



**PROPOSED REMOVAL AND REPLACEMENT OF
VARIOUS EXISTING CULVERTS AND PIPES IN THE
BITOU MUNICIPALITY AT DR1791 KM 1.59:
LEERMANSDRIFT RIVER, GARDEN ROUTE DISTRICT
MUNICIPALITY, WESTERN CAPE PROVINCE.**

Plant Species, Animal Species and Terrestrial Biodiversity Theme
Compliance Statement

November 2023

Prepared for:

Sharples Environmental Services



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076 965 8002

Today's Impact | Tomorrow's Legacy

CONTENTS

1. Document control	6
1.1 Quality and revision record	6
1.1.1 Quality approval.....	6
1.1.2 Revision record	6
2. Specialist details.....	6
2.1 Details of the specialist	6
2.1.1 Expertise of the specialist	6
2.1.2 Statement of independence – specialist.....	6
3. Introduction	8
3.1 Project description	8
3.2 Objective	11
3.4 Minimum Requirements – Screening Tool	11
3.4.1 Terrestrial Biodiversity Theme Results	13
3.4.2 Plant Species Theme Results.....	14
3.4.3 Animal Species Theme Results.....	16
4. Methodology.....	19
4.1 Land cover, climate, and soils and geology	19
4.2 Botanical, Faunal and Terrestrial Assessment.....	19
4.3.2 Vegetation and Fauna	19
4.3.3 Sensitive areas	21
4.3.4 Site inspection.....	21
4.3.5 Ecological Importance.....	21
4.3. Assumptions, uncertainties, and gaps in knowledge	22
4.3.1 Assumptions and uncertainties	22
4.3.2 Gaps in the knowledge.....	23
5.Results.....	24
5.1 Land cover	24

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

5.2 Climate	24
5.3 Soils and Geology	24
5.4 Botanical, Faunal and Terrestrial Assessment.....	26
5.4.1 General Vegetation description	26
5.4.2 Sensitive areas	28
5.4.3 Site Assessment	29
5.4.4 Species of conservation concern	33
5.4.4.1 Plant Species	33
5.4.4.2 Animal Species	33
5.4.5 Areas of Conservation Concern	33
5.4.6 Ecological Sensitivity Assessment	33
5.5 Site Sensitivity Verification of the Environmental Themes	36
6. Impact management outcomes or any monitoring requirements for inclusion in the EMPR	36
7. Conditions to which this statement is subjected.....	37
8. Assumptions, uncertainties, and gaps in knowledge.....	37
9. References	38
10. Appendixes.....	39
Appendix A - Curriculum Vitae of co-author.....	40
Appendix B - Curriculum Vitae of Lead Author	44
Appendix C	50
Appendix D.....	51

FIGURES

Figure 1: Locality map for the Causeway at DR1791 km 1.59: Leermansdrift River, Western Cape Province.	9
Figure 2: Layout map for the Causeway at DR1791 km 1.59: Leermansdrift River, Western Cape Province.	10
Figure 3: Terrestrial Biodiversity Theme based on the results from the National Screening Tool Report.	13
Figure 4: Plant Species Theme based on the results from the National Screening Tool Report.	14
Figure 5: Animal Species Theme based on the results from the National Screening Tool Report.	16
Figure 6: Landcover map for the proposed development footprint (demarcated in blue).	24
Figure 7: Soil type within the proposed development site (demarcated in blue).	25
Figure 8: Vegetation types within the proposed development site (demarcated in blue).	26
Figure 9: Figure 9: Sensitivity of the proposed development footprint (demarcated in blue).	28
Figure 10: Grasses and invasive tree species observed during the site inspection on 30 October 2023.	30
Figure 11: Alien trees dominate the vegetation such as <i>Acacia mearnsii</i> (Black Wattle).	31
Figure 12: <i>Sparrmannia africana</i> (African Hemp).	32

TABLES

Table 1 Content cross-reference checklist for specialist assessment and minimum report content requirements for Terrestrial Biodiversity Compliance Statement Report as per GN R 320, with corresponding section names in the report.	13
Table 2 Content cross-reference checklist for specialist assessment and minimum report content requirements for Plant Species Theme Compliance Statement Report as per GN R 1150, with corresponding section names in the report.	15
Table 3 Content cross-reference checklist for specialist assessment and minimum report content requirements for Animal Species Theme Compliance Statement as per GN R 1150, with corresponding section names in the report.	16
Table 4: Sensitivity features, as identified by the Screening Tool Report generated for the project site. The results from the desktop study were added for each sensitivity feature in additional columns. .	17
Table 5 Site Ecological Importance of the different habitat units delineated within the footprint.	35
Table 6: Plant species recorded on the proposed development during the site inspection.	50
Table 7: Animal species likely to be found on the proposed development footprint (which have also been recorded on the footprint or surrounding area)	51

1. Document control

1.1 Quality and revision record

1.1.1 Quality approval

	Capacity	Name	Signature	Date
Lead Author	Ecological Specialist (MSc Biological Sciences, UCT 2019; SACNASP ref: 130295)	Megan Smith		15/11/2023
Co-Author:	Ecologist (BSc Hons. Biodiversity and Ecology, SU 2016)	Nicolene Cloete		15/11/2023

This report has been prepared in accordance with Enviroworks Quality Management System.

1.1.2 Revision record

Revision Number	Objective	Change	Date
1	Internal review	-Spelling, Grammer	14/11/2023

2. Specialist details

2.1 Details of the specialist

This Terrestrial Compliance Statement was prepared and compiled by Megan Smith from Enviroworks. The sections below provide the details of the Specialist and explain their expertise to prepare this assessment.

Business name of Specialist:	Enviroworks
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2.1.1 Expertise of the specialist

Megan Smith is an Environmental Specialist at Enviroworks. His qualifications include an MSc in Biological Sciences (UCT) and over 6 years of experience in the environmental field.

2.1.2 Statement of independence – specialist

I, Megan Smith, ID 9412140124080 declare that I:

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

- am an Environmental Specialist at Enviroworks.
- act as an independent Environmental Consultant.
- have compiled this Botanical, Faunal and Terrestrial Biodiversity Theme Compliance Statement.
- I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference.
- remuneration for services by the Proponent in relation to this proposal is not linked to approval by decision-making Authorities responsible for permitting this proposal.
- the consultancy has no interest in secondary or downstream developments as a result of the outcome of this Compliance Statement.
- Have no and will not engage in conflicting interests in the undertaking of the Activity.
- undertake to disclose to the Client and the Competent Authority any material, or information that have or may have the potential to influence the decision of the Competent Authority required in terms of the Environmental Impact Assessment Regulations 2014, as amended.
- will provide the Client and Competent Authority with access to all information at my disposal, regarding this project, whether favourable or not.

Megan Smith



15 November 2023

3. Introduction

3.1 Project description

The proponent Bitou Municipality proposes to remove and replace the Causeway at DR1791 km 1.59: Leermansdrift River. The bypass road will be partially outside the road reserve (Figure 1 for the locality). The project will consist of the following:

- Replace existing causeway with new much bigger openings;
- Provide inlet and outlet apron slab and wing walls;
- Raise road about an estimated 600mm;
- Temporary deviation of the road downstream, the bypass will be 4m wide and 55m long.
- The bypass extends approximately 2.5m beyond the road reserve, which represents an area of approximately 68m². The total development footprint of the bypass road will be ca. 385m².

Note that infrastructure already exists on the footprint.



Figure 1: Locality map for the Causeway at DR1791 km 1.59: Leermansdrift River, Western Cape Province.

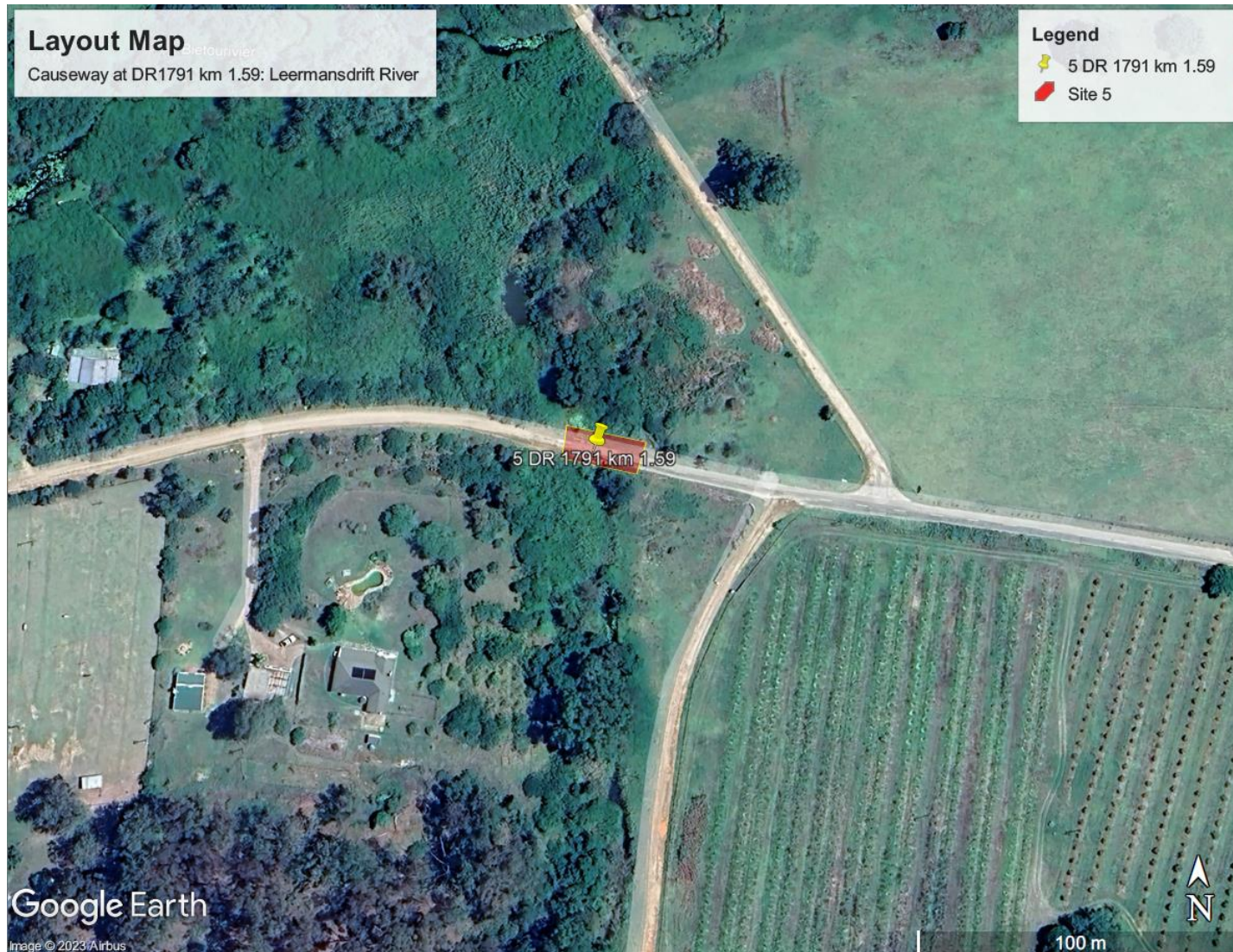


Figure 2: Layout map for the Causeway at DR1791 km 1.59: Leermansdrift River, Western Cape Province.

3.2 Objective

Various environmental legislation in South Africa makes provision for the protection of our natural resources and the functionality of ecological systems to ensure sustainability. Such acts include the National Environmental Management: Biodiversity Act (Act 10 of 2004), National Forests Act (Act 84 of 1998), Conservation of Agricultural Resources Act (Act 43 of 1983), National Water Act (Act 36 of 1998), framework legislation such as the NEMA and protocols such as the PROCEDURES FOR THE ASSESSMENT AND MINIMUM CRITERIA FOR REPORTING ON IDENTIFIED ENVIRONMENTAL THEMES IN TERMS OF SECTIONS 24(5)(a) AND (h) AND 44 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998, WHEN APPLYING FOR ENVIRONMENTAL AUTHORISATION (GN No. 43110 of 20 March 2020).

The various components of ecological systems are all interrelated and it is therefore important that specialist studies of all such components be conducted prior to the commencement of any proposed project development. Only once the potential impacts and outcomes of proposed developments on the ecological systems of an area are understood, can informed decisions be made regarding the viability of projects to address and achieve the environmental and socio-economic needs of an area.

The proposed development could have potential impacts on the vegetation, fauna, and the surrounding environment. Vegetation will be displaced since the new development footprint will transform some of the surface area. To evaluate the level of acceptability of the impact on the natural environment a Plant Species, Animal Species, and Terrestrial Biodiversity Themes assessment was conducted. This was required to determine the potential presence of ecologically significant habitats and plant/animal species of conservation concern within the proposed project footprint. Proposed mitigation and management measures must also be recommended to attempt to reduce/alleviate the identified potential impacts.

This Compliance Statement included a vegetation and habitat survey to:

- Identify and list significant species encountered on the proposed project footprint and direct surrounds and list any protected and/or Red Data Listed species.
- Determine and discuss the condition and extent of degradation and/or transformation of the vegetation on the proposed project footprint.
- Determine any potential habitats for any protected or threatened faunal species.
- Determine and discuss the ecological sensitivity and significance of the proposed project area.
- Identify, evaluate, and rate the potential impacts of the proposed project on the natural environment.
- Provide recommendations on mitigation and management measures to attempt to reduce/alleviate these identified potential impacts.

