

## Appendix H: Specialists Reports

# Appendix H1: Aquatic Biodiversity Specialists Report



# F.E.N. Consulting

Applying science to the real world

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**Name:** Christel du Preez  
**Date:** Wednesday, 27 October 2021  
**Ref:** FEN 20-2150

## SLR Consulting

68 on Main, Old Main Road  
Kloof, Durban  
3640  
Tel: 011 467 0945  
Email: [amothilal@slrconsulting.com](mailto:amothilal@slrconsulting.com)

**Attention: Ms. A. Mothilal**

**RE: AQUATIC ECOLOGICAL COMPLIANCE STATEMENT AS PART OF THE S24G RECTIFICATION PROCESS FOR THE BERGVLIET SHELL RETAIL SERVICE STATION, BERGVLIET, WESTERN CAPE.**

## 1. INTRODUCTION AND BACKGROUND SETTING

Freshwater Ecological Network (FEN) Consulting (Pty) Ltd was appointed by SLR Consulting to prepare an aquatic/freshwater compliance statement as per the Department of Forestry, Fisheries and Environment (DFFE) Screening Tool as part of the Section 24G rectification process for the existing Bergvliet Shell retail service station, located in Bergvliet, Western Cape Province (hereafter referred to as the 'study area') (Figures A1 and A2 in **Appendix A**). The Bergvliet Shell retail service station is located on Erf 80998 (total extent of 0.28 ha), within an urbanised setting and Main Road is located along its western boundary. Initial site operations commenced in 1974 which is prior to the promulgation of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). As such, the site did not require an environmental authorisation at inception. The site has subsequently undergone three upgrades and expansions without obtaining the relevant environmental authorisations. As such, a section 24G rectification process is required for the unlawful commencement of listed activities in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) and the National Environmental Management Act, 1998 (Act No. 107 of 1998) .

A 500 m "zone of investigation" around the study area, in accordance with Government Notice (GN) 509 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998) (NWA), was used as a guide in which to assess possible sensitivities of the receiving freshwater environment. This area – i.e. the 500 m zone of investigation around the study area –will henceforth be referred to as the "investigation area".

This verification report will follow the requirements as stated in 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 (Act No. 107 of 1998).

The outcome of this site sensitivity verification assessment will present the recorded site assessment results so as to:

- Confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool (DFFE, 2020), such as new/upgrading of developments or infrastructure, the changes (if any) to the watercourse Present Ecological State (PES) or status etc.; and
- Present a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

## 2. OUTCOMES OF THE APPLICATION OF THE DFFE SCREENING TOOL

The protocol for the assessment of freshwater and aquatic biodiversity prepared in support of the Department of Forestry, Fisheries and Environment (DFFE) (previously the Department of Environmental Affairs (DEA)) national web based environmental screening tool, provides the criteria for the assessment and reporting of impacts on aquatic/freshwater biodiversity for activities requiring Environmental Authorisation (EA). For the aquatic/freshwater biodiversity theme, the requirements are for sites which support various levels of biodiversity. The relevant aquatic/freshwater biodiversity theme in the national web based environmental screening tool has been provided by the South African National Biodiversity Institute (SANBI). Based on the sensitivity rating, a suitably qualified specialist must prepare the relevant report or opinion memorandum which is to be submitted as part of the EA application.

According to the guidelines, an applicant intending to undertake an activity on a site identified as being of “very high sensitivity” for an aquatic biodiversity theme must submit an Aquatic Biodiversity Impact Assessment or if the area is identified as being of “low sensitivity” then an Aquatic Biodiversity Compliance Statement must be compiled and submitted to the competent authority. It is noted, however, that during a site survey undertaken by a suitably qualified freshwater ecologist should the sensitivity be determined different from that assigned by the screening tool (i.e. that a high risk to the regional aquatic biodiversity or watercourses in the area is likely even though it is assigned as a “low” sensitivity, or if it is assigned a high sensitivity, however, the proposed develop risk are deemed low) then the relevant assessment approach must be followed based on the site survey results and not the DFFE screening tool allocation. According to the national web based environmental screening tool, the study area is located within an area of **very high aquatic/ freshwater biodiversity significance**.

## 3. DEFINITIONS AND LEGISLATIVE REQUIREMENTS

The legislation considered during this investigation included the following:

- The Constitution of the Republic of South Africa, 1996<sup>1</sup>;
- The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
- The National Water Act (NWA), 1998 (Act No. 36 of 1998); and
- Government Notice 509 (GN 509) as published in the Government Gazette 40229 of 2016 as it relates to the National Water Act (NWA), 1998 (Act No. 36 of 1998).

<sup>1</sup> Since 1996, the Constitution has been amended by seventeen amendments acts. The Constitution is formally entitled the ‘Constitution of the Republic of South Africa, 1996’. It was previously also numbered as if it were an Act of Parliament – Act No. 108 of 1996 – but since the passage of the Citation of Constitutional Laws Act, neither it nor the acts amending it are allocated act numbers.

