

TERRESTRIAL BIODIVERSITY ASSESSMENT

THE PROPOSED STOMPNEUS BAY INTEGRATED RESIDENTIAL DEVELOPMENT
PROGRAMME (“IRDP”) HOUSING DEVELOPMENT AND ASSOCIATED
INFRASTRUCTURE OF APPROXIMATELY 5.9HA ON PORTION 4 OF FARM DUYKER
EILAND NO. 6, ST. HELENA BAY.



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AUGUST 2026

EXECUTIVE SUMMARY.

Based on the floristic composition of the site presented, it is confirmed that the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. The site survey was conducted in spring and no botanical species of conservation concern were observed. This is confirmation on why the WCSBP (2023) did not map almost the whole area as CBA. Of the mapped CBA area, approximately 800m² consist of degraded vegetation that does not represent Saldanha Granite Strandveld Vegetation structure and the rest are disturbed areas. The CBA is contested, in which regard we wish to note that in certain cases, very small fragments of CBA are often outliers from the process of developing the BSP and can be considered as errors which is clear on this site mapped CBA. Most of the mapped CBA area is also existing cleared and residential erven which further strengthen this conclusion. The rest of the development area was correctly mapped as no CBA or ESA. None of the species listed in the Screening Tool Report were recorded on site.

Biodiversity Spatial Plan (BSP) Reasons recorded SA Vegetation Type (0.57), Threatened SA Vegetation Type (0.11), Threatened Vertebrate (0.92), Water resource protection (0.08), Bontebok Extended Distribution Range, Saldanha Granite Strandveld (CN) and Watercourse protection - South Western Coastal Belt. The proposed development will not impact on the BSP reasons because the floristic composition of the site presented on the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. Threatened Vertebrate were also not recorded on site nor is their preferred habitat on site or in close proximity to the site. Nor does the site or bigger area be part of any bontebok herds and therefore the Bontebok Extended Distribution Range is not affected or impacted. No water courses of freshwater ecological features were mapped on site, or in close proximity or its regulated zones and therefore the Watercourse protection - South Western Coastal Belt is not affected or impacted.

The assess Site Ecological Importance is **very low**, which is confirmed by the fact that the area was not mapped CBA or ESA, except for the small incorrectly mapped area and therefore below the threshold requiring a biodiversity offset.

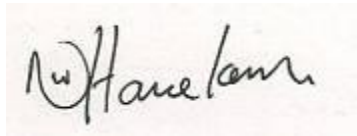
No animal species of conservation concern were recorded nor is their preferred habitat present on site. The animal species listed in the environmental screen tool report was not observed or recorded on site and will also not be impacted on. One habitat type was identified, namely previously ploughed areas representing disturbed low lying Saldanha Granite Strandveld. The site is currently characterised by highly degraded habitat conditions, low plant species diversity. *C. maurus* is strongly associated with fynbos ecosystems, particularly for breeding, and typically requires large, contiguous patches of high-quality habitat (Simmons and Curtis-Scott, 2025). SCC-specific buffers were considered, but no SCC breeding sites, roosting sites, confirmed populations or other buffer-triggering features were recorded within the development footprint or PAOI. No SCC-specific buffers are required. No SCC breeding sites, roosting sites, confirmed populations or key habitat features were recorded, and that the degraded condition of the site limits its importance for SCC.

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I **Nicolaas Willem Hanekom**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.



Nicolaas Hanekom
Pri.Sci.Nat (Ecology) 004415

17 AUGUST 2026

Signature of the EAP/ Specialist:

Date:

Enviro-EAP (Pty) Ltd

Name of company (if applicable):

COMPLIANCE WITH THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS SCREENING TOOL (GOVERNMENT NOTICE NO. 320, GOVERNMENT GAZETTE 43110: 20 MARCH 2020)

Department of Environmental Affairs screening Tool (Government Notice No. 320, GOVERNMENT GAZETTE 43110: 20 MARCH 2020)	ADDRESSED IN SPECIALIST REPORT
Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae	Page 1
A signed statement of independence by the specialist	Page 2 of report
Duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment	Section 1.8
A description of the methodology used to undertake the impact assessment and site inspection, including equipment and modelling used where relevant	Section 1.5
A description of the 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	Section 1.6
Areas not suitable for development, to be avoided during construction and operation (where relevant)	Section 5
Additional environmental impacts expected from the proposed development based on those already evident on the site and a discussion on the cumulative impacts	Section 6
Impact management actions and impact management outcomes proposed by the specialist for inclusion in the EMPr	Section 6
A motivation where the development footprint identified as per section 2.3 in this Table were not considered stating reasons why these were not being considered	Section 1 and 7
A reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, and any conditions to which the statement is subjected	Section 7

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1. INTRODUCTION AND METHODOLOGY

The Department of Environmental Affairs screening report from the national web based environmental screening tool reported a “Very High sensitivity for terrestrial biodiversity” sensitivity due to the presence of **Saldanha Granite Strandveld and a small area mapped as a terrestrial CBA**, which has a critically ecosystem status¹. The site sensitivity verification and the specialist assessment does not agree with the designation of “very high” terrestrial biodiversity designation in terms of the national web based environmental screening tool, but CapeNature requested and impact assessment and therefore a terrestrial biodiversity impact assessment was conducted to replace the compliance statement.

1.1. Background & Competency

Nicolaas Hanekom is a registered Professional Natural Scientist in the ecological science field with the South African Council for Natural Scientific Professions (“SACNASP”), (Ecology field) and a qualified registered Environmental Assessment Practitioner (“EAP”) who holds a Masters Technologiae, Nature Conservation (“Vegetation Ecology and Biodiversity Assessment”) degree from the Cape Peninsula University of Technology (Refer to Appendix A, CV). Nicolaas Hanekom is suitably qualified SACNASP registered specialist.

1.2. Conditions Relating to this Report

The findings, results, observations, conclusions and recommendations given in this report are based on the author’s best scientific and professional knowledge as well as available information and knowledge of the area. Nicolaas Hanekom reserves the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research or further work in this field, pertaining to this assessment.

This report may not be altered or added to without the prior written consent of the author. This restraint also refers to electronic copies of this report which are supplied as sub portion of other reports, including main reports. Similarly, any recommendations, statements, or conclusions drawn from or based on this report must specifically refer to this report. If such comments form part of a main report for this investigation, the report must be included in its entirety as an appendix or separate section to the main report.

1.3. Scope and Objectives

The assessments entailed both a literature review of the region, as well as on site evaluations, during which specific primary data will be collected and evaluated. In addition, the identification of key ecological features will be undertaken allowing for the interpretation of the prevailing habitat form and associated processes.

¹ The revised national list of ecosystems that are threatened and in need of protection, National Environmental Management: Biodiversity Act (Act 10 of 2004) dated 18 November 2022.

All data collected in the field and during the literature review will be evaluated and interpreted in order to provide an understanding of the nature of the prevailing environment at a landscape and habitat level. In addition, specific evaluation of data relating to habitat form and structure will be undertaken, aiding in the identification of bio-physical anomalies within the prevailing environment. Such variance may be considered to be indicative of differing habitat forms, which under consideration, may be of higher order ecological value in relation of the prevailing environment. The protocol² provides the criteria for the reporting of requirements for the assessment and reporting of impacts on terrestrial biodiversity for activities requiring environmental authorisation.

General Information

An applicant intending to undertake an activity identified in the Scope of this Protocol, on a site identified as being of “very high sensitivity” for terrestrial biodiversity on the national web based environmental screening tool must submit a Terrestrial Biodiversity Impact Assessment Report. However, where the information gathered from the Initial Site Sensitivity Verification and the specialist assessment differs from the designation of “very high” terrestrial biodiversity sensitivity from the national web based environmental screening tool and it is found to be of a “low” sensitivity, then a terrestrial biodiversity impact assessment is not required. Should this apply, a Terrestrial Biodiversity Compliance Statement is to be provided.

1.4. Methodology Terms of Reference

The assessment must be undertaken by a suitably qualified and SACNASP registered specialist, within the preferred development site and on the preferred development footprint. The description of the preferred site must include the following aspects, as a minimum and must be considered in the baseline description:

- A description of the ecological drivers/processes of the system and how the proposed development will impact these;
- Ecological functioning and ecological processes (e.g. fire, migration, pollination, etc.) that operate within the proposed development site;
- The ecological corridors that the development would impede including migration and movement of flora and fauna;
- The description of any significant landscape features (including rare or important flora/faunal associations, presence of Strategic Water Source Areas (SWSAs) or Freshwater Ecosystem Priority Areas (FEPA) sub-catchments;
- The description of the terrestrial biodiversity and ecosystems on the proposed development site must include:
 - Main vegetation types;
 - Threatened ecosystems, including Listed Ecosystems as well as locally important habitat types identified;

² Published in Government Notice No. 320 GOVERNMENT GAZETTE 43110 20 MARCH 2020. This gazette is also available free online at www.gpwonline.co.za

- 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.

The assessment must identify any alternative development footprints within the preferred development site which would be of a “low” sensitivity as identified by the national web based environmental screening tool and verified through the Initial Site Sensitivity Verification. The Terrestrial Biodiversity Impact Assessment must be based on the results of a site inspection undertaken on the preferred development site and must identify:

The assessment report must describe Terrestrial Critical Biodiversity Areas (CBAs), including:

- The reasons why an area has been identified as a CBA;
- An indication of whether or not the development is consistent with maintaining the CBA in a natural or near natural state or in achieving the goal of rehabilitation;
- The impact on species composition and structure of vegetation with an indication of the extent of clearing activities;
- 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 on populations of species of special concern in the CBA.

The assessment report must describe Terrestrial Ecological Support Areas, including:

- The impact on the ecological processes that operate within or across the site;
- The extent the development will impact on 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 migration and movement of flora and fauna.

The assessment report must describe 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/purpose of the Protected Area and the zoning as per the Protected Area Management Plan.

The assessment report must describe Priority Areas for Protected Area Expansion, including the way in which the development will compromise or contribute to the expansion of the protected area network.

The assessment report must describe Strategic Water Source Areas (SWSA) including:

- The impact(s) on the terrestrial habitat of a Strategic Water Source Area, and
- The impacts of the development on the SWSA water quality and quantity (e.g. describing potential increased runoff leading to increased sediment load in water courses).

The assessment report must describe Freshwater Ecosystem Priority Area (FEPA) sub catchments, including the impacts of the development on habitat condition and/or species in the FEPA sub catchment, including National wetland map 5.

The assessment report must describe Indigenous Forests, including:

- Impact on the ecological integrity of the forest;
- Extent of natural or near natural indigenous forest area lost.