3.4 Minimum Requirements – Screening Tool

The National Web-based Environmental Screening Tool (<https://screening.environment.gov.za/screeningtool/>) is a geographically based web-enabled application which allows a proponent intending to submit an application

for Environmental Authorisation in terms of the Environmental Impact Assessment (EIA) Regulations 2014, as amended to screen their proposed site for any environmental sensitivity.

The Screening Tool also provides site-specific EIA process and review information, for example, the Screening Tool may identify if an industrial development zone, minimum information requirement, Environmental Management Framework or bio-regional plan applies to a specific area.

Further to this, the Screening Tool identifies related exclusions and/ or specific requirements including specialist studies applicable to the proposed site and/or development, based on the national sector classification and the environmental sensitivity of the site.

Finally, the Screening Tool allows for the generating of a Screening Report referred to in Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended whereby a Screening Report is required to accompany any application for Environmental Authorisation and as such the tool has been developed in a manner that is user friendly and no specific software or specialised GIS skills are required to operate this system.

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 have been gazetted (GN. R 320 of 20 March 2020). In terms of sections 24(5)(a), (h) and 44 of the National Environmental Management Act, 1998, these procedures prescribe general requirements for undertaking site sensitivity verification and for protocols for the assessment and minimum report content requirements of environmental impacts for environmental themes for activities requiring Environmental Authorisation, as contained in the Schedule therein. When the requirements of a protocol apply, the requirements of Appendix 6 of the Environmental Impact Assessment Regulations, as amended, (EIA Regulations), promulgated under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), are replaced by these requirements.

According to the report generated by the National Screening Tool, the following three themes and their protocols will apply to this study:

- *Terrestrial Biodiversity Theme*
AMENDMENT TO THE PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL BIODIVERSITY (GN 3717, 28 July 2023)
- *Plant Species Theme*
PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL PLANT SPECIES (GN 1150, 2020).
- *Animal Species Theme*
PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL ANIMAL SPECIES (GN 1150, 2020)

3.4.1 Terrestrial Biodiversity Theme Results



Figure 3: Terrestrial Biodiversity Theme based on the results from the National Screening Tool Report.

Based on the initial Site Sensitivity Verification (Section 5.7) undertaken by the specialist on **30 October 2023**, the Terrestrial Biodiversity Theme which indicated that it is situated in the Garden Route Biosphere reserve sensitivity was confirmed to be “Low” rather than “Very high” as identified by the screening tool in Figure 3. The protocols further specify the content of the assessment and minimum report content requirements on terrestrial biodiversity. The requirements are listed in the table below. The relevant section of this report is linked to each of the protocol’s minimum requirements.

Table 1 Content cross-reference checklist for specialist assessment and minimum report content requirements for Terrestrial Biodiversity Compliance Statement Report as per GN R 320, with corresponding section names in the report.

Requirement	Section of this report
contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;	Details of the specialist and review specialist
a signed statement of independence by the specialist	Statement of independence - 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;	Date and season of the site visit
a baseline profile description of biodiversity and ecosystems of the site;	General Vegetation Description; Sensitive Areas

the methodology used to verify the sensitivities of the terrestrial biodiversity features on the site, including equipment and modelling used, where relevant;	Methodology
in the case of a linear activity, confirmation from the terrestrial biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase	Overall Impact Assessment
where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMP	Overall Impact Assessment
a description of the assumptions made and any uncertainties or gaps in knowledge or data; and	Assumptions, uncertainties, and gaps in knowledge
any conditions to which the compliance statement is subjected.	Risk ratings and potential impacts

3.4.2 Plant Species Theme Results

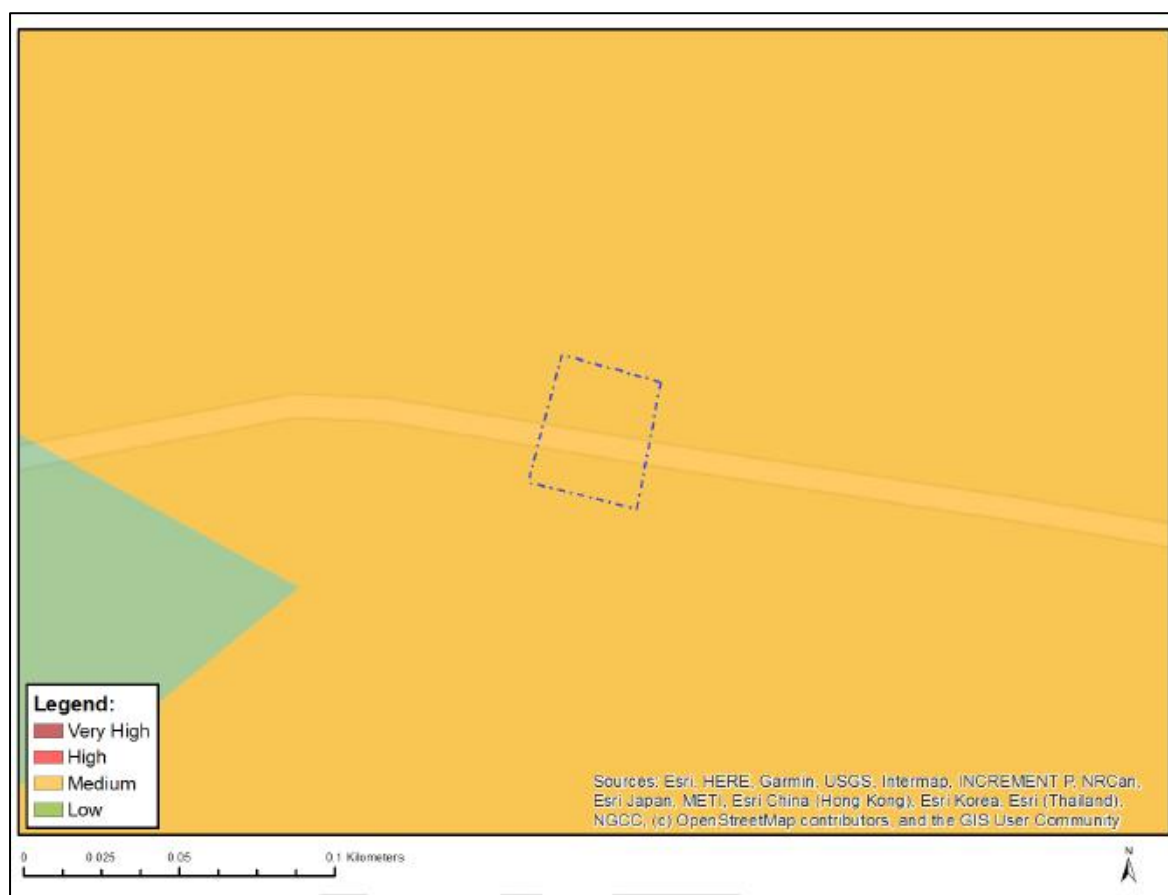


Figure 4: Plant Species Theme based on the results from the National Screening Tool Report.

Based on the initial Site Sensitivity Verification (Section 5.7) undertaken by the specialist on **30 October 2023**, the Plant Species Theme sensitivity was confirmed to be “Low” rather than “Medium” as identified by the screening tool in Figure 4. The protocols further specify the content of the assessment and minimum report content requirements on the Plant Species Theme. The requirements are listed in the table below. The relevant section of this report is linked to each of the protocol’s minimum requirements.

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

Table 2 Content cross-reference checklist for specialist assessment and minimum report content requirements for Plant Species Theme Compliance Statement Report as per GN R 1150, with corresponding section names in the report.

Requirement	Section of this report
contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;	Details of the specialist and review specialist
a signed statement of independence by the specialist	Statement of independence - 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;	Date and season of the site visit
A description of the methodology used to undertake the site verification and impact assessment and site inspection, including equipment and modelling used, where relevant;	Methodology
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	Assumptions, uncertainties, and gaps in knowledge
a description of the mean density of observations/number of samples sites per unit area of site inspection observations	Methodology
where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMP	Overall Impact Assessment
a description of the assumptions made and any uncertainties or gaps in knowledge or data; and	Assumptions, uncertainties, and gaps in knowledge
any conditions to which the compliance statement is subjected.	Risk ratings and potential impacts

3.4.3 Animal Species Theme Results

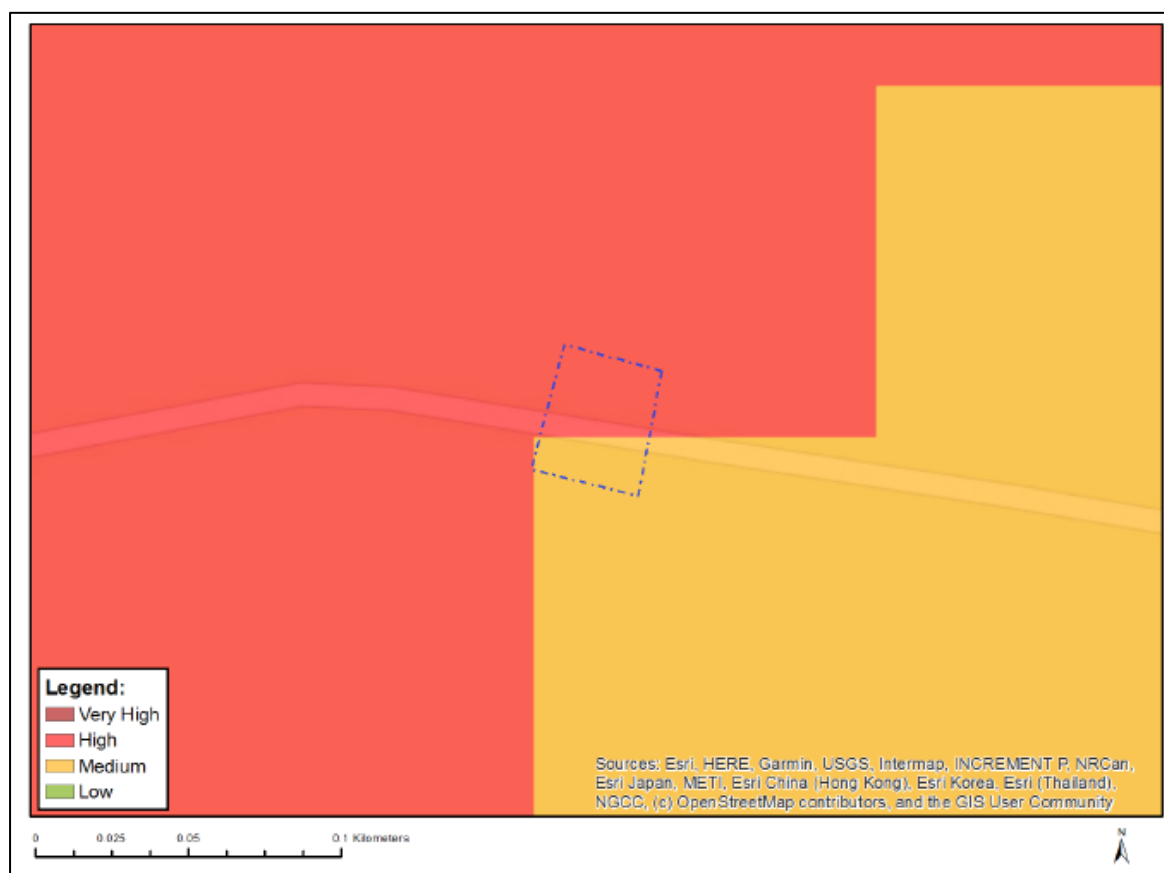


Figure 5: Animal Species Theme based on the results from the National Screening Tool Report.

Based on the initial Site Sensitivity Verification (Section 5.7) undertaken by the specialist on 30 October 2023, the Animal Species Theme sensitivity was confirmed to be of “Low” sensitivity rather than “High” as identified by the screening tool in Figure 5. The protocols further specify the content of the assessment and minimum report content requirements on the Plant Species Theme. The requirements are listed in the table below. The relevant section of this report is linked to each of the protocol’s minimum requirements.

Table 3 Content cross-reference checklist for specialist assessment and minimum report content requirements for Animal Species Theme Compliance Statement as per GN R 1150, with corresponding section names in the report.

Requirement	Section of this report
contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;	Details of the specialist and review specialist
a signed statement of independence by the specialist	Statement of independence - 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;	Date and season of site visit
A description of the methodology used to undertake the site verification and impact assessment and site inspection, including equipment and modelling used, where relevant;	Methodology
A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a	Assumptions, uncertainties, and gaps in knowledge

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

Requirement	Section of this report
statement of the timing and intensity of site inspection observations	
a description of the mean density of observations/number of samples sites per unit area of site inspection observations	Methodology
where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMP	Overall Impact Assessment
a description of the assumptions made and any uncertainties or gaps in knowledge or data; and	Assumptions, uncertainties, and gaps in knowledge
any conditions to which the compliance statement is subjected.	Risk ratings and potential impacts

During the site verification, the proposed development was surveyed, and all species encountered were recorded to detect any species of conservation concern, except Avifaunal species as this will be covered by a separate report.