### 3.1 Definitions

The National Water Act, 1998 (Act No. 36 of 1998) is aimed at the protection of the country's water resources, defined in the Act as "a watercourse, surface water, estuary or aquifer". According to the National Water Act, 1998 (Act No. 36 of 1998) a watercourse means:

- (a) a river or spring;
- (b) a natural channel in which water flows regularly or intermittently;
- (c) a wetland, lake or dam into which, or from which, water flows; and
- (d) any collection of water which the Minister may, by notice in the Gazette, declare a watercourse.

The Act further provides definitions of wetland and riparian habitats as follows:

**Wetland habitat** is "land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil."

**Riparian habitat** includes the physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterized by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent area.

The watercourse delineation took place, as far as possible, according to the method presented in the "Updated manual for the identification and delineation of wetland and riparian resources" (DWAF, 2008). The foundation of the method is based on that watercourses have several distinguishing factors including the following:

- Landscape position;
- The presence of water at or near the ground surface;
- Distinctive hydromorphic soils; and
- Vegetation adapted to saturated soils.

During the site assessment, the presence of any watercourse characteristics as defined by DWAF (2008) and by the National Water Act, 1998 (Act No. 36 of 1998), were noted.

## 4. DESKTOP INVESTIGATION FINDINGS

A background study of relevant national, provincial and municipal datasets (such as the National Freshwater Ecosystem Priority Areas [NFPEPA] 2011 database; the Department of Water and Sanitation Research Quality Information Services [DWS RQIS PES/EIS], 2014 database, the National Biodiversity Assessment (NBA) 2018 and the City of Cape Town Wetlands dataset (2017) was undertaken to aid in defining presence of any watercourses prior to the site survey of the study area (see Appendix B, Table 1) as well as the associated 500 m investigation area. The results are summarised in the points below with the relevant maps presented in **Appendix B**.

- According to the NFPEPA Database, no wetlands are associated with the study or investigation areas. The closest natural wetland is located approximately 960 m east of the study area (Natural channelled valley bottom wetland associated with the Princess Vlei wetland system); and
- As per the NFPEPA database, no rivers are located within the study or investigation area. The Diep River is located approximately 560 m east of the study area, which has been canalised.

## 5. SITE SURVEY RESULTS

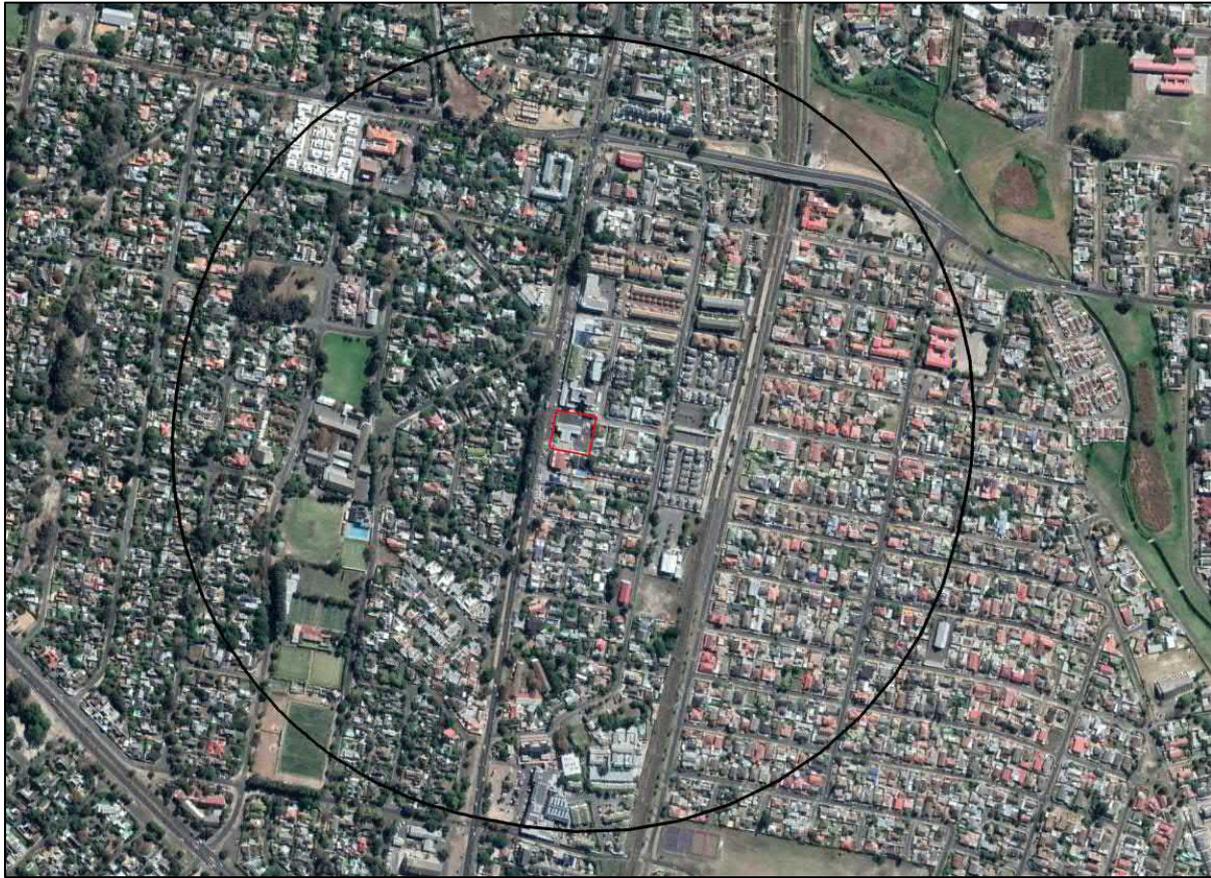
A site investigation of the study area was undertaken on the 20th of October 2021, using visual assessment methods as well as digital satellite imagery. In addition, a bucket soil auger was used to verify soil characteristics that may indicate the presence, or lack of any potential wetland/riparian features within the study area.