The findings of the Terrestrial Biodiversity Impact Assessment must be written up in a Terrestrial Biodiversity Impact Assessment Report. This report must include as a minimum the following information:

- Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae;
- A signed statement of independence by the specialist;
- 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 impact assessment and site inspection, including equipment and modelling used where relevant;
- A description of the 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;
- Areas not suitable for development, to be avoided during construction and operation (where relevant);
- Additional environmental impacts expected from the proposed development based on those already evident on the site and a discussion on the cumulative impacts;
- Impact management actions and impact management outcomes proposed by the specialist for inclusion in the EMPr;
- A motivation why any alternative development footprints within the preferred development site which would be of a “low” sensitivity as identified by the national web based environmental screening tool were not considered stating reasons why these were not being not considered; and
- A reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, and any conditions to which the statement is subjected.

1.5. Approach and Methodology

A literature review and desktop analysis were undertaken prior to the field investigation, utilizing various sources including the South African National Biodiversity Institute (SANBI) data and other relevant sources. Recent and historical aerial imagery of the site was reviewed in order to identify points for investigation during the field survey. Utilising the above information, a field investigation was undertaken whereby:

- an evaluation of species present within transects established across the selected site.
- Species were identified and collated.

As explained below, the ideal period for the assessment of habitat within this region is between August and end October months. The site survey was conducted on 17 September 2024, which is within the flower peak season and an optimal time.

All data was collated and subjected to evaluation using methods in order to:

- Give consideration to the overall structure of habitat within the subject site.

- Identify any habitat anomalies that may be identified in such analysis.
- Allow for the interpretation of such data in order to prioritise and evaluate habitat form and structure within the study area.

1.6. Assumptions and limitations

The assessment was undertaken using sampling methods appropriate to the protocols, terms of reference and methodologies described above. The timing of the survey is therefore regarded as optimal in terms of accurately assessing the flora and fauna of the site. The overall condition of the vegetation was determined with a high degree of confidence. An accurate idea of the priority conservation areas, animals and botanical species was gained and confidence in the accuracy of the findings is high. The overall confidence in the completeness and accuracy of the terrestrial biodiversity findings at this point in time is considered to be good. A follow-up survey is not considered essential for decision-making.

1.7. Source of Information

This assessment was undertaken utilising:

- Aerial imagery sourced from Google Earth.
- Wetland and riparian habitat Geographic Information System (GIS) data sourced from the National Freshwater Ecological Priority Area Programme of South African National Biodiversity Institute (SANBI);
- SANBI veld types data; and
- Literature as referenced

CapeNature recommended that all biodiversity specialists providing EIA related reports for review make use of the important sources below:

- Notice of the requirement to submit a report generated by the national web based environmental screening tool in terms of section 24(5)(h) of the National Environmental Management Act, 1998 (Act no. 107 of 1998) and regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations, 2014, as amended (Notice no. 961, Government Gazette no. 42561, 05 July 2019).
- 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 (Notice no. 320, Government Gazette no. 43110, 20 March 2020).
- 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 (Notice no. 1150, Government Gazette no. 43855, 30 October 2020).
- Amendment to the protocols for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial animal and plant species in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998 (Notice no. 3717, Government Gazette no. 49028, 28 July 2023).

- The Western Cape Biodiversity Spatial Plan including supplementary resources³.
- 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. (The latest version should be used).
- Holmes, P.M., Esler, K.J., Geerts, S., Ngwenya, D.K., Rebelo, A.G., Dorse, C., van der Merwe, J.R., Jacobus H., Stuart A., Grey, P. 2022. Guidelines for restoring Lowland Sand Fynbos ecosystems. Stellenbosch: Stellenbosch University, Department of Conservation Ecology and Entomology⁴.
- De Villiers C.C., Driver A., Clark B., Euston-Brown D.I.W., Day E.G., Job N., Helme N.A., Holmes P.M., Brownlie S. and A.B. Rebelo (2016). Ecosystem Guidelines for Environmental Assessment in the Western Cape, Edition 2. Fynbos Forum, Cape Town.
- Harris, L.R., Holness, S.D., Kirkman, S.P., Sink, K.J., Majiedt, P., Driver, A. 2022. National Coastal and Marine Spatial Biodiversity Plan, Version 1.2 (Released 12-04-2022): Technical Report. Nelson Mandela University, Department of Forestry, Fisheries and the Environment, and South African National Biodiversity Institute. South Africa. 280 pp.⁵ (The latest version should be used).
- The latest National Biodiversity Assessment⁶ which provides information on the state of South Africa's threatened ecosystems.
- The most recent conservation plans, and their associated reports and guidelines available at the SANBI Biodiversity GIS Unit website⁷.
- Job, N., Mbona, N., Dayaram, A., Kotze, D. 2018. Guidelines for mapping wetlands in South Africa. SANBI Biodiversity Series 28. South African National Biodiversity Institute, Pretoria⁸.
- South African National Biodiversity Institute and Department of Water and Sanitation 2016. Wetland Offsets: A Best Practice Guideline for South Africa. Prepared by D Macfarlane, SD Holness, A von Hase, S Brownlie, JA Dini, V Kilian. WRC Report No. TT 660/16⁹.
- The National Biodiversity Offset Guideline¹⁰ (Notice no. 3569, Government Gazette no. 48841, 23 June 2023).
- The Western Cape Provincial Spatial Development Framework (2014) (Department of Environmental Affairs & Development Planning)¹¹.
- The Mining and Biodiversity Guideline (2013), which outlines six principles that should be applied during any stage of mining for decision-making. The document uses biodiversity information for decision-making throughout the mining cycle¹².
- The Western Cape Land Use Planning Guidelines: Rural Areas (2019) aims at Safeguarding

³ <https://www.capenature.co.za/western-cape-biodiversity-spatial-plan>

⁴ <https://scholar.sun.ac.za/handle/10019.1/124162>

⁵ https://cmr.mandela.ac.za/cmr/media/Store/documents/EBSA/CBA%20Map%20v1/NCMSBPV1.2_Technical-report.pdf

⁶ <https://nba.sanbi.org.za/index.html>

⁷ <http://bgis.sanbi.org> or email BGISHelp@sanbi.org

⁸ <http://opus.sanbi.org/handle/20.500.12143/6086>

⁹ http://www.wrc.org.za/wp-content/uploads/mdocs/TT%20660%20-%20Jo_web.pdf

¹⁰ <https://cer.org.za/wp-content/uploads/1999/01/NEMA-National-Biodiversity-Offset-Guideline-23-June-2023.pdf>

¹¹ <https://www.westerncape.gov.za/eadp/spatial-planning>

¹² <https://cer.org.za/virtual-library/government-documents/mining-and-biodiversity-guideline-mainstreaming-biodiversity-into-the-mining-sector-2013>

priority biodiversity areas and their functionality and ecological infrastructure and ensuring sustainable development in rural locations throughout the Western Cape¹³.

1.8. Site Visit

The site visit was carried 17 September 2024. The peak flowering time in this region is spring, which occurs from August to October. The survey was done in the optimal period. The overall confidence in the completeness and accuracy of the terrestrial biodiversity findings at this point in time is considered to be good. A follow-up survey is not considered essential for decision-making.

Due to the size of the development and linear nature the surveys were focus on a line transect and relevant data were recorded on the line transact. The line transect survey methodology was regarded as the best survey sample technique for this site. A total of approximately 3.7km was covered during the survey as per the photographs below. Only photos of relevance were taken and include as proof below. A total of 3 hours were spent on site and area for further observation purposes.