Table 4: Sensitivity features, as identified by the Screening Tool Report generated for the project site. The results from the desktop study were added for each sensitivity feature in additional columns.

Sensitivity	Features	Common Name	Threatened Status	Habitat preference
Terrestrial Biodiversity Theme				
Very High	Critical biodiversity area 2	N/A	N/A	N/A
Very High	FEPA Sub catchments	N/A	N/A	N/A
Very High	Protected Areas Expansion Strategy	N/A	N/A	N/A
Very High	Protected Areas Expansion Strategy: SANParks	N/A	N/A	N/A
Very High	Strategic Water Source Areas	N/A	N/A	N/A
Very High	Vulnerable ecosystem	N/A	N/A	N/A
Plant Species Theme				
Medium	<i>Ruschia duthiae</i>	N/A	Vulnerable B1ab (ii, iii, iv, v) +2ab (ii, iii, iv, v)	Tsitsikamma Sandstone Fynbos, Garden Route Shale Fynbos, Knysna Sand Fynbos
Medium	<i>Leucospermum glabrum</i>	Outeniqua Pincushion	Endangered B1ab (iii, v) c(iv)+2ab (iii, v) c(iv); C2a(i)	Tsitsikamma Sandstone Fynbos, South Outeniqua Sandstone Fynbos, Garden Route Shale Fynbos, Garden Route Granite Fynbos
Medium	<i>Selago burchellii</i>	N/A	Vulnerable B1ab (ii, iii, iv, v)	Garden Route Shale Fynbos, Southern Cape Dune Fynbos, Knysna Sand Fynbos
Medium	<i>Sensitive species 419</i>	N/A		
Medium	<i>Acmadenia alternifolia</i>	N/A	Vulnerable B1ab (ii, iii, iv, v) +2ab (ii, iii, iv)	South Outeniqua Sandstone Fynbos, Garden Route Shale Fynbos, Goukamma Dune Thicket
Medium	<i>Sensitive species 763</i>	N/A		
Animal Species Theme				
High	<i>Circus ranivorus</i>	African Marsh-harrier	Least Concern	Grassland - Subtropical/Tropical Dry; Wetlands (inland) - Bogs, Marshes, Swamps, Fens,

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

Sensitivity	Features	Common Name	Threatened Status	Habitat preference
				Peatlands; Wetlands (inland) - Permanent Freshwater Marshes/Pools (under 8ha); Artificial/Terrestrial - Arable Land
High	<i>Neotis denhami</i>	Denham's Bustard	Near Threatened under criteria A2bcd+3bcd+4bcd.	Savanna – Dry; Shrubland - Subtropical/Tropical Dry; Shrubland - Mediterranean-type Shrubby Vegetation; Grassland - Subtropical/Tropical Dry; Grassland - Subtropical/Tropical Seasonally Wet/Flooded; Grassland - Subtropical/Tropical High Altitude; Artificial/Terrestrial - Arable Land; Artificial/Terrestrial - Pastureland
Medium	<i>Africalus knysnae</i>	Knysna Leaf-folding Frog	Endangered under criteria B1ab (i, ii, iii, v) +2ab (i, ii, iii, v).	Forest - Subtropical/Tropical Moist Lowland; Shrubland - Mediterranean-type Shrubby Vegetation; Wetlands (inland) - Permanent Freshwater Marshes/Pools (under 8ha); Wetlands (inland) - Seasonal/Intermittent Freshwater Marshes/Pools (under 8ha); Artificial/Terrestrial - Arable Land; Artificial/Aquatic - Water Storage Areas (over 8ha); Artificial/Aquatic - Ponds (below 8ha)
Medium	<i>Stephanoaetus coronatus</i>	Crowned Eagle	Near Threatened under criteria A2cde+3cde+4cde.	Forest - Subtropical/Tropical Dry; Forest - Subtropical/Tropical Moist Lowland; Forest - Subtropical/Tropical Moist Montane; Savanna – Dry; Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls); Artificial/Terrestrial - Plantations
Medium	<i>Chlorotalpa duthieae</i>	Duthie's Golden Mole	Vulnerable under criteria B1ab(iii)+2ab(iii).	Forest - Subtropical/Tropical Moist Lowland; Savanna – Moist; Grassland – Temperate; Artificial/Terrestrial - Arable Land; Artificial/Terrestrial – Pastureland; Artificial/Terrestrial – Plantations; Artificial/Terrestrial - Rural Gardens; Artificial/Terrestrial - Urban Areas
Medium	Sensitive species 8			
Medium	<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	Vulnerable under criteria B2ab (iii, v).	Shrubland - Mediterranean-type Shrubby Vegetation

4. Methodology

4.1 Land cover, climate, and soils and geology

- Information related to the land cover of the development was based on the available literature and the latest GIS data available from the Department of Environmental Affairs (Department of Environmental Affairs, 2018).
- Climate data was extracted from available literature and the latest GIS data available.
- Information related to the classified Soils and Geology within the development site was based on available literature and the Environmental Potential Atlases (Department of Environmental Affairs and Tourism and University of Pretoria, 1995).

4.2 Botanical, Faunal and Terrestrial Assessment

4.3.2 Vegetation and Fauna

- Vegetation types and their conservation status were extracted from the South African National Vegetation Map (Mucina and Rutherford, 2006), the 2018 National Biodiversity Assessment Synthesis Report (South African National Biodiversity Institute (SANBI), 2019) and the National List of Ecosystems that are Threatened and in Need of Protection (GN 2747 of 18 November 2022).
- A brief discussion on the vegetation type in which the study area is situated, using available literature, to place the study in context.
- A broad-scale map was generated of the vegetation and habitat sensitivity of the site using available GIS data and the DFFE Screening Tool.
- A list of endemic taxon species known to occur in the area was investigated before the site visit (Mucina and Rutherford, 2006).
- Sightings from the area and surrounds extracted from the Global Biodiversity Information Facility and iNaturalist ("Global Biodiversity Information Facility," n.d.; "iNaturalist," n.d.), and the IUCN database ("IUCN 2020," n.d.).
- Species and their Red Data Listing and Protected Status, occurring or expected to occur within the area were obtained from:
 - The DFFE Screening Tool,
 - Red List of South African Plants (Nick and Raimondo, 2007; South African National Biodiversity Institute (SANBI), 2016),
 - Western Cape Biodiversity Management Act, No 6 of 2022;
 - Nature Conservation Ordinance 19 of 1974;
 - NOTICE OF THE LIST OF PROTECTED TREE SPECIES UNDER THE NATIONAL FORESTS ACT, 1998 (ACT NO. 84 OF 1998)
 - IUCN ("IUCN 2020," n.d.),

- National Environmental Management Biodiversity Act, 2004 (Act 10 of 2004): Critically Endangered, Endangered, Vulnerable, and Protected Species List (2007, as amended),
- Virtual databases to determine potential faunal species that may inhabit the site:
 - Atlas of African Lepidoptera
 - Southern African Bird Atlas Project 2
 - Reptile Atlas of Africa
 - Atlas of African Spiders
 - Atlas of African Scorpions
 - Frog Atlas of southern Africa
 - Virtual Museum of African Mammals,
- List of plant and faunal species recorded during the survey. Plants and animals were identified from photographs and specimens taken on-site, and
- The site visit occurred in the spring; a season known for the heightened activity of most species. The weather was favourable, providing clear visibility that facilitated a thorough examination of the facility and the surrounding vegetation. However, it's worth noting that certain herbaceous grasses, angiosperms, and bulbs might not have been in the flowering stage at the time of the visit. This is a significant consideration since the flowering stage is crucial for accurately identifying and evaluating specific plant species.
- Despite this limitation, the site visit yielded valuable insights and data that will contribute to a comprehensive assessment of the proposed development and upgrades in the area. The observations made during the visit will enhance our understanding of the existing environmental conditions and biodiversity. This, in turn, will aid in making well-informed decisions to conserve and protect natural resources during the development process.
- Note that avifauna has been excluded from this assessment.

4.3.3 Sensitive areas

The Western Cape Biodiversity Spatial Plan (2017) was used to identify Critically Biodiverse Areas (Category 2) and Ecological Support Areas (Category 2) within the proposed development footprint, the proposed development property, and surrounding areas. The extent of the sensitive areas was mapped using the latest available GIS data.

4.3.4 Site inspection

To comprehensively evaluate the ecological aspects of the proposed development site and its existing facilities, a site visits was scheduled on 30 October 2023. The purpose of these visits is to gather crucial information and conduct thorough assessments that align with the Species Assessment Guidelines (2020).

During the visit on 30 October 2023, a comprehensive walk-through was conducted to identify the different habitat units and existing infrastructure. This allowed for a preliminary understanding of the site's ecological dynamics. By examining these specific areas, we aimed to gain a deeper understanding of the ecological conditions and changes within the proposed development site.

Throughout the survey process, the focus was on assessing vegetation units and habitat types, taking into consideration the dominant and typical component species. Additionally, we documented associations with specific soil types, underlying geology, and land cover characteristics. The encounters with species of conservation concern (SCC) were recorded using GPS-enabled devices, ensuring accurate geospatial data collection.

To validate our findings, we utilized the site sensitivity report generated by the DFFE Screening Tool. However, it is important to acknowledge that due to the limited number of site visits, there is a possibility that certain species may not have been detected due to seasonal variations, activity patterns, or life histories. Nevertheless, considering the degraded nature and high level of disturbance observed at both the development and reference sites, it is unlikely that species of conservation concern would be present.

Based on the comprehensive assessments conducted during the site visits, we have determined that additional inspections are not required. The information collected, coupled with the ecological considerations considered, provides a solid foundation for evaluating the ecological aspects of the proposed development site.

4.3.5 Ecological Importance

The Site Ecological Importance (SEI) was evaluated according to the protocol outlined in the Species Environmental Assessment Guideline (2020). This protocol produces a standardised metric for identifying site-based ecological importance for species in relation to a proposed project. The SEI is a function of the biodiversity importance of a specific receptor (e.g., vegetation unit or SCC population) and its resilience to environmental

impacts. The biodiversity importance is, in turn, a function of the conservation importance and functional integrity of the specific receptor.

4.3. Assumptions, uncertainties, and gaps in knowledge

4.3.1 Assumptions and uncertainties

The processes of investigation which have led to the production of this report harbour several assumptions, which include the following:

- All information provided by the applicant to the environmental specialist was correct and valid at the time that it was provided.
- Note that avifauna has been excluded from this assessment.
- The proposed project development footprint as provided by the applicant is correct and will not be significantly deviated from.
- Strategic-level investigations undertaken by the applicant before the commencement of the EIA process determined that the development site represents a potentially suitable and technically acceptable location.
- The public will receive a fair and reoccurring opportunity to participate and comment during the EIA application process, through the provision of adequate public participation timeframes stipulated in the EIA Regulations (2014, as amended).
- The need and desirability of the project are based on strategic national, provincial, and local plans and policies which reflect the interests of both statutory and public viewpoints.
- The EIA application process is a project-level framework, and the specialists are limited to assessing the anticipated environmental impacts associated with the operational phases of the proposed project.
- Strategic-level decision-making is conducted through cooperative governance principles with the consideration of sustainable and responsible development principles underpinning all decision-making.

Given that an EA application process involves prediction, uncertainty forms an integral part of the process. Two types of uncertainty are associated with the EA application process, namely process-related and prediction-related.

- Uncertainty of prediction is critical at the data collection phase as final certainty will only be obtained upon implementation of the proposed development. Adequate research, experience and expertise may minimise this uncertainty.
- Uncertainty of values depicts the approach assumed during the MP application process, while final certainty will be determined at the time of decision-making. Enhanced communication and widespread/comprehensive coordination can lower uncertainty.
- Uncertainty of related decisions relates to the interpretation and decision-making aspect of the MP application process, which shall be appeased once monitoring of the project phases is undertaken.

- The significance/importance of widespread/comprehensive consultation towards minimising the risk/possibility of omitting significant impacts is further stressed. The use of quantitative impact significance rating formulas (as utilised in this document) can further standardise the interpretation of results and limit the occurrence and scale of uncertainty.
- The initial study was undertaken as a desktop assessment and as such, the information gathered must be considered with caution, as inaccuracies and data-capturing errors are often present within these databases.
- Global Positioning System (GPS) technology is inherently inaccurate and some inaccuracies due to the use of handheld GPS instrumentation may occur. If more accurate assessments are required, the relevant areas will need to be surveyed and pegged according to surveying principles.
- The risk assessment was applied on the basis that the stipulated mitigation measures in all specialist recommendations will be implemented as recommended and therefore the results presented demonstrate the impact significance of perceived impacts on the receiving environment post-mitigation.

4.3.2 Gaps in the knowledge

The observations and findings made during the site inspection were during a specific time frame and the condition of the proposed site may vary throughout the year. Therefore, circumstances throughout the year may differ and deliver different results. The site was surveyed in late Autumn/early Winter, sampling fauna during this time has the advantage of capturing distinct animal behaviours associated with migration and preparations for hibernation. With foliage decreasing, animals may be more visible, facilitating observation and study during this period.

