact before mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low
Degree to which the impact can be avoided:	Low	Low
Degree to which the impact can be managed:	Low	High
Degree to which the impact can be mitigated:	Low	High
Proposed mitigation:	1) Removal of alien invasive vegetation in planned open spaces 2) Access control to open spaces (demarcated paths)	1) Total removal of alien invasive vegetation on the property
Residual impacts:	None	None
Cumulative impact post mitigation:	Low	Low
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-low	Low

10. CONCLUSIONS

The specialist does not agree with the very high rating assigned for the terrestrial biodiversity theme in the Environmental Screening Tool report. The specialist rates the terrestrial biodiversity theme for the property as medium due to the following factors:

1. Isolated and degraded nature of the vegetation.

2. Low number of SOCC

3. Further degradation potential of the property due to alien vegetation and access control.

4. Unsuitability of the property for protected area expansion.

The specialist is not opposed to the proposed development from a terrestrial biodiversity perspective if all the mitigation measures are implemented. A control plan for alien vegetation in the proposed open spaces should be part of the EMPr.

11. PROPOSED IMPACT MANAGEMENT OUTCOMES OR ANY MONITORING REQUIREMENTS FOR INCLUSION IN THE ENVIRONMENTAL MANAGEMENT PROGRAM.

- Alien vegetation control plan that should be compiled by an experienced specialist and incorporated into the EMPr
- The proposed Open Space (Conservation area) should have access control (fencing) to prevent trampling of plant SOCC

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