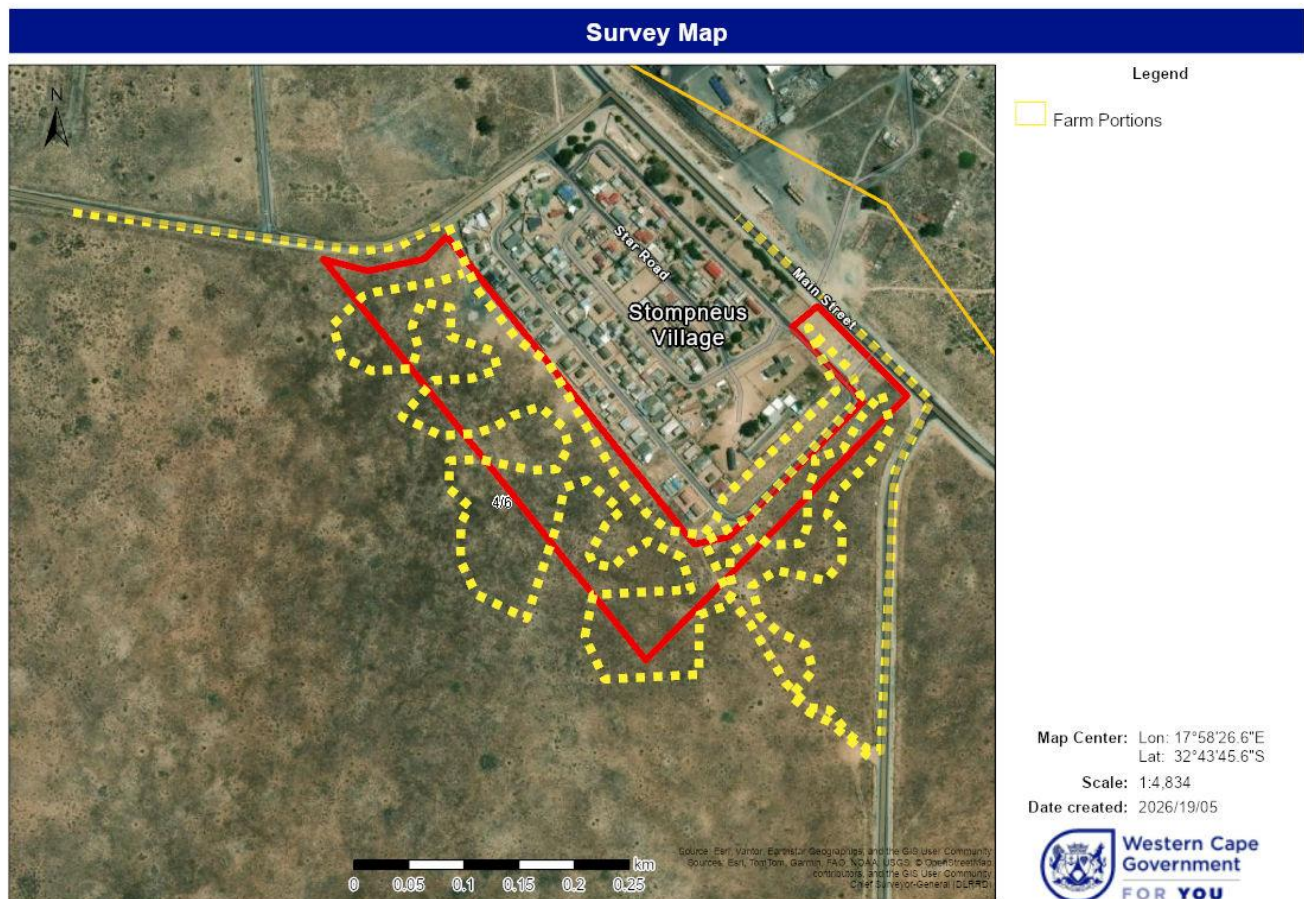


Figure 1: Survey route map indicated by yellow dotted line

¹³ <https://www.westerncape.gov.za/eadp/documents>



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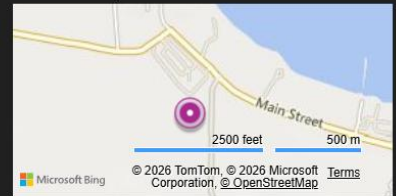
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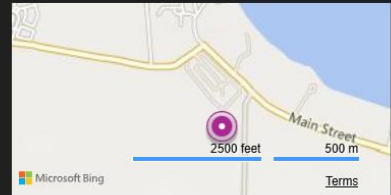
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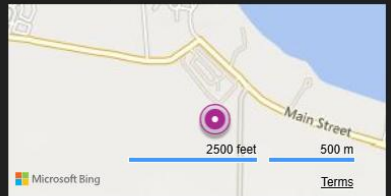
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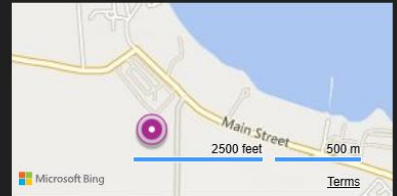
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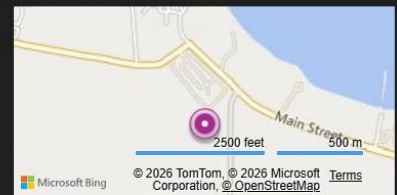
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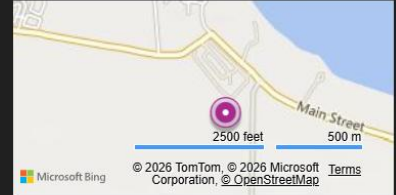
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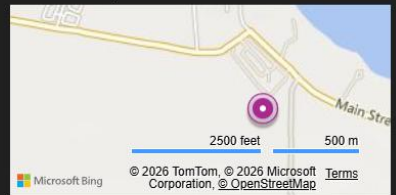
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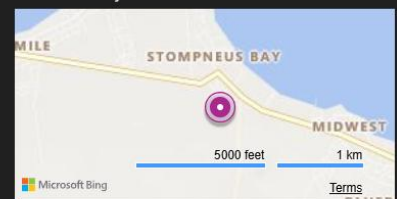
PM



Add a description



Saldanha Bay





Info



P9172381



September

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2024



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PM



Add a description



Saldanha Bay



Info



P9172382



September

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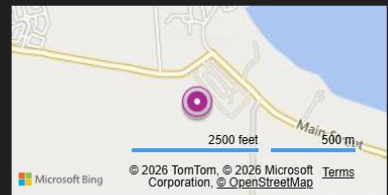
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Add a description



Saldanha Bay





Info

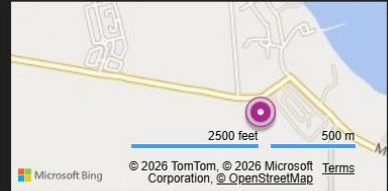
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 September 17 2024

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 Add a description

 West Coast



Info

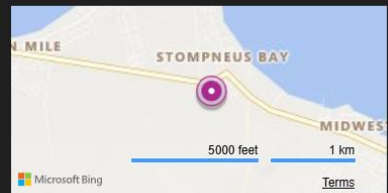
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 September 17 2024

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 Add a description

 West Coast





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 P9172385

 September 17 2024

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 West Coast



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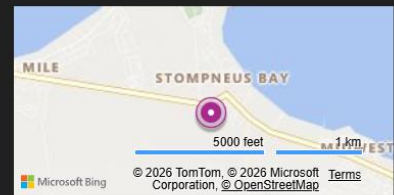
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 Add a description

 West Coast





Info



P9172387



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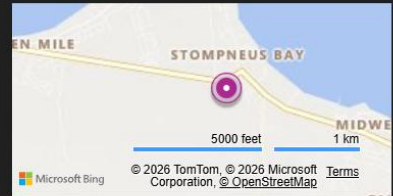
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Add a description



West Coast



Info



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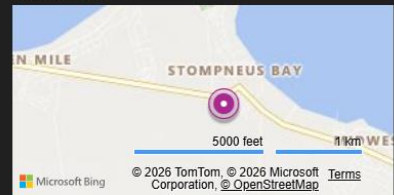
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Add a description



Saldanha Bay





Info



P9172389



September

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Add a description



Saldanha Bay



Info



P9172390



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Add a description



Saldanha Bay





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Saldanha Bay



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Add a description

Saldanha Bay



Info

P9172393

September

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Add a description

Saldanha Bay

5000 feet

1 km

Microsoft Bing

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Terms



Info

P9172394

September

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2024

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57

PM

Add a description

Saldanha Bay

5000 feet

1 km

Microsoft Bing

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Terms



Info

 P9172395 

 September 17 2024

 12 58 PM

 Add a description

 Saldanha Bay



Info

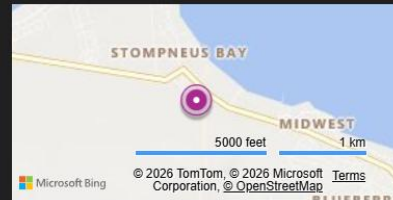
 P9172396 

 September 17 2024

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 Add a description

 Saldanha Bay





Info



P9172397



September

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Add a description



Saldanha Bay



Info



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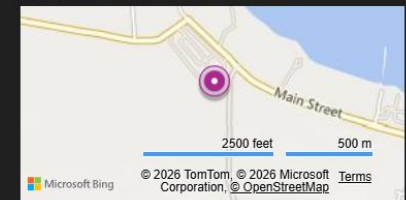
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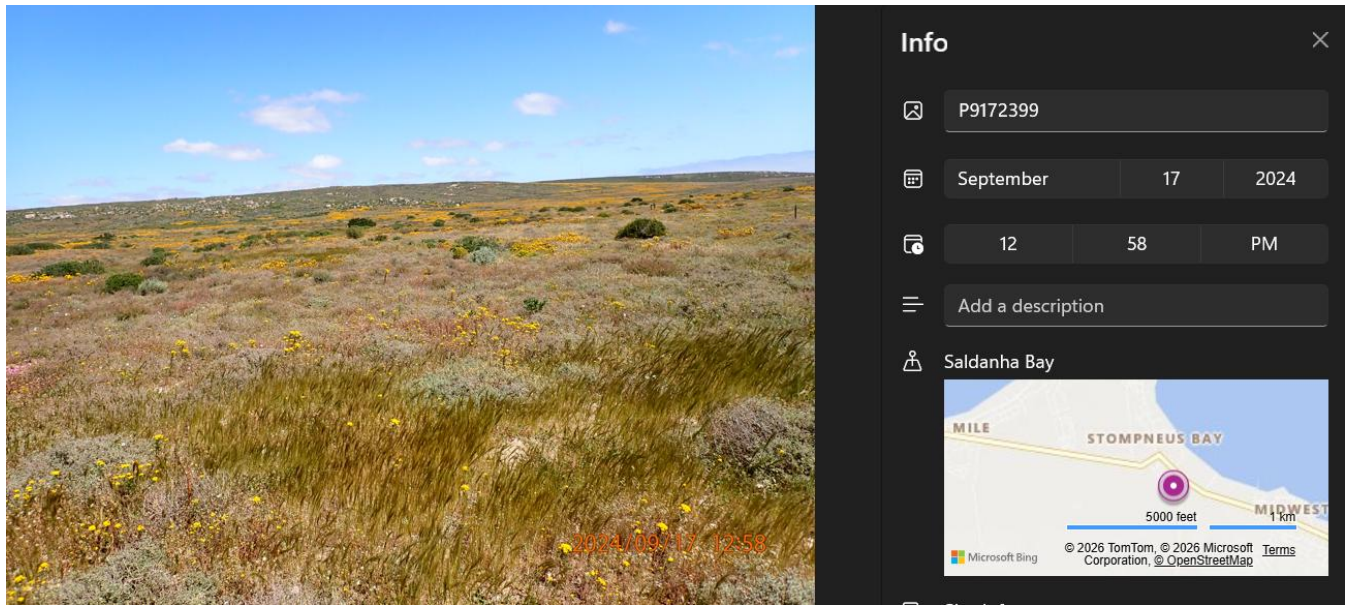