5.Results

5.1 Land cover

Based on the Land Cover Data (2020), the proposed development is located entirely on dense forest land and surrounding by cultivated land(Figure 6).

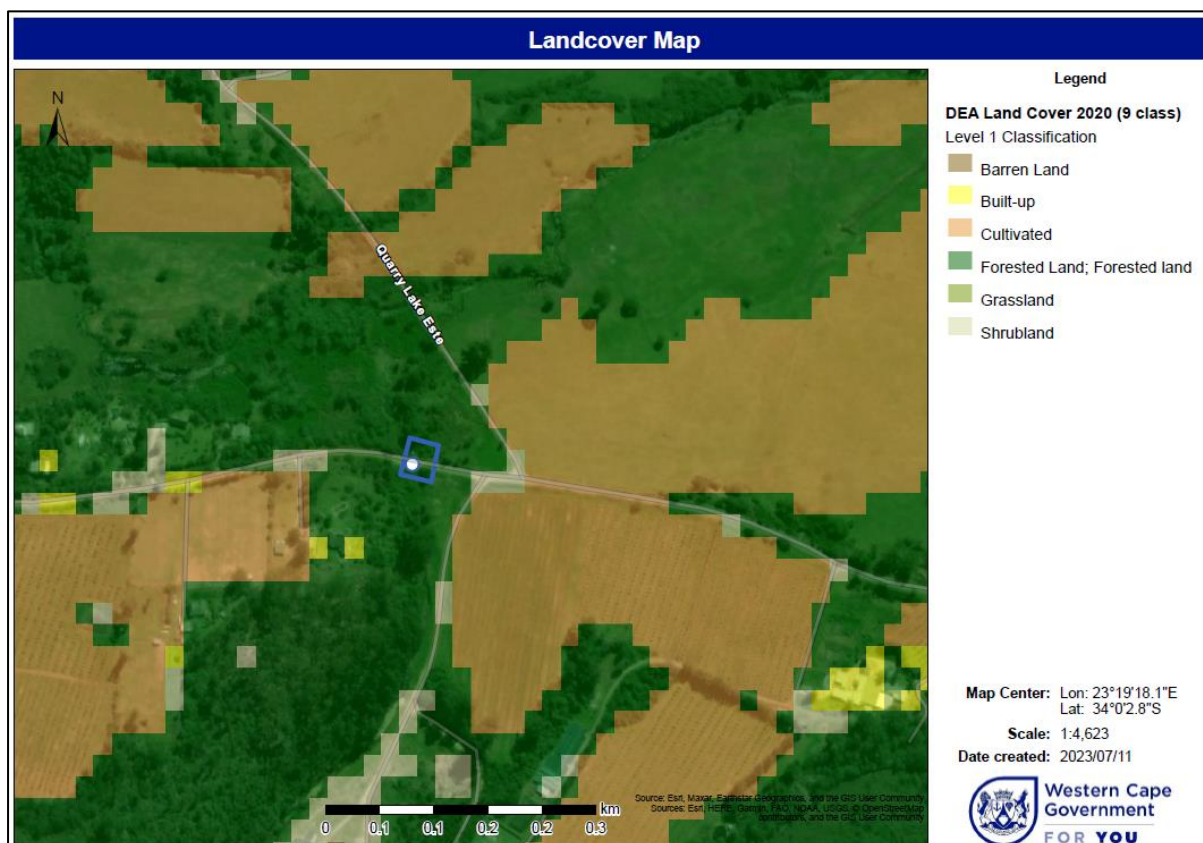


Figure 6: Landcover map for the proposed development footprint (demarcated in blue).

5.2 Climate

The Plettenberg area has a Mediterranean climate, with warm, dry summers and long, cool, wet winters. The average annual temperature for the Plettenberg area is 16.5° C with an average of 744 mm of rainfall annually. Average precipitation is highest in October (± 38.1 mm) and lowest in January (± 22.86 mm). The average monthly temperature ranges from a high of 25° C in the summer months to lows of 11.7° C during the winter months. (<https://weatherspark.com/y/89136/Average-Weather-in-Plettenberg-Bay-South-Africa-Year-Round>).

5.3 Soils and Geology

The soil geology of DR1791 km 1.59: Leermansdrift River, located in the Western Cape province of South Africa, encompasses a variety of soil types (Figure 7). These soils exhibit distinct horizons, such as the O horizon (litter layer), A horizon (leached of minerals and organic matter), and B horizon (accumulation of leached minerals and organic matter). They are often associated with forested regions and cool, humid climates. The proposed

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

development area is mainly covered by red-brown and greenish Variegated silty mudstone and sandstone, subordinate grey shale, and sandstone, and are ≥ 450 mm and < 750 mm deep (land type: Ia38). The geology of the area is mainly variegated sandstone, grey shale, and mudstone of the Kirkwood Formations, (Lambrecht and MacVicar 2004).

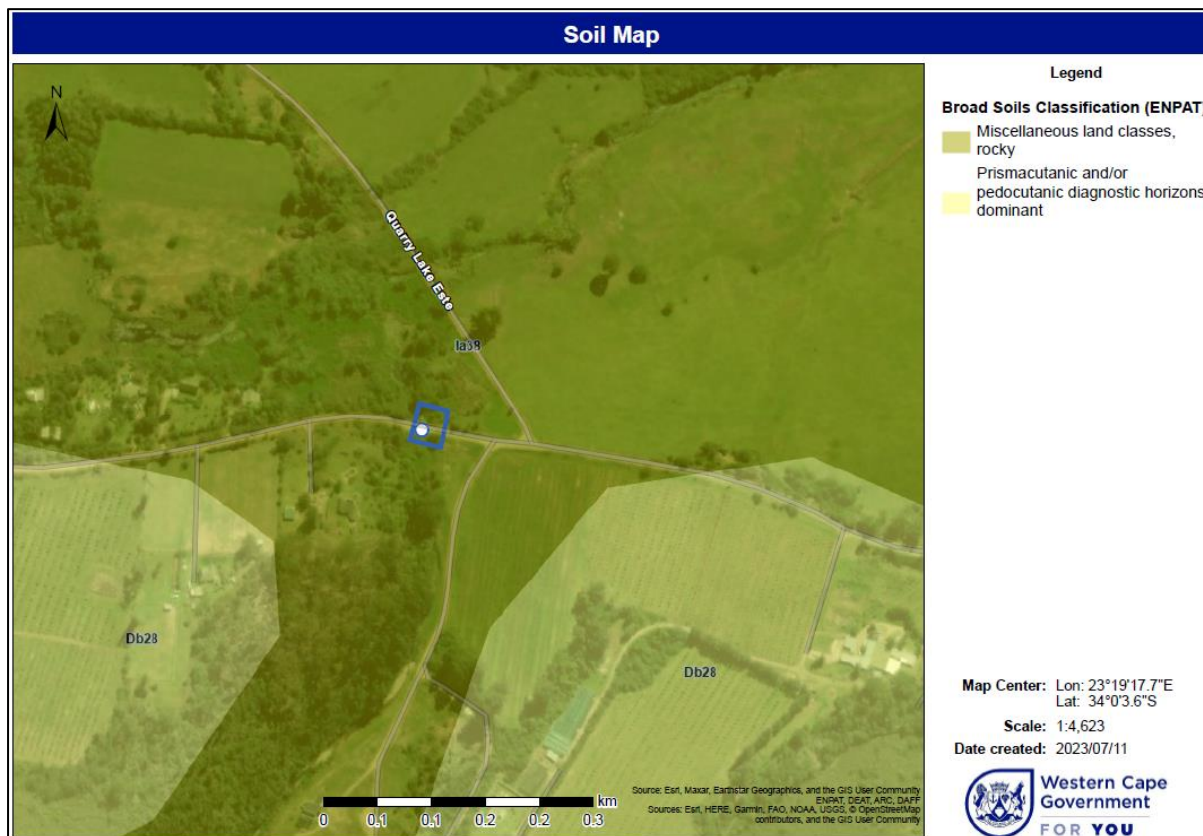


Figure 7: Soil type within the proposed development site (demarcated in blue).

5.4 Botanical, Faunal and Terrestrial Assessment

5.4.1 General Vegetation description

The proposed development, DR1791 km 1.59: Leermansdrift River (demarcated in blue) consists of Garden Route Shale Fynbos vegetation type (Figure 8).

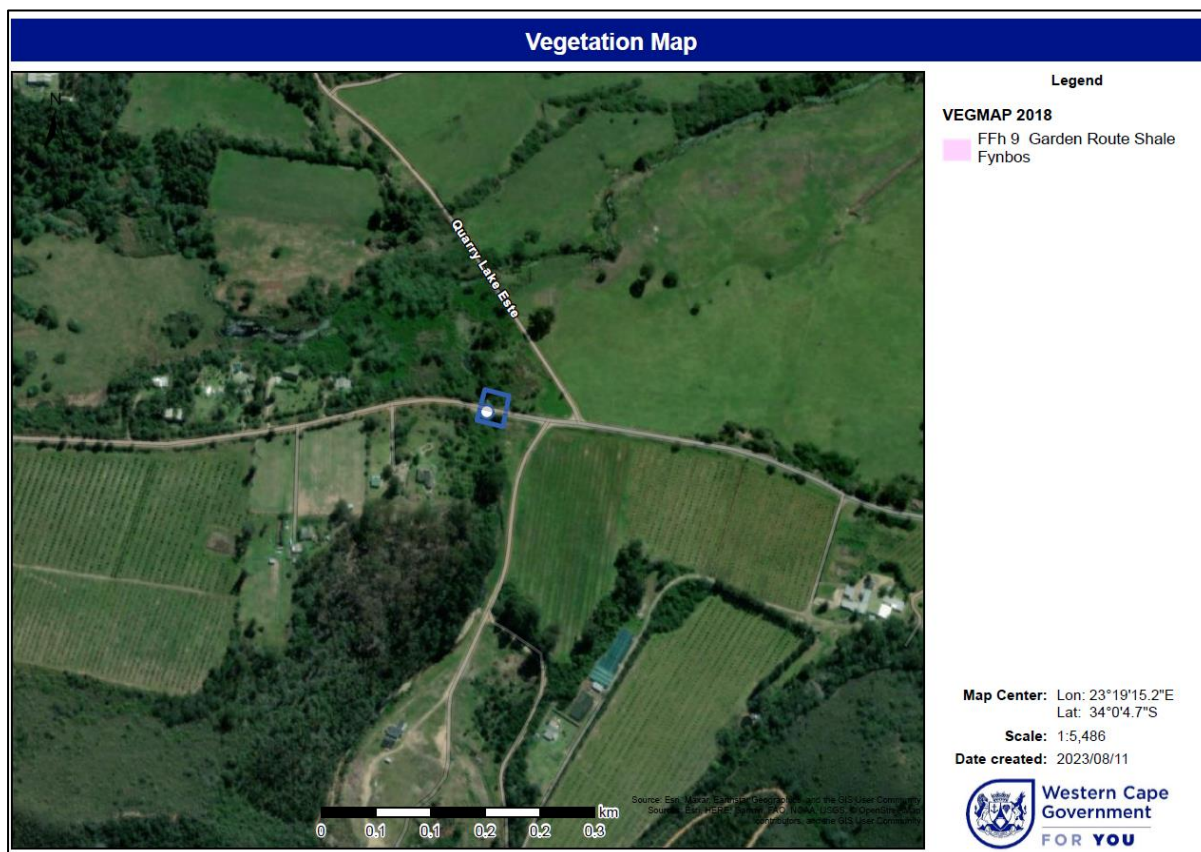


Figure 8: Vegetation types within the proposed development site (demarcated in blue).

Distribution: Garden Route Shale Fynbos (FFh 9) is primarily found in the Western and Eastern Cape Provinces, it consists of patches along the foothills of the Langeberg near Heidelberg, in the Outeniqua Mountains from Cloete's Pass via Groot Brak River valley to Plettenberg Bay. Patches also occur from the Bloukrans Pass to the shale bands south of the Tsitsikamma Mountains and the Clarkson and Kareedouw Mountains. This vegetation type occurs on undulating hills and moderately undulating plains of the coastal forelands.

Vegetation and Landscape Features: Garden Route Shale Fynbos is characterized by tall, dense proteoid and ericaceous fynbos in the higher rainfall areas, and graminoid fynbos in the areas of decreased rainfall. The Fynbos occurs on flatter, exposed landscapes that are more exposed to fires. The shales are covered in Afrotemperate forest. The vegetation is adapted to the nutrient-poor, acidic sandy soils and the Mediterranean climate of the region. Some common plant species include *Virgilia oroboides*, small clumps of thicket and valley floors have scrub forest.

Geology and Soils: Garden Route Shale Fynbos grows on moist clay-loam, prisma-cutanic and pedocutanic soils which are acidic in nature and are derived from Caiman Group and Eccas shales. These clay-loam soils are acidic and nutrient-poor, which influence the types of plants that can thrive in this vegetation type. The clay-loam nature of the soils also increases water drainage and retention.

Important Taxa: Garden Route Shale Fynbos is known for its diverse plant species. Some important taxa found in this vegetation type include various species of *Leucadendron* (Tall shrubs), such as *Leucadendron eucalyptifolium*, *Leucadendron salignum* and *protea species such as, Protea aurea subsp. Aurea, Protea coronata, Protea neriifolia*. Other significant plant groups found in Garden Route Shale Fynbos include restios (Cape reeds) and Geophytic herbs.