Add a description



Saldanha Bay



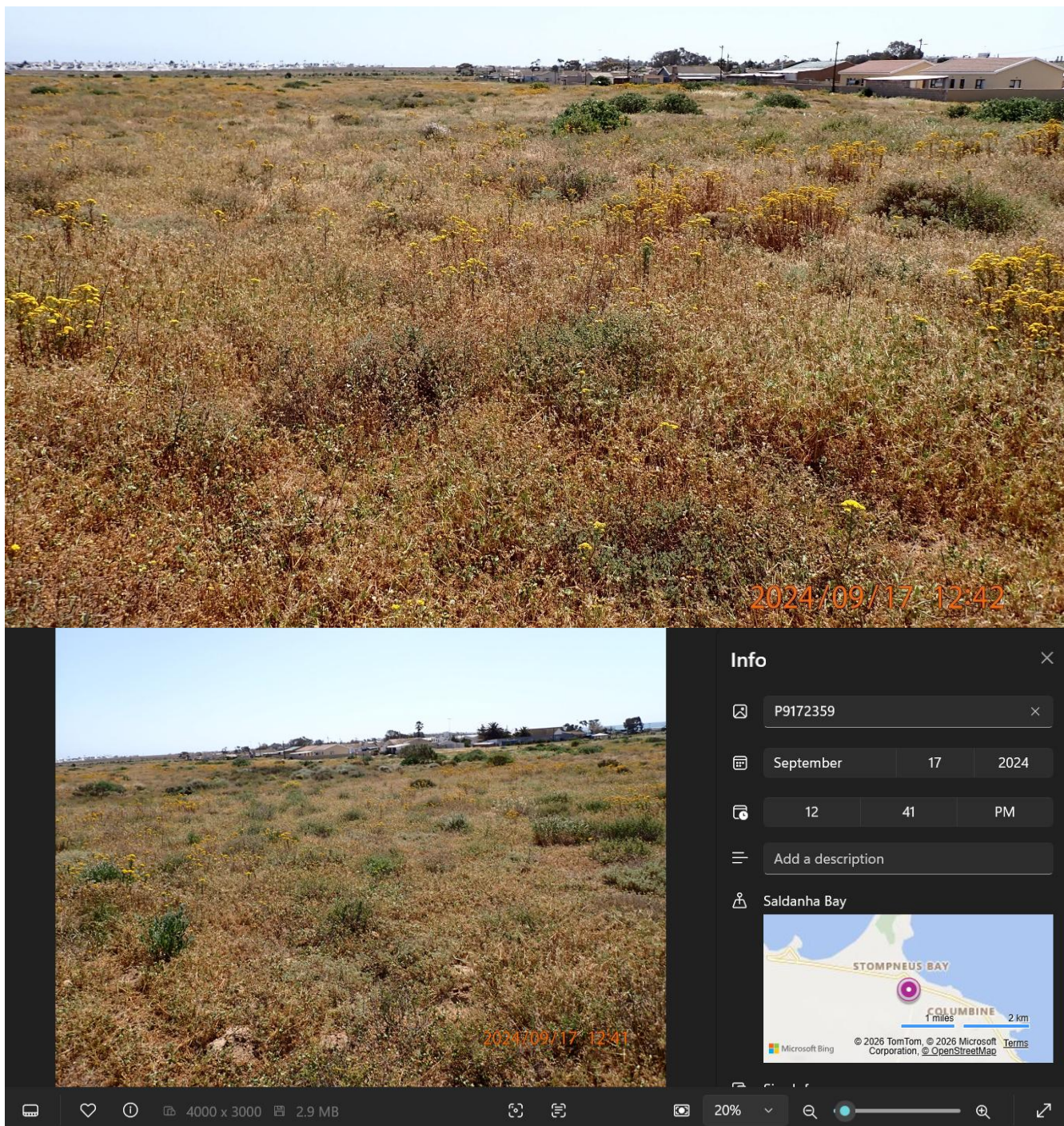


The PAOI mapped for this area in the screen toll report was very high. The assess Site Ecological importance is very low, which is confirmed by the fact that the area was not mapped CBA or ESA, except for the small incorrectly mapped area. As can be noted from the photograph and historical images, the area was heavily impacted in the past and the vegetation structures compromised in such an extent that the vegetation recorded during the site survey consists of pioneer plants such as *Aizoon paniculatum*, *Oncosiphon suffruticosum*, *Bromus pectinatus*, *Lycium tetrandrum*, *Lycium ferocissimum*, *Trachyandra divaricate*, *Leysera gnaphalodes*, *Carpobrotus quadrifidus*, *Osteospermum incanum subsp. incanum*, *Lapeirousia anceps*, *Ruschia macowanii* (definitely not *Ruschia langebaanensis* determined from the time of flowering. *Ruschia langebaanensis* flowers from May to July and *Ruschia macowanii* from September to November), *Hermannia scabra*, *Lycium tetrandrum*, *Othonna cylindrica*, *Moraea minor*, *Hermannia humifusa*, *Euphorbia burmannii*, *Senecio sarcoides*, *Felicia tenella*, *Dimorphoheca pluvialis*, and *Drosanthemum floribundum*.

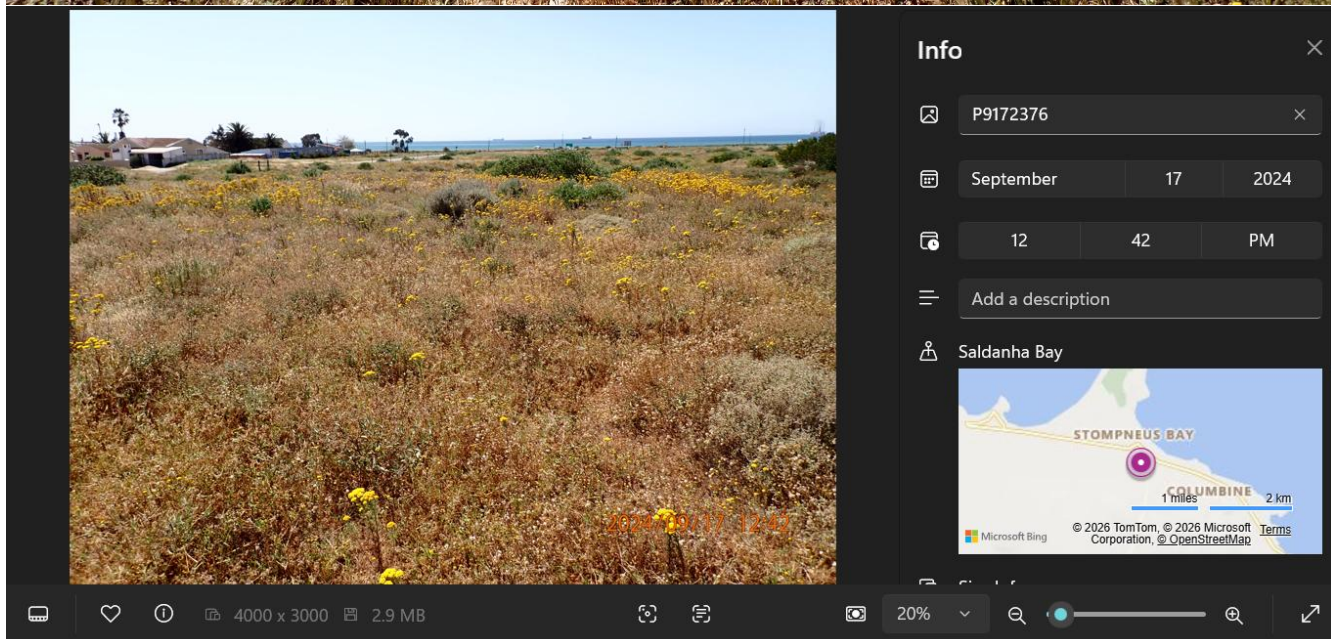
Saldanha Granite Strandveld vegetation can be described as rounded granite sheets interspersed with low - medium shrubland, some succulent, grassy and herb-rich spots with many geophytic flora which is typically of the view in this photograph taken on erf 474, St Helena Bay.



Photograph 1: Typical vegetation structure of Saldanha Granite Strandveld. The elevated high represent pristine vegetation, while the lower section in bottom of the photograph represent previously ploughed and degraded Saldanha Granite Strandveld.



Photograph 2: Ecological condition of the vegetation structure representing the area not mapped as a CBA or ESA. As can be seen from the photograph, area dominated by pioneer plants.



Photograph 3: Ecological condition of the vegetation structure representing the area mapped as a CBA or ESA. As can be seen from the photograph, area dominated by pioneer plants.

From the evidence of the photographs included above, it is clear that the vegetation on site is degraded which is confirmation on why the WCSBP (2023) did not map almost the whole area as CBA.

Biodiversity Spatial Plan (BSP) Reasons

SA Vegetation Type (0.57), Threatened SA Vegetation Type (0.11), Threatened Vertebrate (0.92), Water resource protection (0.08)

Feature 1: Bontebok Extended Distribution Range

Feature 3: Saldanha Granite Strandveld (CN)

Feature 4: Watercourse protection- South Western Coastal Belt



Figure 2: Terrestrial Biodiversity Map

1.9. Sensitivity Mapping and Assessment

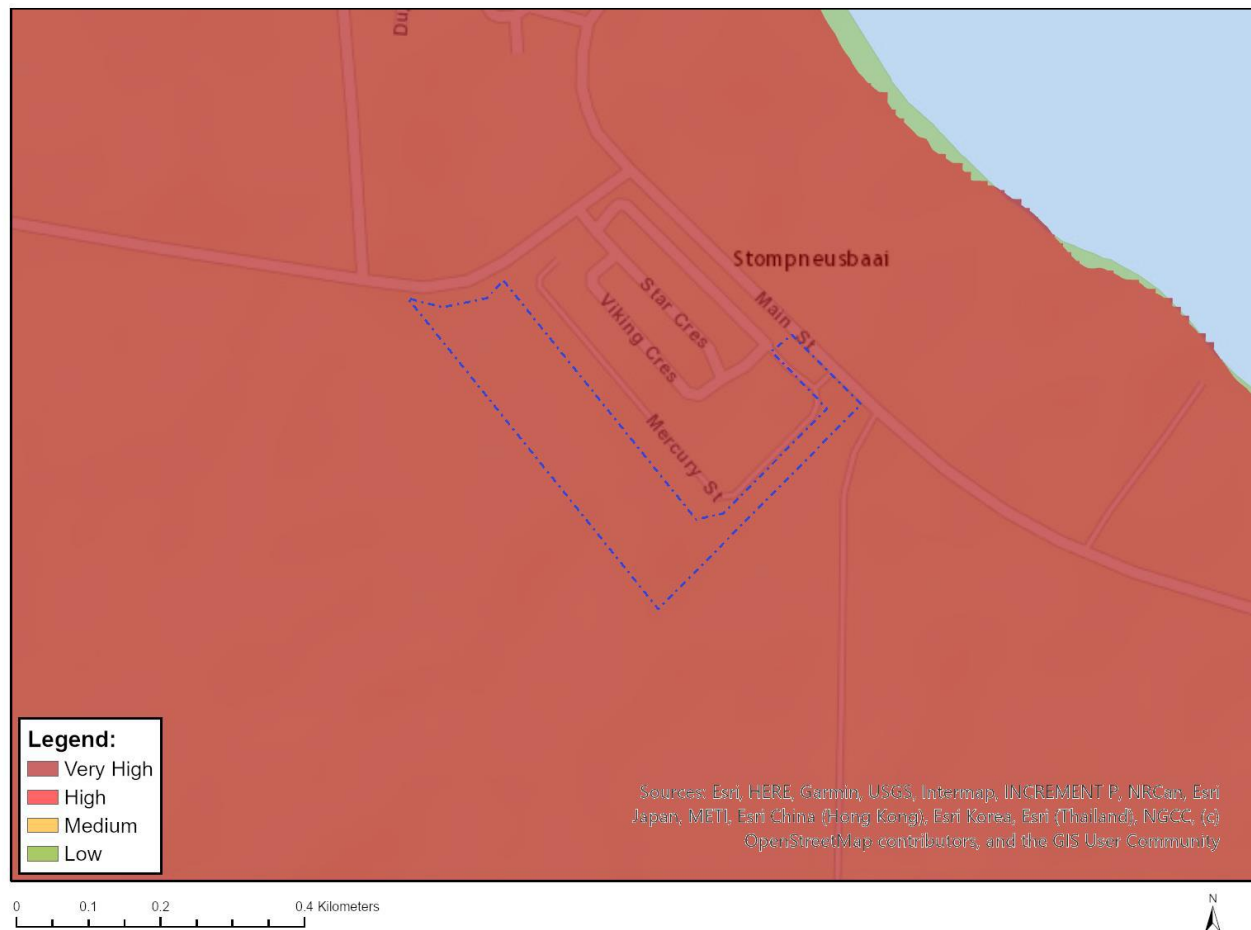


Figure 3: Project Area of Influence.

Sensitivity Mapping and Assessment (Site Ecological Importance)¹⁴ Degraded Saldanha Granite Strandveld

Where the site-specific assessment produces lower or higher SEI classification than the 'environmental sensitivity' output of the screening tool for that particular site, it is the responsibility of the specialist to provide a clear and defensible justification for the difference. SEI is considered to be a function of the biodiversity importance (BI) of the receptor (e.g. species of conservation concern, the vegetation/fauna community or habitat type present on the site and its resilience to impacts (receptor resilience [RR]) as follows:

$$SEI = BI + RR$$

¹⁴ South African National Biodiversity Institute (SANBI). 2020. Species Environmental Assessment Guideline. Guidelines for the implementation of the Fauna and Flora Species Protocols for environmental impact assessments in South Africa. South African National Biodiversity Institute, Pretoria. Version 4.1 2026.

BI in turn is a function of conservation importance (CI) and the functional integrity (FI) of the receptor as follows:

$$BI = CI + FI$$

Conservation importance (CI) is evaluated in accordance with recognised established internationally acceptable principles and criteria for the determination of biodiversity-related value, including the IUCN Red List of Species, Red List of Ecosystems and Key Biodiversity Areas (KBA; IUCN [2016]).

Conservation importance is defined here as:

“The importance of a site for supporting biodiversity features of conservation concern present, e.g. populations of IUCN threatened and Near Threatened species (CR, EN, VU and NT), Rare species, range-restricted species, globally significant populations of congregatory species, and areas of threatened ecosystem types, through predominantly natural processes.”

These criteria are defined as follows:

IUCN threatened and Near Threatened species (CR, EN, VU and NT) are defined as either the global or national assessments of the risk of extinction as evaluated by a dedicated panel of species specialists according to the criteria of the International Union for The Conservation of Nature (www.iucnredlist.org). Where the global and national assessments differ for the same taxon, the national evaluation of status should be used in calculating SEI unless the global assessment is both more recent and of a more threatened category. It is important to note that the specialist is required to have a firm understanding of the IUCN Red List Categories and Criteria (IUCN 2012) in order to appropriately apply these for the evaluation of SEI. This criterion can be assessed using confirmed occurrences of species or the suitability of the habitat to support these species.

Rare species are those included on South Africa’s National Red List as Rare or Critically Rare or Extremely Rare. These are highly restricted species that are currently not declining. However, should any development impact on a population of these species they will immediately qualify under one of the IUCN categories of threat.

Range-restricted species – the presence of terrestrial flora, vertebrate and invertebrate fauna with a global population extent of occurrence (EOO) of 10 000 km² or less.

Globally significant populations of congregatory species – a roughly estimated proportion (%) of the global population of a fauna species that congregate for breeding/ feeding/hibernation/other reasons.

Significant areas of threatened vegetation types – this is a function of both the area (size) being considered in relation to the total extent of that vegetation type (i.e. proportion) and how threatened (CR, EN, VU) the vegetation types are.

Natural processes – natural unmanaged areas with low levels of ecological disturbance have largely intact natural processes such as pollination, seed dispersal and migration, and thus have

greater intrinsic conservation importance than those that are modified through ecological disturbance.

While most of the features that will be included in the CI will be provided by the screening tool, it is important to note that CI is evaluated at a much finer spatial scale and based on fieldwork data collection and comprehensive desktop analyses performed by the specialist during the EA process. As a minimum requirement, CI needs to be determined for each identified habitat within the project footprint/PAOI, but best practice recommendation is that it should be determined for all habitats within the entire PAOI.

Fulfilling criteria to evaluate CI do not rely on a single specific threshold for each of the above defining characteristics but can act in combination or in isolation, providing a more robust evaluation of CI as per table below.

Conservation importance	Fulfilling criteria
Very high	Confirmed or highly likely occurrence of CR, EN, VU or Extremely Rare or Critically Rare species that have a global EOO of < 10 km ² . Any area of natural habitat of a CR ecosystem type or large area (> 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type. Globally significant populations of congregatory species (> 10% of global population).
High	Confirmed or highly likely occurrence of CR, EN, VU species that have a global EOO of > 10 km ² . IUCN threatened species (CR, EN, VU) must be listed under any criterion other than A, if listed as threatened only under Criterion A, include if there are less than 10 locations or < 10 000 mature individuals remaining. Small area (> 0.01% but < 0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type or large area (> 0.1%) of natural habitat of VU ecosystem type. Presence of Rare species. Globally significant populations of congregatory species (> 1% but < 10% of global population).
Medium	Confirmed or highly likely occurrence of populations of NT species, threatened species (CR, EN, VU) listed under Criterion A only and which have more than 10 locations or more than 10 000 mature individuals. Any area of natural habitat of threatened ecosystem type with status of VU. Presence of range-restricted species. > 50% of receptor contains natural habitat with potential to support SCC.
Low	No confirmed or highly likely populations of SCC.

	No confirmed or highly likely populations of range-restricted species. < 50% of receptor contains natural habitat with limited potential to support SCC.
Very low	No confirmed and highly unlikely populations of SCC. No confirmed and highly unlikely populations of range-restricted species. No natural habitat remaining.

Furthermore, while CI is most likely to be assessed based on data collected during the fieldwork survey, it can also be an assessment of the suitability of the receptor to support populations conforming to the fulfilling criteria. As can be seen from the worked example below, each of these evaluations of the fulfilling criteria demand necessary justification.

Functional integrity (FI) of the receptor (e.g. the vegetation/fauna community or habitat type) is defined here as the receptors' current ability to maintain the structure and functions that define it, compared to its known or predicted state under ideal conditions. Simply stated, FI is:

'A measure of the ecological condition of the impact receptor as determined by its remaining intact and functional area, its connectivity to other natural areas and the degree of current persistent ecological impacts.'

These criteria can be defined as:

- Connectivity to other natural areas – connectivity, which can also be measured conversely as the degree of habitat fragmentation, refers to how connected habitat patches are to each other, which has a significant influence on numerous ecological process, such as migration and dispersal opportunities of biota and therefore genetic exchange between populations. Connectivity to other similar habitats becomes more important as the remaining intact and functional area of a habitat decreases, mainly because population sizes decrease and are therefore at greater risk from ecological perturbations and inbreeding effects. The degree of connectivity between habitat patches varies greatly with the dispersal ability of the taxon or taxon group (e.g. fossorial reptiles) in question.
- Degree of current persistent negative ecological impacts – persistent negative impacts such as uncontrolled spread of alien and invasive flora effectively decreases both the remaining intact area and ecosystem functioning of a particular habitat.
- Remaining intact and functional area – the proportion of the receptor that supports natural habitat with intact ecological processes – small areas are less likely to withstand ecological degradation compared to large areas, and the latter are therefore better able to maintain structure and function allowing for intact ecological processes.

$$SEI = BI + RR$$

BI in turn is a function of conservation importance (CI) and the functional integrity (FI) of the receptor as follows:

CI = **low**. Reason be that the vegetation and habitat has been lost. That no Species of Conservation Concern was mapped. On the edge of urban development and ecological connectivity and functioning compromised by historic agriculture activities, including ploughing. The small area mapped as CBA is degraded and consists of pioneer plants and does not represent the vegetation structure of Saldanha Granite Standveld. Of the mapped CBA area, approximately 800m² consist of degraded vegetation that does not represent Saldanha Granite Standveld Vegetation structure and the rest are disturbed areas. The CBA is contested, in which regard we wish to note that in certain cases, very small fragments of CBA are often outliers from the process of developing the BSP and can be considered as errors which is clear in this site mapped CBA. The rest of the development area was correctly mapped as no CBA or ESA. None of the species listed in the Screening Tool Report were recorded on site. The vegetation does not represent the vegetation structures associated with the Saldanha Granite Strandveld vegetation type.

FI= **low**. On the edge of urban development and ecological connectivity and functioning compromised by historic agriculture activities, including ploughing. Limited functionality is present on site due to the past disturbances.

$$BI = CI + FI$$

Therefore, using table below, the BI was assessed to be very **low** (CI **low** = and FI = **low**)

Recalling that biodiversity importance (BI) is a function of conservation importance (CI) and the functional integrity (FI) of a receptor, BI can be derived from a simple matrix of CI and FI as per table below.

Biodiversity importance		Conservation importance				
		Very high	High	Medium	Low	Very low
Functional integrity	Very high	Very high	Very high	High	Medium	Low
	High	Very high	High	Medium	Medium	Low
	Medium	High	Medium	Medium	Low	Very low
	Low	Medium	Medium	Low	Low	Very low
	Very low	Medium	Low	Very low	Very low	Very low

Receptor resilience (RR) is defined here as:

'The intrinsic capacity of the receptor to resist major damage from disturbance and/or to recover to its original state with limited or no human intervention.'

The fulfilling criteria to evaluate RR are based on the estimated recovery time required to restore an appreciable portion of functionality to the receptor (refer to table below) and will require justification by the specialist. The specialist needs to bear in mind that resilience will often be linked to a particular disturbance or impact, or even time of year, and needs to be described in relation to these factors. Receptor resilience needs to be evaluated by the specialist and justification for each evaluation must be provided in the report.

Resilience	Fulfilling criteria
Very high	Habitat that can recover rapidly (~ less than 5 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a very high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a very high likelihood of returning to a site once the disturbance or impact has been removed.
High	Habitat that can recover relatively quickly (~ 5–10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a high likelihood of returning to a site once the disturbance or impact has been removed.
Medium	Will recover slowly (~ more than 10 years) to restore > 75% of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a moderate likelihood of returning to a site once the disturbance or impact has been removed.
Low	Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.
Very low	Habitat that is unable to recover from major impacts, or species that are unlikely to remain at a site even when a disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed.

The receptor resilience should be an assessment of whether the ecosystem in its current condition is resilient to disturbance and not the resilience of the original ecosystem to past disturbances unrelated to the proposed development.

The RR = **high**. Reason be that the habitat representing Saldanha Granite Strandveld was lost and the habitat is unlikely to be able to recover. In this regard both the historical ploughed areas not mapped as CBA or ESA as well as the small, mapped CBA are ecosystems which are present is as a result of high levels of historical disturbance and are therefore both highly resilient ecosystems. The resilience is therefore rated as high.

$$\text{SEI (very low)} = \text{BI (low)} + \text{RR (high)}$$

Site ecological importance		Biodiversity importance				
		Very high	High	Medium	Low	Very low
Receptor resilience	Very low	Very high	Very high	High	Medium	Low
	Low	Very high	Very high	High	Medium	Very low
	Medium	Very high	High	Medium	Low	Very low
	High	High	Medium	Low	Very low	Very low
	Very high	Medium	Low	Very low	Very low	Very low

Guidelines for interpreting SEI in the context of the proposed development activities.

Site ecological importance	Interpretation in relation to proposed development activities
Very high	Avoidance mitigation – no destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e. last remaining populations of species, last remaining good condition patches of ecosystems/ unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
High	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted; limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Medium	Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities.
Low	Minimisation and restoration mitigation – development activities of medium to high impact acceptable followed by appropriate restoration activities.
Very low	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.