Endemic Taxa: There are several endemic plant species within the Garden Route Shale Fynbos vegetation type. These species are found only in this specific region and are considered unique to the area. Examples of endemic taxa include Geophytic herbs such as *Cyphia georgica*, *Disa newdigatae*, and *Gladiolus roseovenosus*.

Conservation Status: Garden Route Shale Fynbos is an important and endangered vegetation type due to its restricted distribution and the threats it faces. It has been significantly impacted by urbanization, agriculture, and invasive alien plant species. As a result, it is classified as an **endangered vegetation type**, and conservation efforts are being made to protect and restore the remaining areas of Garden Route Shale Fynbos. Garden Route Biosphere Reserve is delineated on the development footprint.

5.4.2 Sensitive areas

The proposed development footprint is not included in a CBA or ESA but does fall within the Garden Route Biosphere Reserve (Figure 9).

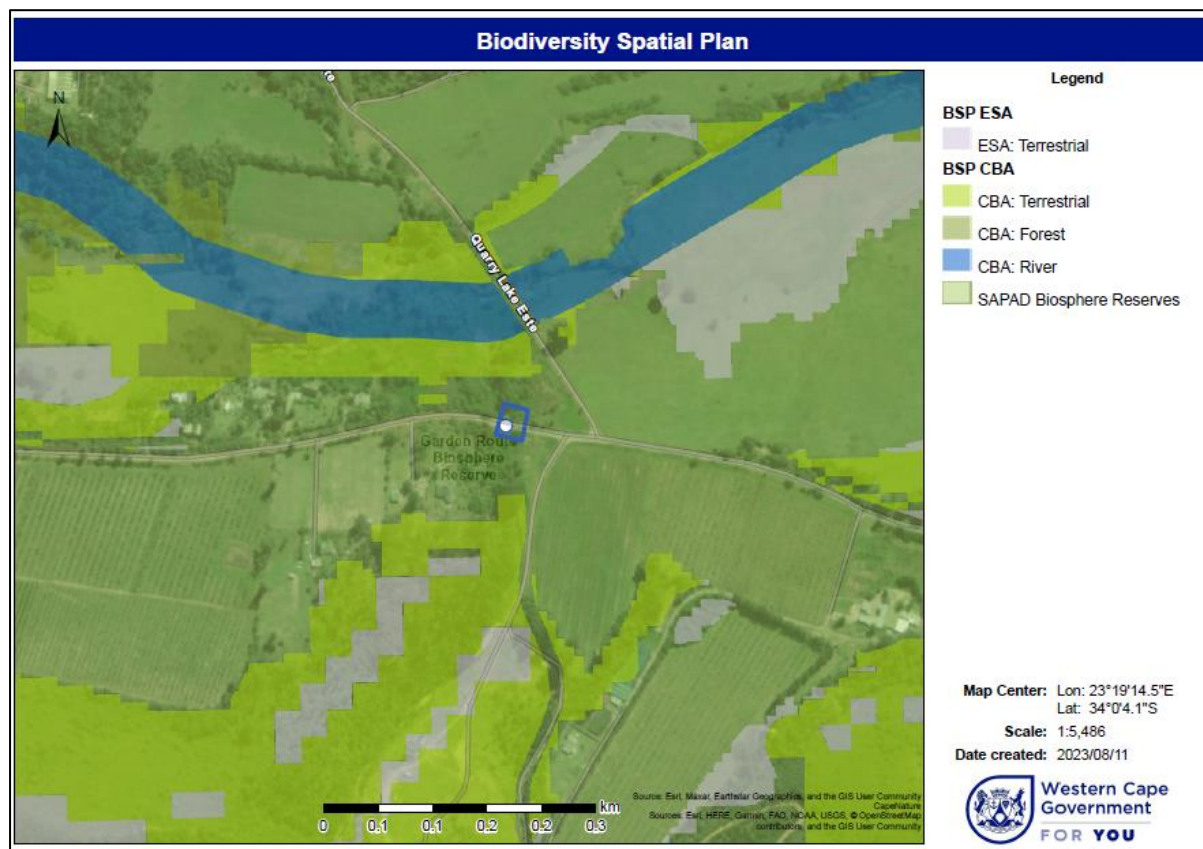


Figure 9: Sensitivity of the proposed development footprint (demarcated in blue).

Since the proposed development footprint is situated in sensitive areas identified by the Western Cape Spatial Biodiversity Plan, the development footprint is considered to hold conservation importance within these sensitive areas. To determine whether the proposed development footprint is verified to carry out the functions of the Garden Rote Biosphere Reserve as mapped, it must first be determined the reason for the Biosphere Reserve delineation.

The development footprint is situated completely in the Garden Route Biosphere Reserve as identified by the Western Cape Biodiversity Spatial Plan (Figure 9). The section of Garden Route Biosphere Reserve included in the footprint is currently in a degraded condition and thus, is unlikely to contribute to the overall functioning of the Biosphere. The proposed development is unlikely to negatively affect the Garden Route Biosphere Reserve as it has a small development footprint and most of the development/upgrade will take place on already disturbed areas which consists of existing infrastructure.

Verification of the terrestrial sensitive areas (i.e., the Biosphere Reserve) and the state thereof is discussed in Section 5.4.5. Detailed recommendations and measures to mitigate impacts in the sensitive areas are stipulated in Section 6.

5.4.3 Site Assessment

5.4.3.1 Vegetation description.

Based on the site inspection, the vegetation within the proposed development area exhibits a high invasion by several alien plant species, namely *Eucalyptus cladocalyx* (Sugar Gum), *Acacia mearnsii* (Black Wattle) (Figure 11), *Acacia longifolia* (Long-leaved wattle), *Acacia saligna* (Port Jackson), and *Sparrmannia africana* (African Hemp) (Figure 12). These invasive species dominate the site and have significantly impacted the native vegetation.

Based on this vegetation assessment, it is evident that the proposed development site is currently heavily invaded by invasive plant species, leading to the degradation and fragmentation of the native vegetation. Based on the aforementioned, the proposed development footprint does not constitute the indigenous vegetation type in composition or function.

As a general recommendation, comprehensive management and restoration strategies will be necessary to control the invasion, remove the alien species, and restore the site's indigenous vegetation and ecological integrity. However, removing the alien trees will disturb watercourse banks significantly, likely causing erosion. The overall GRDM Alien Invasive Species Management Plan should be followed by the Municipality to ensure that the area surrounding the footprint is cleared of indigenous vegetation.

Although the legal definition of “indigenous vegetation” is still applicable to the footprint given that most of the footprint has not been developed within 10 years, there is very limited evidence for the indigenous vegetation on the property. The alien invasive infestation has been ongoing for more than five years and thus soil properties and seed bank have likely significantly changed and been depleted. Therefore, elements of the indigenous vegetation type are highly unlikely to occur and unlikely to ever occur again on the property.

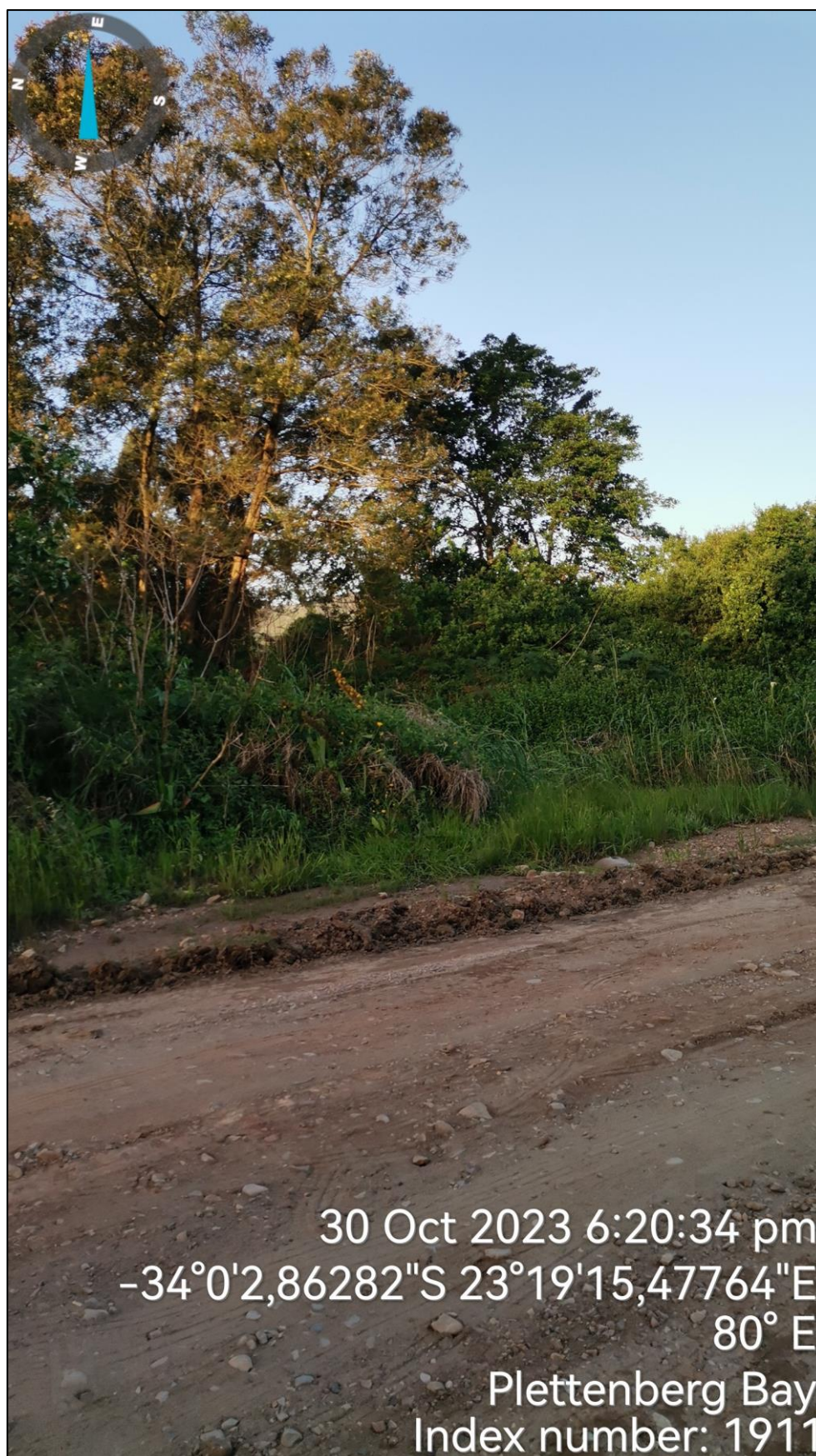


Figure 10: Grasses and invasive tree species observed during the site inspection on 30 October 2023.



Figure 11: Alien trees dominate the vegetation such as *Acacia mearnsii* (Black Wattle).



Figure 12: *Sparrmannia africana* (African Hemp).

5.4.4 Species of conservation concern

5.4.4.1 Plant Species

The DFFE Screening Tool identified six floral species of special concern (Table 4). During the site inspection, no species of special concern were found within the proposed footprint. Various common, non-threatened, and non-protected species were recorded on the footprint (Table 6). Additionally, several species of alien species were observed throughout the site.

Considering the extremely proliferation of invasive alien species throughout the proposed development footprint, it is evident that the area is highly disturbed and degraded. It is worth mentioning that thorough assessments were conducted in the surroundings of the developed sites, and no observations of special concern species were made, likely as a result of no suitable habitat for these species occurring throughout, the site.

5.4.4.2 Animal Species

According to the DFFE Screening Tool (Table 4), seven species of special concern were identified. However, during the site inspection, no species of conservation concern were found within the proposed development footprint. This is likely a result of the degraded nature of the site creating unsuitable habitat for these species.

Table 7 lists of common species that are likely to inhabit the area. It is expected that the faunal species in these areas are limited to avifauna, as well as smaller reptiles, amphibians, and mammals all of which are common and non-threatened. Given that the project only entails upgrades, the species would have the ability to seek refuge in case of any disturbances in the area.

5.4.5 Areas of Conservation Concern

The presence of the Garden Route Biosphere Reserve has been confirmed as delineated by the Western Cape Biodiversity Spatial Plan. The target for Garden Route Biosphere Reserve with regards to development is to minimize habitat and species loss and ensure ecosystem functionality through strategic landscape planning. The Western Cape Biodiversity Spatial Plan does offer flexibility in permissible land-uses, but some authorisation may still be required for high-impact land-uses.

Because the Garden Route Biosphere Reserve extends to a very large area outside of the development footprint and the area impacted is mostly already developed and has a high abundance of alien species, the proposed development footprint does not significantly contribute to the overall functioning of the Biosphere Reserve. Therefore, the loss in Garden Route Biosphere Reserve for the proposed development will not impact the functioning of the overall Garden Route Biosphere Reserve or the wider area. It is also noted that ecological connectivity will be not disturbed further providing that the functioning of the Biosphere Reserve will remain in intact during and after construction works.

5.4.6 Ecological Sensitivity Assessment

The Site Ecological Importance (SEI) of the footprint was evaluated as Low (Table 5) for each of the habitat units. The aforementioned was determined based on the low biodiversity value and ecological functioning and high recovery rate.

Table 5 Site Ecological Importance of the different habitat units delineated within the footprint.

Habitat	Conservation Importance	Functional Integrity	Receptor Resilience	Site Ecological Importance
Bitou Municipality Causeway At Dr1791 Km 1.59	Low: No confirmed or highly likely populations of Species of Conservation Concern; No confirmed or highly likely populations of range-restricted species; < 50 % of receptor contains natural habitat with limited potential to support SCC.	Low: Small (> 1 ha but < 5 ha) area. Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat. and a very busy used road network surrounds the area. Low rehabilitation potential. Several minor and major current negative ecological impacts.	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. Minimization mitigation - Development activities of medium to high impact acceptable and restoration activities may not be required.

5.5 Site Sensitivity Verification of the Environmental Themes

The DFFE National Screening Tool Classified the proposed development area as “very high” sensitivity for the Terrestrial Biodiversity theme, “medium” sensitivity for the Plant Species theme, and “high” for the Animal Species Theme.

The proposed development site includes specific areas designated as a Biosphere Reserve (Garden Route Biosphere Reserve), as indicated in Figure 9, and outlined in Section 5.4.2. and Section 5.4.5 These areas have been identified as being in a degraded or transformed state due to past land use and development. Because the Garden Route Biosphere Reserve extends to a very large area outside of the development footprint, the loss in Garden Route Biosphere Reserve for the proposed development is not likely to impact the functioning of the overall Garden Route Biosphere Reserve or the wider area.

Regarding the vegetation description, it is evident that the vegetation and soil in these areas do not correspond to Garden Route Shale Fynbos. The dense forest land portions of the site exhibit significantly lower species richness compared to what is typically expected in this region. Throughout the site, the vegetation is relatively uniform, with invasive alien species dominating the area. Considering these factors, the ecological significance of the site is low, and it is not anticipated to contribute significantly to the overall ecosystem functioning of the surrounding area. No Species of Conservation Concern were recorded on the footprint nor is available habitat recorded on the footprint.

Based on the above, the proposed development area is confirmed to be “low” sensitivity for the Terrestrial Biodiversity theme, “low” sensitivity for the Plant Species theme, and “low” for the Animal Species Theme.

6. Impact management outcomes or any monitoring requirements for inclusion in the EMPR

The majority of the study area has already been subjected to disturbance. The list below highlights the key integrated mitigation measures that are applicable to the development to suitably manage and mitigate ecological impacts, on both fauna and flora that are associated with the footprint. Provided that all management and mitigation measures are implemented, as stipulated in this report, the overall risk to floral and faunal diversity, habitat and Species of Conservation Concern can be adequately mitigated and minimised.

- Fires are strictly prohibited.
- Sufficient fire management equipment must be on the site.
- Smoking must be restricted to designated smoking areas.
- No dumping of sewage or hazardous waste into an adjacent ecosystem.
- All activities must remain within the designated footprint.
- All areas outside of the footprint must be considered no-go areas.

- Vehicles use must be restricted to designated roads.
- All staff must be trained to ensure that they are aware of any potential fauna may be on the footprint or surrounds.
- Vehicles should be restricted to a clearly demarcated area and drivers must be vigilant.
- Should any faunal species need to be translocated, a faunal or avifaunal (in the case of birds) specialist will need to be consulted.
- All personnel working on site must undergo environmental inductions to ensure they are aware of the environmental sensitivities of the site.
- No fauna may be caught, trapped, or harmed in any way.
- No feeding of any fauna is allowed.
- All recommendations in the aquatic and avifaunal assessments must be adhered to.
- A soil erosion method statement is needed for the site.
- Soil erosion monitoring needs to be done every two weeks during construction.

7. Conditions to which this statement is subjected

- This signed copy of the compliance statement must be read as an appendix to the Basic Assessment Report (BAR) for this project.
- This Compliance Statement is subject to the condition that the information supplied to the specialist regarding the project scope, design, layout, location, or any other project specifications will not be significantly deviated from.
- All mitigation measures and requirements as specified in this compliance statement, the BAR and EMPr will adhere to during all project phases.

8. Assumptions, uncertainties, and gaps in knowledge

- All information provided by the Applicant, EAP, and design team, to the environmental specialist, was correct and valid at the time that it was provided.
- The results of the botanical and faunal survey reflect a specific time of year. The botanical and faunal survey was conducted during early autumn when some of the annual plant species may not be visually present and when certain animal species will either not be present or active.

- The initial study was undertaken as a desktop assessment and as such, the information gathered must be considered with caution, as inaccuracies and data capturing errors are often present within these databases; and,
- Global Positioning System (GPS) technology is inherently inaccurate and some inaccuracies due to the use of handheld GPS instrumentation may occur.

9. References

- Department of Environmental Affairs, 2018. Land Cover 73-class raster layer.
- Global Biodiversity Information Facility [WWW Document], n.d. URL <https://www.gbif.org/>
- iNaturalist [WWW Document], n.d. URL <https://www.inaturalist.org>
- IUCN 2020 [WWW Document], n.d. The IUCN Red List of Threatened Species. Version 2019-3. URL <https://www.iucnredlist.org> (accessed 7.29.20).
- Lambrechts, J. J. N., MacVicar, C. N. (2004). Soil genesis and classification and soil resource databases. South African journal of plant and soil. 21(5). pg 288 - 300
- Mucina, L., Rutherford, M.C., 2006. The vegetation of South Africa, Lesotho, and Swaziland, Strelizia. South African National Biodiversity Institute, Pretoria.
- Nick, N.A., Raimondo, D., 2007. National Assessment: Red List of South African Plants version 2020.1. [WWW Document].
- Pool-Stanvliet, R., Duffell-Canham, A., Smart, R., 2017. The Western Cape Biodiversity Spatial Plan Handbook. CapeNature., Stellenbosch.
- South African National Biodiversity Institute (SANBI), 2019. National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity, Synthesis Report. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries, Pretoria.
- South African National Biodiversity Institute (SANBI), 2016. Botanical Database of Southern Africa (BODATSA) [dataset] [WWW Document].

10. Appendixes

Appendix A – Co-Author

Appendix B - Lead Author CV.

Appendix C - List of plant species that may inhabit the site based on sightings on the footprint and immediate surrounding area.

Appendix D - List of potential faunal species that may inhabit the site based on sightings on the footprint and immediate surrounding area.

Appendix A - Curriculum Vitae of co-author



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Nicolene Cloete

Environmental Consultant

Name:	Nicolene
Surname:	Cloete
Highest qualification:	BSc Hons Biodiversity and Ecology: University of Stellenbosch (2016)
Years' experience conducting	>5 years
IAIASA Registration	7451

RELEVANT QUALIFICATIONS AND TRAINING

- BSc Hons Biodiversity and Ecology: University of Stellenbosch (2016)
- BSc Biodiversity and Ecology: University of Stellenbosch (2015)
- Diploma in Project Management Course: Shaw Academy, accredited by The Austin Peay State University (2023)

WORK EXPERIENCE – 5 Years

July 2017 – March 2019:	Field and Laboratory Assistant – Protea Research (Postdoctoral Student, SU)
April 2019 – March 2021:	National Research Foundation Intern – Parasitology, Soil Ecology, Invasion Ecology (SU)
April 2021 – November 2022:	Part-Time Independent Environmental Consultant
December 2021 – April 2022:	Field Operations Officer- Census 2022 (Statistics South Africa)
November 2021 – November 2022:	Part-Time Environmental Control Officer (Ecologic Environmental Services)
November 2022 – Present:	Environmental Consultant (Enviroworks)

FIELD ASSISTANT:

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

- Vegetation and growth surveys
- Site preparation
- Plant physiology measurements
- Data collection and analyses

NATIONAL RESEARCH FOUNDATION INTERN

- Parasitology research – remove, identify, and mount parasites from different species of mice and rats.
- Soil ecology research – Soil chemical analyses, plant surveys and chemical analyses of plants
- Invasion ecology research – vegetation surveys, setting up and monitoring of experimental plots, catch and release methods to establish mouse population density and diversity.
- Research and Admin Assistant Gathering and filtering through academic papers, developing database populated with research articles, Research for systematic literature review paper.
- Laboratory manager – Stock takes and order, scheduling student time on laboratory equipment, general upkeep, and maintenance.

ENVIRONMENTAL CONTROL OFFICER (ECO)

- Photographic, film shoots and running events at various environmentally sensitive locations around Cape Town (Ecologic Environmental Services) – 2021-2022.
- Proposed Development of a Thirty Metre (30m) Telecommunication Mast on Portion 24 Of Olyven Boomen Farm Number 83, Malan Valley, Wellington, Western Cape Province (SBA Tower (Pty) Ltd) – 2022
- Proposed development of the Bottlery/R300 electricity cabling route, City of Cape Town, Western Cape Province **(In progress)**

WATER USE LICENSES

- Proposed Water Use Licence application and registration water use on the farm Wanganella no. 994, Free State Province. **(In Progress)**
- Full Water Use Licence for the Adler's Nest Retirement Village on Portion 196 of the Farm Vyf-Brakke-Fontein No. 220, Aalwyndal, Mossel Bay, Western Cape Province. **(In Progress)**
- Water Use License for the proposed development of the Bottlery/R300 electricity cabling route, City of Cape Town, Western Cape Province - 2023
- Water Use License Application for the proposed upgrade of the Bayside Canal, City of Cape Town, Western Cape Province - 2023
- General Authorization application for Portion 205 of Farm 559, Hangklip, Western Cape Province - 2023
- Water Use License Application for Karan Beef, Nigel, Gauteng Province. **(In Progress)**
- Water Use License Application for the proposed development of fifteen (15) resort units on Portion 12 of the Farm Riet Valley No. 452, Hessequa Local Municipality, Western Cape Province. **(In Progress)**
- Water Use License Application for the proposed development of Mapungubwe National Park Orientation Centres and Overnight Facilities, Limpopo Province - 2023
- Water Use License Application for the proposed refurbishment of the Hartswater WWTW, Northern Cape Province. **(In Progress)**
- Water Use License Application for the operations of Sparta Baby Beef (Pty) Ltd. on numerous farm portions near Marquard, Free State Province. **(In Progress)**
- Water Use License Application for the proposed construction of Oxidation Pond system and two sewer lines of the Ipelegeng WWTW, North West Province. **(In Progress)**

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

- Water Use License Application for existing Schweizer-Reneke WWTW, North West Province. **(In Progress)**
- Water Use License for the proposed development of a twenty-five-meter (25m) monopole telecommunications mast on portion 1 of the Farm No. 1284, Sonop Primary School, Western Cape - 2023
- Water Use License for the Coligny WWTW development, Coligny, North West Province. **(In Progress)**
- Water Use License for the Itekeng WWTW development, Itekeng, North West Province. **(In Progress)**
- Water Use License for the Itsoseng WWTW development, Itsoseng, North West Province. **(In Progress)**
- Water Use License for the Lichtenburg WWTW development, Lichtenburg, North West Province. **(In Progress)**
- Water use licence application for the Britstown WWTW development, Britstown, Northern Cape Province. **(In Progress)**
- The proposed abstraction of water from two boreholes, Molote City, North West, Province. **(In Progress)**
- General Authorisation application for the development of a dwelling unit on ERF 1341, Greyton, Western Cape Province. **(In Progress)**
- Water use licence application for the proposed expansion of accommodation and event venue on farm 321, Caledon, Western Cape Province. **(In Progress)**
- Water use licence application for the proposed Khauta North Solar Photovoltaic Cluster and associated grid connections, Riebeeckstad near Welkom, Free State Province. **(In Progress)**
- Water use licence application for the proposed Khauta South Solar Photovoltaic Cluster and associated grid connections, Riebeeckstad near Welkom, Free State Province. **(In Progress)**
- Water use licence application for the proposed Khauta West Solar Photovoltaic Cluster and associated grid connections, Riebeeckstad near Welkom, Free State Province. **(In Progress)**

- Water use licence application for the proposed Khauta E Nyane Solar Photovoltaic Cluster and associated grid connections, Riebeeckstad near Welkom, Free State Province. **(In Progress)**
- Water use licence application for the water uses of the Quantum Foods operations on Kaalfontein Farm, Bronkhorstspuit, Gauteng Province. **(In Progress)**
- Eskom Lethabo Power Station Water Use License Application and Amendment, Viljoensdrif, Free State Province. **(In Progress)**
- Water Use License Application for the proposed drying beds of The Raisin Company, Marchand, Northern Cape Province – 2023
- General Authorisation for The Proposed Development an Access Road, Sonskynvallei, Mosselbay Municipality, Mosselbay, Western Cape Province. **(In Progress)**
- General Authorisation for Construction of water pipelines over and near watercourses (non-perennial rivers), Kalahari East Water User Association, near Noenieput, Northern Cape Province. **(In Progress)**
- Water Use License for the proposed development of a community hall and associated parking lot on Erven 4978& Erven 4979 on a Portion of Portion 6 of the Remaining Extent of the Farm Selosasha Townlands No. 900, Thaba 'nchu, Free State Province. **(In Progress)**
- General Authorisation for The Deviation of The Existing -Rietfontein 33kv Power Line at Two Location, Eskom Rietfontein, Loubos, Northern Cape Province. **(In Progress)**
- Water Use Licence Application for The Proposed Development of The Winburg Bulk Water Pipeline, Winburg, Free State Province. **(In Progress)**
- Water Use Licence Application for The Proposed Development of The St Francis Chapel on Erf 4045, Betty's Bay, Western Cape Province. **(In Progress)**
- Karan Beef Farming (Pty) Ltd name change of Three existing Water Use Licenses – 2023