The PAOI assess Site Ecological Importance is **very low**, which is confirmed by the fact that the area was not mapped CBA or ESA, except for the small incorrectly mapped area.

2. APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

The proposed development within the study site is considered to elicit a requirement for possible compliance with the following legislation applicable to this assessment.

- The National Environmental Management: Biodiversity Act (Act 10 of 2004)
- The National Forest Act (Act 84 of 1998)
- Invasive species are controlled by the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) - Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014

The potential applicability of the abovementioned acts to the subject site is provided below:

The National Environmental Management: Biodiversity Act (Act 10 of 2004)

This Act serves to control the disturbance and land utilisation within certain habitats, as well as the planting and control of certain exotic species. The effective disturbance and removal of species identified above, as well as possible other species (i.e. Threatened or Protected Species (TOPS) species), will require specific permission from the applicable authorities. In addition, the planting and management of exotic plant species on site, if and where required, will be governed by the Alien and Invasive Species (AIS) regulations, which were gazetted in 2014. These regulations compel landowners to manage exotic weeds on land under their jurisdiction and control. No Threatened or Protected Species were recorded that requires a permit for disturbance or removal.

The National Forest Act (Act 84 of 1998)

The National Forest Act (Act 84 of 1998) governs the removal, disturbance, cutting or damage and destruction of identified “protected trees”. No listed species were encountered or recorded on site and an application for the “clearing of a *natural forest*”, as defined within the Act, will not be required on the site in question.

Invasive species are controlled by the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) - Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014.

Notably most listed alien invasive species are propagated and driven by the disturbance of land during and following construction. The planting and management of exotic plant species on site, if and where required, will be governed by the Alien and Invasive Species (AIS) regulations. No alien invasive species recorded on site.

3. DESCRIPTION OF PROJECT ASPECTS RELEVANT TO TERRESTRIAL BIODIVERSITY FEATURES

The proposed development includes the following:

- 185 residential Zone 1 erven (approx. 120m² erven) for IRDP housing;
- 3 Open Space Zone I erven;
- 1 Institutional Zone I (Crèche);
- 1 Institutional Zone II (Church)

- roads situated in the 10m road reserves will be 5,5m and 5,0m wide, and associated infrastructure and services

The following external stormwater attenuation dams and networks is proposed to be upgraded:

- An earth berm/cut-off channel is recommended along the south-west boundary of the proposed development to prevent runoff from the larger catchment area to enter the development properties.
- Catchment A (new facility): A new attenuation facility (with new fencing) is proposed for the new development area which will reduce up to the 1 in 100-year post-developed peak runoff to the 1 in 2-year pre-developed runoff. An emergency overflow will also form part of the design of the storage facility should a storm exceeding the 1 in 100-year storm occur.
- Catchment B (existing facility): The existing attenuation facility will be extended, an emergency overflow be constructed, and the extended facility be fenced off. The existing detention facility at the intersection of Minor Road 7664 and Main Road 00533 will be expanded from 300m² to 880 m² on the same footprint in between to road and residential erven, which includes the widened towards the Main Road and also be extended in a southeast direction by approximately 20m. The depth of the facility will be increased from 1.35m to 2.5m. By extending and deepening the existing facility, the capacity could be increased to 1400m³. The overflow will be in the form of a shaped open channel towards the unlined side drain of Main Road 00533. The runoff will be conveyed across Minor Road 7664 by means of the new Ø600mm pipe culvert.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT.

4.1. *Locality*

On a Regional level St Helena Bay is located in the Saldanha Bay Local Municipal area in the West Coast District and bounded by Bergrivier Local Municipality to the north and Swartland Local Municipality to the south. On a local level the proposed developable area is located west of the existing build environment of the Stompneus Bay neighbourhood in St Helena Bay. Saldanha Bay Municipality wants to establish a housing development due to the housing backlog and the need to provide previously disadvantaged beneficiaries with residential erven opportunities in the area. It is therefore the intention to subdivide and rezone an area of ±5.9ha of said portion of land for the purpose of establishing a housing project. The proposed developable area gains access from Mercury Street, to the west, and Concorde Drive, to the north. The proposed development is just outside the existing Stompneus Bay neighbourhood and will be integrated with the existing residential area and uses.



Figure 4: Locality Map

4.2. Topography

A topographical survey was done to determine the slope and status quo of the site by CK Rumboll and Partners Surveyors. The site slopes from south-east to north-west and falls 1.5 metres every 100m. The layout accommodates these slopes in the road layout to ensure storm water and sewage are moved through gravitation over the site, as far as possible.

4.3. Geology and Soils

According to the geotechnical assessment conducted the site is underlain by a mantle of dune sands (Q5) greater than 3m in thickness in the southern and central areas, overlying poorly to well cemented calcrete. The dune soils thin out in the northern area, where they are underlain by granite bedrock.

4.4. Description of The Ecological Drivers/Processes, Functioning, Ecological Corridors that the Development Would Impede Including Migration and Movement of Flora and Fauna, and Description of any Significant Landscape Features

The area was heavily impacted in the past and the vegetation structures compromised in such an extent that the vegetation recorded during the site survey consists mostly of pioneer plants

such *Aizoon paniculatum* (LC), *Oncosiphon suffruticosum* (LC), *Bromus pectinatus* (LC), *Lycium tetrandrum* (LC), *Lycium ferocissimum* (LC), *Trachyandra divaricate* (LC), *Leysera gnaphalodes* (LC), *Carpobrotus quadrifidus* (LC), *Osteospermum incanum subsp. incanum* (LC), *Lapeirousia anceps* (LC), *Ruschia macowanii* (LC) (definitely not *Ruschia langebaanensis* determined from the time of flowering. *Ruschia langebaanensis* flowers from May to July and *Ruschia macowanii* from September to November), *Hermannia scabra* (LC), *Lycium tetrandrum* (LC), *Othonna cylindrica*, *Moraea minor*, *Hermannia humifusa*, *Euphorbia burmannii* (LC), *Senecio sarcoides*, *Felicia tenella* (LC), *Dimorphoheca pluvialis* (LC), and *Drosanthemum floribundum* (LC).

Saldanha Granite Strandveld vegetation can be described as rounded granite sheets interspersed with low - medium shrubland, some succulent, grassy and herb-rich spots with many geophytic flora.

Based on the floristic composition of the site presented, it is confirmed that the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. Saldanha Granite Strandveld was lost and the habitat is unlikely to be able to recover. In this regard both the historical ploughed areas not mapped as CBA or ESA as well as the small, mapped CBA are ecosystems which are present as a result of high levels of historical disturbance and are therefore both highly resilient ecosystems. The resilience is therefore rated as high. On the edge of urban development and ecological connectivity and functioning compromised by historic agriculture activities, including ploughing.

4.5. Description of the Terrestrial Biodiversity and Ecosystems

4.5.1. Main Vegetation Types

According to *The Vegetation Map of South African, Lesotho and Swaziland* (VEGMAP), (Rebelo *et al.* 2006 in Mucina & Rutherford, 2006; SANBI, 2018) the vegetation of study area consists of Saldanha Granite Strandveld. Based on the floristic composition of the site presented, the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. The site survey was conducted in spring and no botanical species of conservation concern were observed. This is confirmation on why the WCSBP (2023) did not map almost the whole area as CBA. Of the mapped CBA area, approximately 800m² consist of degraded vegetation that does not represent Saldanha Granite Strandveld Vegetation structure and the rest are disturbed areas. The CBA is contested, in which regard we wish to note that in certain cases, very small fragments of CBA are often outliers from the process of developing the BSP and can be considered as errors which is clear in this site mapped CBA as visible in the image below. Most of the mapped CBA area is also existing cleared and residential erven which further strengthen this conclusion.

The rest of the development area was correctly mapped as no CBA or ESA. None of the species listed in the Screening Tool Report were recorded on site.

4.5.2. Threatened Ecosystems, Including Listed Ecosystems

Saldanha Granite Strandveld with a critical endangered conservation status.

4.5.3. Ecological Connectivity, Habitat Fragmentation, Ecological Processes and Fine-Scale Habitats

On the edge of urban development and ecological connectivity and functioning compromised by historic agriculture activities, including ploughing. Limited functionality is present on site due to the past disturbances. The habitat representing Saldanha Granite Strandveld was lost and the habitat is unlikely to be able to recover. In this regard both the historical ploughed areas not mapped as CBA or ESA as well as the small mapped CBA are ecosystems which are present as a result of high levels of historical disturbance and are therefore both highly resilient ecosystems.

4.5.4. Species, Distribution, Important Habitats

No plant species of conservation concern were recorded. The vegetation recorded during the site survey consists mostly of pioneer plants such *Aizoon paniculatum* (LC), *Oncosiphon suffruticosum* (LC), *Bromus pectinatus* (LC), *Lycium tetrandrum* (LC), *Lycium ferocissimum* (LC), *Trachyandra divaricate* (LC), *Leysera gnaphalodes* (LC), *Carpobrotus quadrifidus* (LC), *Osteospermum incanum subsp. incanum* (LC), *Lapeirousia anceps* (LC), *Ruschia macowanii* (LC) (definitely not *Ruschia langebaanensis* determined from the time of flowering. *Ruschia langebaanensis* flowers from May to July and *Ruschia macowanii* from September to November), *Hermannia scabra* (LC), *Lycium tetrandrum* (LC), *Othonna cylindrica*, *Moraea minor*, *Hermannia humifusa*, *Euphorbia burmannii* (LC), *Senecio sarcoides*, *Felicia tenella* (LC), *Dimorphoheca pluvialis* (LC), and *Drosanthemum floribundum* (LC).

No animal species of conservation concern were recorded nor is their preferred habitat present on site. The animal species listed in the environmental screen tool report was not observed or recorded on site and will also not be impacted on. One habitat type was identified, namely previously ploughed areas representing disturbed low lying Saldanha Granite Strandveld. The site is currently characterised by highly degraded habitat conditions, low plant species diversity. *C. maurus* is strongly associated with fynbos ecosystems, particularly for breeding, and typically requires large, contiguous patches of high-quality habitat (Simmons and Curtis-Scott, 2025). SCC-specific buffers were considered, but no SCC breeding sites, roosting sites, confirmed populations or other buffer-triggering features were recorded within the development footprint or PAOI. No SCC-specific buffers are required. No SCC breeding sites, roosting sites, confirmed populations or key habitat features were recorded, and that the degraded condition of the site limits its importance for SCC.

4.6. Terrestrial Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs)

The WCSBP (2023) did not map almost the whole area as CBA or ESA. Of the mapped CBA area, approximately 800m² consist of degraded vegetation that does not represent Saldanha Granite Strandveld Vegetation structure and the rest are disturbed areas. The CBA is contested, in which regard we wish to note that in certain cases, very small fragments of CBA are often outliers from the process of developing the BSP and can be considered as errors which is clear in this site mapped CBA as visible in the image below. Most of the mapped CBA area is also

existing cleared and residential erven which further strengthen this conclusion. The rest of the development area was correctly mapped as no CBA or ESA.

Biodiversity Spatial Plan (BSP) Reasons recorded SA Vegetation Type (0.57), Threatened SA Vegetation Type (0.11), Threatened Vertebrate (0.92), Water resource protection (0.08), Bontebok Extended Distribution Range, Saldanha Granite Strandveld (CN) and Watercourse protection - South Western Coastal Belt. The proposed development will not impact on the BSP reasons because the floristic composition of the site presented on the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. Threatened Vertebrate were also not recorded on site and nor are their habitat on site. Nor does the site or bigger area be part of any bontebok herds and therefore the Bontebok Extended Distribution Range is not affected or impacted. No water courses of freshwater ecological features were mapped on site, or in close proximity or its regulated zones and therefore the Watercourse protection - South Western Coastal Belt is not affected or impacted.

4.7. Protected Areas and Priority Areas for Protected Area Expansion

The recommended site is not within a protected area nor within a protected area expansion area.

4.8. Strategic Water Source Areas (SWSA)

None recorded. The proposed development will not have any impact on a SWSA.

4.9. Freshwater Ecosystem Priority Area (FEPA) and Freshwater Ecological features

No NFEPA areas mapped in or close to the development.

4.10. Indigenous Forests

No indigenous forests are inside or close to the study area.

5. IMPACT ASSESSMENT

5.1. Assessment & Significance Criteria

The assessment criteria used in the assessment are drawn from the protocol for the specialist assessment and minimum report content requirements for environmental impacts (published in Government Notice **no. 320 in** Government Gazette **43110** 20 March 2020) were used.

5.2. Assessment of Potential Impacts

The impacts identified are assessed below, before and after mitigation as well as during construction.

The impact assessment which follows is based on the site sensitivity and any deviations from the site sensitivity map as provided may invalidate the results of the assessment.

5.3. Risk Assessment Criteria

Criteria	Description		
Nature	A description of what causes the effect, what will be affected, and how it will be affected.		
	Type	Score	Description
Extent (E)	None (No)	1	Footprint
	Site (S)	2	On site or within 100 m of the site
	Local (L)	3	Within a 20 km radius of the centre of the site
	Regional (R)	4	Beyond a 20 km radius of the site
	National (Na)	5	Crossing provincial boundaries or on a national / land wide scale
Duration (D)	Short term (S)	1	0 – 1 years
	Short to medium (S-M)	2	2 – 5 years
	Medium term (M)	3	5 – 15 years
	Long term (L)	4	> 15 years
	Permanent(P)	5	Will not cease
Magnitude (M)	Small (S)	0	will have no effect on the environment
	Minor (Mi)	2	will not result in an impact on processes
	Low (L)	4	will cause a slight impact on processes
	Moderate (Mo)	6	processes continuing but in a modified way
	High (H)	8	processes are altered to the extent that they temporarily cease
	Very high (VH)	10	results in complete destruction of patterns and permanent cessation of processes.
Probability (P) the likelihood of the impact actually occurring. Probability is estimated on a scale, and a score assigned	Very improbable (VP)	1	probably will not happen
	Improbable (I)	2	some possibility, but low likelihood
	Probable (P)	3	distinct possibility
	Highly probable (HP)	4	most likely
	Definite (D)	5	impact will occur regardless of any prevention measures
Significance (S)	Determined through a synthesis of the characteristics described above: S = (E+D+M) x P Significance can be assessed as low, medium or high		
Low: < 30 points:	The impact would not have a direct influence on the decision to develop in the area		
Medium: 30 - 60 points:	The impact could influence the decision to develop in the area unless it is effectively mitigated		

Criteria	Description		
High: < 60 points:	The impact must have an influence on the decision process to develop in the area		
No significance	When no impact will occur or the impact will not affect the environment		
Status	Positive (+)		Negative (-)
The degree to which the impact can be reversed	Completely reversible (R)	90-100%	The impact can be mostly to completely reversed with the implementation of the correct mitigation and rehabilitation measures.
	Partly reversible (PR)	6-89%	The impact can be partly reversed providing that mitigation measures as stipulated in the EMP are implemented and rehabilitation measures are undertaken
	Irreversible (IR)	0-5%	The impact cannot be reversed, regardless of the mitigation or rehabilitation measures taking place
The degree to which the impact may cause irreplaceable loss of resources	Resource will not be lost (R)	1	The resource will not be lost or destroyed provided that mitigation and rehabilitation measures as stipulated in the EMP are implemented
	Resource may be partly destroyed (PR)	2	Partial loss or destruction of the resources will occur even though all management and mitigation measures as stipulated in the EMP are implemented
	Resource cannot be replaced (IR)	3	The resource cannot be replaced no matter which management or mitigation measures are implemented.
The degree to which the impact can be mitigated	Completely mitigatable (CM)	1	The impact can be completely mitigated providing that all management and mitigation measures as stipulated in the EMP are implemented
	Partly mitigatable (PM)	2	The impact cannot be completely mitigated even though all management and mitigation measures as stipulated in the EMP are implemented. Implementation of these measures will provide a measure of mitigatability
	Un-mitigatable (UM)	3	The impact cannot be mitigated no matter which management or mitigation measures are implemented.

TERRESTRIAL BIODIVERSITY IMPACTS

Development Construction	TERRESTRIAL BIODIVERSITY IMPACTS
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	Terrestrial Biodiversity Impacts
Nature of impact:	Discussion: Based on the floristic composition of the site presented, it is agreed that the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. Of the

	mapped CBA area, approximately 800m² consist of degraded vegetation that does not represent Saldanha Granite Strandveld Vegetation structure and the rest are disturbed areas. The CBA is contested, in which regard we wish to note that in certain cases, very small fragments of CBA are often outliers from the process of developing the BSP and can be considered as errors which is clear in this site mapped CBA as visible in the image below. Most of the mapped CBA area is also existing cleared and residential erven which further strengthen this conclusion. The rest of the development area was correctly mapped as no CBA or ESA. None of the species listed in the Screening Tool Report were recorded on site. Biodiversity Spatial Plan (BSP) Reasons recorded SA Vegetation Type (0.57), Threatened SA Vegetation Type (0.11), Threatened Vertebrate (0.92), Water resource protection (0.08), Bontebok Extended Distribution Range, Saldanha Granite Strandveld (CN) and Watercourse protection - South Western Coastal Belt. The proposed development will not impact on the BSP reasons because the floristic composition of the site presented on the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. Threatened Vertebrate were also not recorded on site and their habitat is not on site. Nor does the site or bigger area be part of any bontebok herds and therefore the Bontebok Extended Distribution Range is not affected or impacted. No water courses of freshwater ecological features were mapped on site, or in close proximity or its regulated zones and therefore the Watercourse protection - South Western Coastal Belt is not affected or impacted.
Extent and duration of impact:	Extent 1 (footprint) & Duration 1
Magnitude:	Minor
Consequence of impact or risk:	Loss or impacts on indigenous vegetation
Probability of occurrence:	Improbable
Degree to which the impact may cause irreplaceable loss of resources:	Irreversible
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	Disturbance to surface area can result in impacts on indigenous vegetation
Cumulative impact prior to mitigation:	Habitat fragmentation, loss of ecological connectivity and erosion

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Low
Degree to which the impact can be mitigated:	Partly mitigatable
Proposed mitigation:	Should any faunal SCC be encountered during construction, these must be recorded (i.e. be photographed, GPS co-ordinates taken) and photographs placed on iNaturalist Any faunal species that may die as a result of construction activities must be recorded (i.e. be photographed, GPS co-ordinates taken) and these records placed on iNaturalist. In addition to all mitigations listed above a clause must be included in contracts for ALL personnel working on site stating that: “no wild animals will be hunted, killed, poisoned or captured. No wild animals will be imported into, exported from or transported in or through the province. No wild animals will be sold, bought, donated and no person associated with the development will be in possession of any live wild animal, carcass or anything manufactured from the carcass.” A clause relating to fines, possible dismissal and legal prosecution must be included should any of the above transgressions occur, especially for SCC. Fauna chance-find protocol, restrictions on night lighting, pet control during construction, and alien-plant clearing must be included in EMPr.
Residual impacts:	It is not anticipated that the impact will be high.
Cumulative impact post mitigation:	It is not anticipated that the impact will be high.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very low
OPERATIONAL PHASE	
Potential impact and risk:	Impact on terrestrial biodiversity
Nature of impact:	None. Area will be developed
Extent and duration of impact:	None. Area will be developed
Magnitude:	None. Area will be developed
Consequence of impact or risk:	None. Area will be developed

Probability of occurrence:	None. Area will be developed
Degree to which the impact may cause irreplaceable loss of resources:	None. Area will be developed
Degree to which the impact can be reversed:	None. Area will be developed
Indirect impacts:	None. Area will be developed
Cumulative impact prior to mitigation:	None. Area will be developed
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	None. Area will be developed
Degree to which the impact can be avoided:	None. Area will be developed
Degree to which the impact can be managed:	None. Area will be developed
Degree to which the impact can be mitigated:	None. Area will be developed
Proposed mitigation:	None. Area will be developed
Residual impacts:	None. Area will be developed
Cumulative impact post mitigation:	None. Area will be developed
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	None. Area will be developed
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	Impact on indigenous vegetation
Nature of impact:	Similar to that in the development phase.

Cumulative Impacts

Cumulative impacts arise from the combined presence of several similar developments within an area and the urban edge effects which affect terrestrial biodiversity. There are other developments that also represent a source of disturbance and habitat loss, which when combined with the proposed development would result in some cumulative impact. However, when taken in context of the broader landscape, the cumulative impacts are not likely to be highly significant given the terrestrial biodiversity, animal and plant species known to occur in the broader area.

6. CONCLUSION AND RECOMMENDATIONS

The sampling and analysis of the site, provides suitable data and results to present an informed decision on the local ecology and terrestrial biodiversity features. The lists of species for the site are based on those observed at the site as well as those likely to occur in the area based on

their distribution and habitat preferences. This represents a sufficiently conservative and cautious approach. Walk-through-surveys were conducted of representative habitats and areas of interest and species observed were recorded. Searches for listed species of conservation concern at the site were conducted, but none were observed which required the recording of their location.

Based on the floristic composition of the site presented, it is agreed that the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. The site survey was conducted in spring and no botanical species of conservation concern were observed. This is confirmation on why the WCSBP (2023) did not map almost the whole area as CBA. Of the mapped CBA area, approximately 800m² consist of degraded vegetation that does not represent Saldanha Granite Strandveld Vegetation structure and the rest are disturbed areas. The CBA is contested, in which regard we wish to note that in certain cases, very small fragments of CBA are often outliers from the process of developing the BSP and can be considered as errors which is clear on this site mapped CBA and visible in as visible in figure 2. Most of the mapped CBA area is also existing cleared and residential erven which further strengthen this conclusion. The rest of the development area was correctly mapped as no CBA or ESA. None of the species listed in the Screening Tool Report were recorded on site.