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

- Water Use License for a chicken farm expansion, Bulhoek Farm, North West Province - 2023

BASIC ASSESSMENTS

- The proposed development of a new access road in Sonskynvallei housing development, Mossel Bay, Western Cape. **(In Progress)**
- The proposed expansion of the Samrand Data Center on erf 5230, Samrand Business Park, Kosmosdal ext. 11, Centurion, Gauteng Province -2022

PART 2 AMENDMENT

- Proposed upgrade of the Bayside canal and associated infrastructure, Cape Town, Western Cape **(In Progress)**

WASTE MANAGEMENT LICENSES

- Proposed installation of an incinerator on the Quantum Foods Atlantis facility, Atlantis, Western Cape Province. **(In Progress)**

VISUAL IMPACT ASSESSMENTS

- Visual Impact Assessment for Stellenbosch Telecommunication mast, Stellenbosch, Western Cape – 2023
- Visual Impact Statement of the proposed development of a mountain bike track and associated infrastructure on plot 45, Karatara Region, Within the Garden Route District Municipality, Western Cape Province - 2023

PLANT PERMIT APPLICATIONS

- Plant Permit application for the proposed Khauta Solar Photovoltaic Cluster and associated grid connections, Riebeeckstad near Welkom, Free State Province. **(In Progress)**

LEGAL QUERIES

- Proposed Construction of a Dwelling Unit on Erf 98, Eersterivier Strand, Eastern Cape Province - 2023

OTHER EXPERIENCE

- Small business owner - Small artisanal cake and sweet deserts business (Confection Connection) – 2021-present
- Elize Botha Women in leadership short course- NQF Level: 6 (Stellenbosch University) - February – May 2016
- Kanonkop District Rover Crew Member – charged with assisting the community and Scouting movement providing training to youth and assistance where required. (Scouts South Africa) - 2013 - 2018



Appendix B - Curriculum Vitae of Lead Author



Suite 1064, Private Bag X2, Century City, 7446

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Situated at 61 Heron Rescent, Century City

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Megan Smith

Lead Ecological Specialist and Legal Assistant

Name:	Megan
Surname:	Smith
Highest qualification:	MSc Biological Sciences (UCT)
South African Association of Botanists	Ordinary member since 2020
Botanical Society of southern Africa	No. 80495
IAIASa membership	No. 6459
EAPASA Registration	2020/2855 (Candidate EAP)
SACNASP Registration	130295 (Pr.Nat.Sci) – Ecological Science
Years' experience conducting botanical/ecological related works in the Cape Floristic Region	>6 years

RELEVANT QUALIFICATIONS AND TRAINING

- MSc Biological Sciences (UCT): Specialising in Plant Ecology
- BSc Hons Botany (NMU)
- BSc Environmental Sciences (NMU)
- Scientific writing training led by Dr Pippin Anderson (August 2019)
- Fynbos plant identification training (July 2019)
- CDM calibration training by Renew Technologies (August 2020)
- ISO 14001:2015 Lead auditor training by SACAS (March 2021)
- Hydropedology and wetland delineation course led by WETrust and digital Soils Africa (September 2021)

WORK EXPERIENCE

- March 2015 – September 2016: Research assistant determining sustainable cultivation practices of Honeybush (*Cyclopia* spp.) at NMU
- March 2019 – April 2020: Restoration Ecology and Conservation Planning intern at SANBI
- March 2019- December 2021: Lead several Fynbos Identification courses for amateur botanists.

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

- April 2020 – current: Ecological specialist and legal assistant at Enviroworks
- November 2022 – Current: Lead of Ecological Specialist Services at Enviroworks

PUBLISHED ARTICLES:

- Smith, M., Rebelo, A.G. 2020. The Amazing Nature Race. Veld and Flora 106: 16-21.
- Smith, M., Rebelo, A., Rebelo, A.G. 2020. Passive restoration of Critically Endangered Cape Flats Sand Fynbos at lower Tokai Park section of Table Mountain National Park, Cape Town. ReStory
- Smith, M., Rebelo, A., Rebelo, A.G. 2020. Saving Critically Endangered Peninsula Granite Fynbos from extinction at Tokai Park, Cape Town. ReStory.
- Smith, M., Rebelo, A.G. 2020. iNaturalist: your portal into nature and becoming a citizen scientist. African Wildlife and Environment 75.

BASIC ASSESSMENT/ FULL SCOPING AND EIA PROCESS

- The proposed development of a thirty-five metre (35m) telecommunication base station and associated infrastructure on Portion 42 of Farm 428, Plettenberg Bay, Western Cape Province, SBA Towers South Africa.
- The proposed development of a twenty-five metre (25m) telecommunication base station and associated infrastructure on Lorraine Farm, the Remainder of Farm 790, Phillipi Western Cape Province, SBA Towers South Africa.
- The proposed development of a desalination or reverse osmosis plant, Tormin Mine, Western Cape Province, Mineral Sands Resources
- Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods.
- Proposed expansion of the Samrand Data Centre, African Data Centres.
- Proposed development of the Lendlovu Lodge, Addo Elephant Park, Eastern Cape Province, SANParks (in progress).
- Proposed Development of One Hundred and Fifty Metres (150m) Fence and Associated Four Hundred Metres (400m) Access Road, Saldanha Port, Western Cape Province, Transnet Ports Authority.

WATER USE LICENSE APPLICATION

- Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods (in progress).
- Proposed development of a community hall and associated parking lot on erven 4978 & erven 4979 on a portion of Portion 6 of the Remaining Extent (Re) of the Farm Selosesha Townlands No. 900, Thaba 'Nchu, Free State Province, Mission Point (in progress).

ENVIRONMENTAL MANAGEMENT PLANS

- The proposed development of a thirty-five metre (35m) telecommunication base station and associated infrastructure on Portion 42 of Farm 428, Plettenberg Bay, Western Cape Province, SBA Towers South Africa.
- The proposed development of a twenty-five metre (25m) telecommunication base station and associated infrastructure on Lorraine Farm, the Remainder of Farm 790, Phillipi Western Cape Province, SBA Towers South Africa.
- The proposed development of a desalination or reverse osmosis plant, Tormin Mine, Western Cape Province, Mineral Sands Resources

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

- Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods.
- Proposed development of the Lendlovu Lodge, Addo Elephant Park, Eastern Cape Province, SANParks (in progress).
- Proposed Development of One Hundred and Fifty Metres (150m) Fence and Associated Four Hundred Metres (400m) Access Road, Saldanha Port, Western Cape Province, Transnet Ports Authority
- Proposed expansion of the Samrand Data Centre, African Data Centres.

BOTANICAL, FAUNAL, AND TERRESTRIAL IMPACT STUDIES

- Botanical Impact Assessment: Rezoning and the development of fifteen (15) resort units on Portion 12 of the Farm Riet Valley no. 452, Hessequa Local Municipality, Western Cape Province (Faunal Compliance Statement and Botanical Impact Assessment), Hessequa Municipality.
- Botanical survey and delineation of sensitive areas for the proposed development of a six-point three kilometre (6.3km) long pipeline along Macassar Road, Macassar, Cape Town, Western Cape Province, BVi Consulting Engineers Western Cape.
- Botanical, Faunal and Terrestrial Biodiversity Compliance Statement; Proposed expansion of chicken houses from approximately 30 000 to 60 000 chickens, Bulhoek Farm, near Swartruggens, Northwest Province, Quantum Foods.
- Protected Tree and Animal Species Survey: Ramatlabama Poultry Farm, Mahikeng, Northwest Province, Supreme Poultry (in progress).
- Botanical, Terrestrial and Faunal Compliance Statement: Proposed development of a Battery Energy Storage Facility, Ashton, Western Cape Province.
- Botanical and Faunal Site Sensitivity: Proposed housing development on Erven 2244 & 2245; Private Landowner.
- Botanical, Faunal, and Terrestrial Impact Assessment: Proposed sand mining permit on Erf 656, Schaap Kraal, located in the Wynberg Magisterial District, Atlantic Sands.
- Plant Species, Terrestrial Biodiversity Theme and Faunal Species Site Verification: Proposed Photovoltaic Solar Energy Facilities (PEFS) And Grid Connections Near Welkom, Free State Province: Khauta Solar PV Cluster, WKN Windcurrent SA
- Plant Species, Terrestrial Biodiversity Theme and Faunal Species Impact Assessment (Including a Dune Impact Assessment): Proposed Development of One Hundred and Fifty Metres (150m) Fence and Associated Four Hundred Metres (400m) Access Road, Saldanha Port, Western Cape Province, Transnet Ports Authority.
- Plant Species, Terrestrial Biodiversity Theme and Faunal Species Scoping Report, Proposed Mixed-Use Development on Farm 820, Bot River, Western Cape Province, Wildekrans Estate
- Plant Species, Terrestrial Biodiversity Theme and Faunal Species Theme Compliance Statement: S24g Environmental Rectification for The Operation of Facilities for The Treatment of Wastewater with A Daily Throughput Of 4200 Cubic Meters, Moedi Engineers.
- Plant Species, Terrestrial Biodiversity Theme and Faunal Species Theme Compliance Statement: Proposed Upgrades to The Geelbek Restaurant, West Coast National Park, Langebaan, SANParks.
- Plant Species, Animal Species and Terrestrial Biodiversity Theme Compliance Statement: Proposed Prospecting Right Application for Four Drill Holes, Vorstershoop, North West.
- Threatened Species Survey and Plant Removal Permit Application: Proposed Development of One Hundred and Fifty Metres (150m) Fence and Associated Four Hundred Metres (400m) Access Road, Saldanha Port, Western Cape Province, Transnet Ports Authority.

REHABILITATION IMPLEMENTATION PLANS

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

- Protocols for restoring Critically Endangered Cape Flats Sand Fynbos within lower Tokai Park, Cape Town, South African National Biodiversity Institute.
- Proposed development of a six-point three kilometre (6.3km) long pipeline along Macassar Road, Macassar, Cape Town, Western Cape Province, BVi Consulting Engineers Western Cape.
- Rehabilitation implementation plan for Tormin Mine, Western Cape Province, Mineral Sands Resources
- Overseeing rehabilitation works and compilation of quarterly monitoring reports and annual updates of the rehabilitation plan: Tormin Mine, Western Cape Province, Mineral Sands Resources (in progress)
- Rehabilitation Method Statement for 132 kV and 33 kV transmission lines, transmission substation, cabling line trenches, and access roads on Roggeveld Wind Farm, Western Cape, Raubex Infra.
- Reseeding Method Statement: 132 kV and 33 kV transmission lines, transmission substation, cabling line trenches, and access roads on Roggeveld Wind Farm, Western Cape, Raubex Infra.
- Reseeding training: Roggeveld Wind Farm, Western Cape, Raubex Infra.
- Rehabilitation Method Statement for Areas Disturbed by The Buffer Yard and Lay Down Area on Roggeveld Wind Farm, Raubex Infra.
- Overseeing rehabilitation works and compilation of quarterly monitoring reports: Roggeveld Wind Farm, Western Cape Province, Raubex Infra (in progress).
- Environmental Rehabilitation Plan for All the Areas Affected by The Continuous Spillage of Raw Sewage in and Around Upington, Dawid Kruiper Municipality, Northern Cape Province, Stabilis Environmental on Behalf of Dawid Kruiper Municipality.
- Rehabilitation Plan Proposed Upgrade of The Bayside Stormwater Canal, Tableview, Cape Town, Western Cape Province, BVi Consulting Engineers
- Rehabilitation Plan and Aquatic Impact Assessment for All the Areas Affected by The Spillage of Raw Sewage, Caledon, Theewaterskloof Municipality (In progress).
- Rehabilitation Plan: Illegal Clearance of More Than 1 Hectare/300 m² Of Indigenous Vegetation at Farmall Agricultural Holding, Fourways, City of Johannesburg Metropolitan Municipality, Life Co.
- Rehabilitation Plan: Residential development on portion 205 of Farm 559, Hangklip, Western Cape Province, private landowner (in progress)

WETLAND DELINEATION AND SECTION 21 (C) & (I) RISK MATRIXES

- Wetland Delineation and Section 21 (c) and (i) risk matrix: Residential development on portion 205 of Farm 559, Hangklip, Western Cape Province, private landowner.
- Freshwater Impact Assessment: Proposed development of a community hall and associated parking lot on erven 4978 & erven 4979 on a portion of Portion 6 of the Remaining Extent (Re) of the Farm Selosha Townlands No. 900, Thaba 'Nchu, Free State Province, Mission Point.
- Wetland Delineation and Section 21 (c) and (i) risk matrix: Proposed Residential Development on Remainder of Erf 4413, Betty's Bay Western Cape Province, private landowner.
- Freshwater Impact Assessment: Proposed Development of The R300/Bottlery Road Cabling Route, City of Cape Town, Western Cape Province, Element Consulting on behalf of the City of Cape Town.
- Watercourse verification and Section 21 (c) and (i) risk matrix: Proposed housing development on Erven 2244 & 2245; Private Landowner.
- Aquatic Biodiversity Theme Compliance Statement and Section (c) and (i) Risk Matrix: The Proposed Development of a Twenty-Five Metre (25m) Monopole Telecommunications Mast on Portion 1 Of the Farm No. 1248, Sonop Primary School, Western Cape, SBA Towers.
- Aquatic Biodiversity Theme Compliance Statements and Section 21 (c) and (i) risk matrix: S24g Environmental Rectification for The Operation of Facilities for The Treatment of Wastewater with A Daily Throughput Of 4200 Cubic Meters, Moedi Engineers (Itsoseng, Itsekeng, Coligny, and Lichtenburg) (in progress).