Biodiversity Spatial Plan (BSP) Reasons recorded SA Vegetation Type (0.57), Threatened SA Vegetation Type (0.11), Threatened Vertebrate (0.92), Water resource protection (0.08), Bontebok Extended Distribution Range, Saldanha Granite Strandveld (CN) and Watercourse protection - South Western Coastal Belt. The proposed development will not impact on the BSP reasons because the floristic composition of the site presented on the site does not contain representative Saldanha Granite Strandveld, but is most likely secondary regrowth after disturbance that is also degraded. Threatened Vertebrate were also not recorded on site and their habitat is not on site. Nor does the site or bigger area be part of any bontebok herds and therefore the Bontebok Extended Distribution Range is not affected or impacted. No water courses of freshwater ecological features were mapped on site, or in close proximity or its regulated zones and therefore the Watercourse protection - South Western Coastal Belt is not affected or impacted.

The assess Site Ecological Importance is **very low**, which is confirmed by the fact that the area was not mapped CBA or ESA, except for the small incorrectly mapped area and therefore below the threshold requiring a biodiversity offset.

The proposed area as per the Site Development Plan will have very low terrestrial biodiversity and ecological impact on site and the surrounding terrestrial biodiversity features provided that the management measures included in the EMPr and adhered to.

No additional survey or further assessment is in the authors view recommended.

7. REFERENCES

The revised list published in Government Gazette 47526 (Notice No.689) on 18 November 2022

in terms of the National Environmental Management: Biodiversity Act (NEMBA).

Department of Water Affairs and Forestry (DWAF). 2008. Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas.

Driver, Nel, Snaddon, Murray, Roux, Hill (2011). Implementation Manual for Freshwater Ecosystem Priority Areas. Draft Report for the Water Research Commission.

IUCN Red List www.iucnredlist.org.

Mucina, L. and M. Rutherford. *Eds.* 2012 update. Vegetation map of South Africa, Lesotho, and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C., Kamundi, D.A., and Manyama, P.A. (eds.) 2009 and online updates at redlist.sanbi.org. Red List of South African Plants 2009. *Strelitzia* 25. South African National Biodiversity Institute, Pretoria.

CapeNature (2024). 2023 Western Cape Biodiversity Spatial Plan and Guidelines. Biodiversity Capabilities, CapeNature. Link: <https://www.capenature.co.za/western-cape-biodiversity-spatial-plan>.

<https://www.capenature.co.za/western-cape-biodiversity-spatial-plan>

<https://scholar.sun.ac.za/handle/10019.1/124162>

https://cmr.mandela.ac.za/cmr/media/Store/documents/EBSA/CBA%20Map%20v1/NCMSBPV1.2_Technical-report.pdf

<https://nba.sanbi.org.za/index.html>

<http://bgis.sanbi.org> or email BGISHelp@sanbi.org

<http://opus.sanbi.org/handle/20.500.12143/6086>

http://www.wrc.org.za/wp-content/uploads/mdocs/TT%20660%20-%20Jo_web.pdf

<https://cer.org.za/wp-content/uploads/1999/01/NEMA-National-Biodiversity-Offset-Guideline-23-June-2023.pdf>

<https://www.westerncape.gov.za/eadp/spatial-planning>

<https://cer.org.za/virtual-library/government-documents/mining-and-biodiversity-guideline-mainstreaming-biodiversity-into-the-mining-sector-2013>

<https://www.westerncape.gov.za/eadp/documents>

APPENDIX A SPECIALIST CV

CURRICULUM VITAE – NICOLAAS WILLEM HANEKOM

Profession: Environmental Scientist and Environmental Assessment Practitioner

Date of Birth: 01/02/1967

BIOGRAPHICAL SKETCH

Nicolaas Hanekom is a qualified Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology. Nicolaas is certified in terms of section 20(3)(a) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), as a Professional Natural Scientist Ecological Science (Pri.Sci.Nat); Aquatic Science & Conservation Science (Cand.Sci.Nat), Registration Number: 004415. He further qualified in Environmental Management Systems ISO 14001:2004, at the Centre for Environmental Management, North-West University, as well as Environmental Management Systems ISO 14001:2004 Audit: Internal Auditors Course to ISO 19011:2003 level, from the Centre for Environmental Management, North-West University qualifying him to execute audits to ISO/SANS environmental compliance and EMS standards.

He has also completed the suite of Greener Governance courses with certificates in;

- An Overview of Environmental Management at the Local Government Level, Centre for Environmental Management, North-West University;
- Greener Governance for Local Authorities, Centre for Environmental Management, North-West University;
- Tools for Integrated Environmental Management and Governance, Centre for Environmental Management, North-West University.

He further attended and obtained a certificate on Integrated Protected Area Planning at the Centre for Environmental Development, University of Kwa Zulu Natal and a certificate in Project Management (Theory and Practical), through CS Holdings. Nicolaas has lectured in two subjects at the Cape Peninsula University of Technology. He has 26 years of environmental planning experience, working for Free State and Western Cape departments of environmental affairs, where he reviewed and commented on development (EIA) applications, in the West Coast Region.

He has, as practising EAP been responsible for many environmental impact assessments and EIA applications, waste license and atmospheric emission license applications.

He has also been involved in the implementation of several environmental management systems. He has engaged successfully with various clients as set out below.

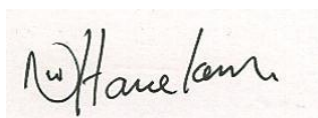
Areas of specialisation:	• Ecosystem (terrestrial and aquatic) monitoring and assessments • Design of monitoring programmes for ecosystems (terrestrial and aquatic) • Environmental Impact Assessments • River classification and environmental water requirements • Wetlands Delineation • River and Wetlands management • Water Use Authorization Applications • Water quality management • River Health Assessments
Countries of Work Experience:	South Africa (Northern Cape, Western Cape, Free State, Mpumalanga, Gauteng)
Employment Record	• Student at Bontebok National Park (1992) • Assistant Reserve Manager at Gariep Dam Nature Reserve, Free State (1993 - 1998) • Reserve Manager, Conservation Services Manager for Western Cape Nature Conservation Board (1998 - 2006) • External Lecturer at Cape Peninsula University of Technology (2003 - 2005) • Director: Environmental Management at Cape Lowlands Environmental Services (2006 – 2010) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Eco Impact (Pty) Ltd (2010 – to August 2019) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Enviro-EAP (Pty) Ltd (September 2019 – to date)
Professional membership, accreditations and courses	• South African Council for Natural Scientists Professions Pri.Sci.Nat (Ecological Science) • Riparian vegetation identification and health assessment. Internal Western Cape Nature Conservation short course presented by Dr C Boucher (Stellenbosch University) in 2000. • SASS5 Aquatic Biomonitoring Training Course. 2 to 5 September 2013. Ground Truth Water and Environmental Engineering consultancy in partnership with the Department of Water Affairs. • Workshop on “Section 21(c) and (i) Water Use Training: Understanding Watercourses and Managing Impacts to their Characteristics”. 10 May 2017. Presented by Dr Wietsche Roets of the Department of Water and Sanitation (Sub-Directorate: Instream Water Use).
Summary of experience	1992: South African National Parks. Student at Bontebok National Park with management and monitoring actions related to the Breede River.

	1993 -1998: Free State Nature Conservation. Ecological management and monitoring actions related to the Gariep Dam, Orange and Caledon Rivers. 1998 -2006: CapeNature. Ecological management and monitoring actions related to the Berg River Estuary, Verlorenvlei, Lamberts bay's Jackalsvlei, Wadrikt Soutpanne, Oliphant's River mouth, Rocherpan Nature Reserve, etc. Review and assessment of EIA applications, inclusive of Freshwater ecology. Did some site visits with Department of Water Affairs and Forestry (Hester Lyons) to confirm the presence of aquatic ecological features during EIA water use registration applications. 2006 to date: Cape Lowland Environmental Services, Eco Impact Legal Consultant and Enviro-EAP. Ecological (Freshwater and aquatic) Specialist input, assessment, monitoring and reports.
Publications and assessment reports	Just to name a few. Was involved in many Ecological Assessments, monitoring and inputs in EIA applications. • Elandskloof Farm 475 Citrusdal Biodiversity Baseline Survey. August 2010. This Biodiversity Assessment Covering Terrestrial and Aquatic Aspects to Inform Decisions Regarding The Proposed Elandskloof Weir Flood Damage Project On Farm 475, In The Citrusdal Area. • Cape Solar Energy Electricity Generation Facility. Farm 187/3 & 187/13 Kenhardt. Biodiversity And Ecological Baseline Survey. January 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Prieska Photovoltaic Power Generation Project. Prieska Commonage Northern Cape. Biodiversity And Ecological Baseline Survey. July 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Witteklip Erf 123 Extension, Vredenburg. Biodiversity Baseline Survey. Updated - October 2012 (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Baseline Biodiversity Survey And Wetland Delineation for ECCA Holdings: Cape Bentonite Mine on Erf 1412 Near Heidelberg. Prepared for: Shangoni Management Services Pry (Ltd). October 2014. • Freshwater Impact Assessment Laingsburg Flood Damage Repairs & Storm Water Infrastructure. 18 February 2016. • Ecological Assessment for Swartland Municipality - Upgrades To Voortrekker/Bokomo Road And Voortrekker/Rozenburg Road Intersections and Upgrade to the Diep River Bridge, Malmesbury on A Portion Of Erf 327, Malmesbury (Road) Erf 1530, Diep River Bridge Crossing, and Erf 1528, Property South of Diep River where Road Widening and Turning Circle Will Be

	Constructed. March 2016. (Freshwater Ecology Inputs and Water Use Registration) • Freshwater Impact Assessment. McGregor Bridge, Robertson Bridge and Willem Nels River Maintenance Management Plan. 24 June 2016. (Freshwater Ecology assessment and input as well as Water Use Registration) • Water Use Authorization Application Risk Matrix. Orange Grove Trust Vegetation Clearing and Agricultural Development on Portion 4 of Farm Glen Heatlie No 316, Worcester. 12 June 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Water Use Authorization Application Risk Matrix Prepared For: Witzenberg Municipality Sand Mine Farm 1 Prince Alfred Hamlet. 28 March 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Proposed Hartmanshoop Agri Vegetation Clearing Project and Irrigation on Erf 686, Laingsburg. 12 August 2017. (Freshwater ecological inputs in Water Use Registration). • County Fair: Hocraft Abattoir And Rendering Facility Waste Water Treatment Works "CF Hocraft WWTW" Mosselbank River Second Quarter 2018 Biomonitoring Report. June 2018. (Done quarterly biomonitoring for the last three years).
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CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me.



Nicolaas Hanekom Pri Sci Nat (Ecology).
Registration number 004415