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

- Aquatic Biodiversity Theme Compliance Statement: Proposed Prospecting Right Application for Four Drill Holes, Vorstershoop, North West.
- Aquatic Biodiversity Compliance Statement and Section 21 (c) and (i) risk matrix: Proposed Development of gravity outflow pipelines and oxidation ponds, Schweizer Reneke, North West Province.
- Aquatic Biodiversity Theme Impact Assessment and Section 21 (c) and (i) risk matrix: The Proposed Cultivation Of 19,8 Ha Pomegranate Farming on The Remainder Portion of The Farm Jagfontein No. 85 Near Calitzdorp, Western Cape Province
- Wetland Verification and Section 21 (c) and (i) Risk Matrix: Proposed Housing Development on Erf 1341, Greyton.

ENVIRONMENTAL CONTROL OFFICER (ECO) AND AUDITING

- Environmental Control Officer: The proposed development of a backup energy centre including diesel storage and generators, on Erf 142504, Diep River, Cape Town, Western Cape Province, African Data Centres.
- The proposed construction of new and rehabilitation of existing non-motorised transport facilities in the Cape Town CBD, Western Cape Province, BVi Consulting Engineers Western Cape.
- Environmental Compliance Audit for Franki Africa Stock Yard, Durban, KwaZulu Natal Province, Franki Africa.
- The proposed development of a twenty-five metre (25m) telecommunication base station and associated infrastructure on Lorraine Farm, the Remainder of Farm 790, Phillipi Western Cape Province, SBA Towers South Africa
- The proposed maintenance of the Blue Stone Quarry Wall, Robben Island, Robben Island Museum.

MAINTENANCE MANAGEMENT PLANS

- The proposed maintenance of the Blue Stone Quarry Wall, Robben Island, Robben Island Museum.
- Proposed erosion control measures for road OP06914 on Swartvlei Lake, Sedgefield, Garden Route District Municipality.

ENVIRONMENTAL SCREENING

- Proposed upgrading of the Durbanville Public Transport Interchange, Western Cape, BVi Consulting Engineers Western Cape.
- Proposed the upgrade on national road R40 section from Hazyview (km 0.0) to Maviljan (km 32.1), BVi Consulting Engineers Western Cape.
- Proposed development of a data centre in Tatu City, Kenya, Africa Data Centre.
- Proposed construction of a back-up data energy centre on Erf 33, Atlantic Hills Business Park, Durbanville, Africa Data Centre
- Proposed development of a data centre in Grand Bassam, Côte D'ivoire, Africa Data Centre
- Proposed Development of a Data Centre in Accra, Ghana, Africa Data Centre
- Proposed Development of a Data Centre in Casablanca, Morocco, Africa Data Centre

ALIEN INVASIVE SPECIES MANAGEMENT PLANS

- Invasive species monitoring, control and eradication plan, Garden Route District Municipality, Western Cape Province, Garden Route District Municipality.

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

- Alien Invasive Species Management Plan and consultation services for Tormin Mine, Western Cape Province, Mineral Sands Resources.
- Alien Invasion Management Plan for Ramatlabama Poultry Farm, Mahikeng, Northwest Province, Supreme Poultry.

CLEAN DEVELOPMENT MECHANISM

- Calibration and advisory services for the CDM Methane Burning Plant at the Coastal Park and Bellville South Landfill Sites, Promethium Carbon (in progress)

Appendix C

Table 6: Plant species recorded on the proposed development during the site inspection.

Species name	Common name	Family	Red list status	Protected Status
<i>Phragmites australis</i>	Common Reed	Poaceae	Least Concern	N/A
<i>Cliffortia odorata</i>	No-odour Caperose	Rosaceae	Least Concern	N/A
<i>Helichrysum cymosum</i>	Fume Everlasting	Asteraceae	Not Evaluated	N/A
<i>Dombeya burgessiae</i>	Pink Dombeya	Malvaceae	Least Concern	N/A
<i>Eucalyptus globulus</i>	Bloekom	Myrtaceae	Least Concern	1b
<i>Prionium serratum</i>	Palmiet	Thurniaceae	Least Concern	N/A
<i>Zantedeschia aethiopica</i>	Calla Lily	Araceae	Least Concern	N/A
<i>Arundo donax</i>	Giant Reed	Poaceae	Not Evaluated	1b
<i>Megathyrsus maximus</i>	Guinea Grass	Poaceae	Least Concern	N/A
<i>Acacia dealbata</i>	Silver Wattle	Fabaceae	Not Evaluated	2
<i>Cenchrus clandestinus</i>	Kikuyu Grass	Poaceae	Not Evaluated	1b
<i>Acacia melanoxylon</i>	Blackwood	Fabaceae	Not Evaluated	2
<i>Trifolium repens</i>	White Clover	Fabaceae	Not Evaluated	N/A
<i>Psoralea plauta</i>	Wispy Fountainbush	Fabaceae	Least Concern	N/A
<i>Juncus effusus</i>	Soft Rush	Juncaceae	Least Concern	N/A
<i>Helichrysum petiolare</i>	Silver Everlasting	Asteraceae	Least Concern	N/A
<i>Nidorella ivifolia</i>	Ovenbush	Asteraceae	Least Concern	N/A
<i>Senecio ilicifolius</i>	Kowanna Ragwort	Asteraceae	Least Concern	N/A
<i>Hermannia hyssopifolia</i>	Fat Dollsrose	Malvaceae	Least Concern	N/A
<i>Delairea odorata</i>	Cape-Ivy	Asteraceae	Least Concern	N/A
<i>Sparrmannia africana</i>	African Hemp	Malvaceae	Least Concern	N/A
<i>Polypogon monspeliensis</i>	Rabbitfoot Grass	Poaceae	Not Evaluated	N/A
<i>Helminthotheca echioides</i>	Bristly Oxtongue	Asteraceae	Not Evaluated	N/A
<i>Wachendorfia thyrsiflora</i>	Rocket Butterflylily	Haemodoraceae	Least Concern	N/A
<i>Solanum chrysotrichum</i>	Giant Devil's-Fig	Solanaceae	Not Evaluated	1b
<i>Eucalyptus cladocalyx</i>	Sugar Gum	Myrtaceae	Least Concern	2
<i>Acacia meamsli</i>	Black Wattle	Fabaceae	Not Evaluated	2
<i>Acacia longifolia</i>	Long-leaved Wattle	Fabaceae	Not Evaluated	1b
<i>Pinus pinaste</i>	Cluster Pine	Pinaceae	Not Evaluated	2
<i>Acacia saligna</i>	Port Jackson	Fabaceae	Not Evaluated	1b

Appendix D

Table 7: Animal species likely to be found on the proposed development footprint (which have also been recorded on the footprint or surrounding area)

Species name	Common name	Family	IUCN threat status	Protected Status
Amphibians				
<i>Hyperolius marmoratus</i>	Painted Reed Frog	Hyperoliidae	Least concern	Not Protected
<i>Sclerophrys capensis</i>	<i>Raucous Toad</i>	Bufoidea	Least concern	Not Protected
Reptiles				
<i>Dispholidus typus</i>	Boomslang	Colubridae	Least concern	Not Protected
<i>Agama atra</i>	Southern Rock Agama	Agamidae	Least concern	Not Protected
<i>Lygodactylus capensis</i>	Common Dwarf Gecko	Gekkonidae	Least concern	Not Protected
<i>Afrogecko porphyreus</i>	Marbled Leaf-toed Gecko	Gekkonidae	Least concern	Not Protected
<i>Boaedon capensis</i>	Cape House Snake	Lamprophiidae	Least concern	Not Protected
<i>Lycodonomorphus rufulus</i>	Common Brown Water Snake	Lamprophiidae	Least concern	Not Protected
Mammals				
<i>Equus quagga</i>	Plains Zebra	Equidae	Least concern	Not Protected
<i>Sousa plumbea</i>	Indian Humpback Dolphin	Delphinidae	Endangered	Protected
Invertebrates				
Insects				
<i>Apis mellifera</i>	Western Honey Bee	Apidae	N/A	N/A
<i>Phymateus leprosus</i>	Leprous Milkweed Locust	Pyrgomorphidae	N/A	N/A
<i>Xylocopa flavorufa</i>	Giant Carpenter Bee	Apidae	N/A	N/A
<i>Vanessa cardui</i>	Painted Lady	Nymphalidae	Least concern	Not Protected
<i>Cutworm Moths and Allies sp.</i>	Cutworm Moths and Allies	Noctuidae	N/A	N/A
<i>True Crickets and Allies sp.</i>	True Crickets and Allies	Gryllidae	N/A	N/A
<i>Polistes badius</i>	N/A	Polistinae	N/A	N/A
<i>Eicochrysops messapus</i>	Cupreous Blue	Polyommatainae	Least concern	Not Protected
<i>Coranopsis vittata</i>	N/A	Reduviidae	N/A	N/A
<i>Camponotus postoculatus</i>	Bristleback Sugar Ant	Formicidae	N/A	N/A
<i>Lycus palliatus</i>	N/A	Lycidae	N/A	N/A

**ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59**

Species name	Common name	Family	IUCN threat status	Protected Status
<i>Leucocelis amethystina</i>	Amethyst Small Fruit Chafer	Scarabaeidae	N/A	N/A
<i>Dira clytus</i>	Cape Autumn Widow	Nymphalidae	N/A	N/A
<i>Dasineura rubiformis</i>	Black Wattle Gall Midge	Cecidomyiidae	N/A	N/A
<i>Anoplolepis steingroeveri</i>	Small Pugnacious Ant	Formicidae	N/A	N/A
Genus <i>Eyprepocnemis</i> sp.	N/A	Acrididae	N/A	N/A
Subfamily <i>Tiphiinae</i> sp.	N/A	Tiphiidae	N/A	N/A
Infraorder <i>Fulgoromorpha</i>	Planthoppers	N/A	N/A	N/A
<i>Polyspilota aeruginosa</i>	Flag Mantis	Mantidae	N/A	N/A
Genus <i>Lepisiota</i> sp.	N/A	Formicidae	N/A	N/A
Zoosubsection <i>Calyptratae</i>	Calyptrate Flies	N/A	N/A	N/A
<i>Euborellia annulipes</i>	Ring-legged Earwig	Anisobididae	N/A	N/A
Family <i>Termitidae</i> sp.	Higher Termites	Termitidae	N/A	N/A
<i>Trithemis stictica</i>	Jaunty Dropwing	Libellulidae	Least concern	Not Protected
<i>Trithemis arteriosa</i>	Red-veined Dropwing	Libellulidae	Least concern	Not Protected
<i>Orthetrum julia</i>	Julia Skimmer	Libellulidae	Least concern	Not Protected
<i>Zonocerus elegans</i>	Elegant Grasshopper	Pyrgomorphidae	N/A	N/A
<i>Danaus chrysippus</i>	Plain Tiger Butterfly	Nymphalidae	Least concern	Not Protected
Family <i>Pompilidae</i> sp.	Spider Wasps	Pompilidae	N/A	N/A
Family <i>Culicidae</i> sp.	Mosquitoes	Culicidae	N/A	N/A
Subfamily <i>Cassidinae</i> sp.	Tortoise and Hispine Beetles	Chrysomelidae	N/A	N/A
<i>Hypolimnas misippus</i>	Danaid Eggfly	Nymphalidae	Least concern	Not Protected
Arachnids				
<i>Badumna longinqua</i>	Grey House Spider	Desidae	N/A	N/A
<i>Trichonephila fenestrata</i>	Hairy Golden Orb-weaving Spider	Nephilidae	Least concern	Not Protected
<i>Palystes castaneus</i>	Cape Rainspider	Sparassoidae	N/A	N/A

ANIMAL AND PLANT SPECIES COMPLIANCE STATEMENT AND TERRESTRIAL BIODIVERSITY IMPACT
ASSESSMENT: BITOU MUNICIPALITY CAUSEWAY AT DR1791 KM 1.59

Species name	Common name	Family	IUCN threat status	Protected Status
<i>Palystes superciliosus</i>	Common Rain Spider	Sparassoidae	N/A	N/A
	Jumping Spiders	Salticidae	N/A	N/A
Mollusks				
<i>Cornu aspersum</i>	Garden Snail	Helicidae	N/A	N/A
<i>Laevicaulis natalensis</i>	Brown Leatherback Slug	Veronicellidae	N/A	N/A