Based on the outcome of the desktop database investigation, no watercourses are located within the study or investigation areas. This was also confirmed during the site investigation, as the study area has been completely developed into a retail fuel service station, with tar surface covering most of the study area (Figure 1). Small ornamental gardens are located along the northern and eastern boundary of the study area with a small garden at the study area entrance, mostly hosting typical terrestrial garden ornamental species such as *Aloe striata*, restio species, *Crassula orate*, *Catharanthus roseus*, *Cotyledon orbiculata*, *Drosanthemum speciosum* and *Chlorophytum* species (Figure 1). Large tree species (predominantly alien tree species such as *Eucalyptus* species) are only present on the property east of the study area and along the Main Road across the study area (to the west). No facultative vegetation species were identified in the study area.

Upon investigating the area surrounding the study area, through the use of digital satellite imagery, no distinctive watercourses are located within close proximity to the study area (Figure 2). Figure 2 also indicates the dense urbanisation surrounding the study area.



**Figure 1: Overview photographs of the study area. Small ornamental gardens were identified along the northern (top right) and at the entrance to the study area (bottom right). Large tree species (*Eucalyptus spp.*) are only present across the road from the study area (bottom left).**



**Figure 2: Digital aerial photography showing the study area (red polygon) an investigation area (black polygon) within the larger landscape. The nearest watercourse identified is the Diep River (canalised system) located approximately 580 m north-east from the study area.**

As such, no watercourse signatures are present within the study area. Since no watercourses are associated with the study area, nor are there any watercourses within 500 m of the study area, no listed activities associated with watercourses in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), or authorisation in terms of Sections 21(c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998) will be required from the Department of Water and Sanitation (DWS).

## **6. BUSINESS CASE, OPPORTUNITIES AND CONSTRAINTS APPLICABLE TO THE STUDY AREA**

During the field assessment, no watercourses were identified within the study area and its associated 500 m investigation area. The desktop assessment also indicated no watercourses within the study and investigation areas. As a result, from a watercourse management perspective, impacts on the freshwater receiving environment from the upgrades that were done at the Bergvliet Shell retail service station would have been unlikely to impact upon any watercourse services or functions.

The study area is located in a Strategic Water Source Area as per the outcome of the screening tool (Appendix B), classifying the study area as being of 'very high' aquatic sensitivity. Based on the outcome of the site visit, in which no watercourses were identified within the study or investigation areas, it is the opinion of the freshwater ecologist that the study area can be considered of 'low' aquatic sensitivity from a freshwater resource management and conservation point of view. The study area is not subject to any applicable zones of regulations given the absence of any watercourses. Therefore, it is the opinion of the specialist that the upgrades to the service station did not have any impacts to any watercourses. This compliance statement must be submitted to the relevant competent authority for consideration as part of the Section 24G rectification process.

We trust that we have interpreted your requirements correctly. Please do not hesitate to contact us if there are any aspects of this memorandum that you would like to discuss.

Yours Faithfully,



Christel du Preez  
Pr. Sci. Nat

**Reviewed and signed off by K. Marais (SACNASP REG No. 117137/17)  
Declaration of independence and CV included in Appendix C**

## 7. REFERENCES

- Department of Water Affairs and Forestry (DWAf). 2005. Final draft: A practical field procedure for identification and delineation of wetlands and Riparian areas.
- Department of Water Affairs and Forestry (DWAf). 2008. *Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas*, prepared by M. Rountree, A. L. Batchelor, J. MacKenzie and D. Hoare. Report no. X. Stream Flow Reduction Activities, Department of Water Affairs and Forestry, Pretoria, South Africa.
- Department of Water and Sanitation (DWS). 2014. A Desktop Assessment of the Present Ecological State, Ecological Importance and Ecological Sensitivity per Sub Quaternary Reaches for Secondary Catchments in South Africa. Secondary: C2 Compiled by RQIS-RDM: Online available: <https://www.dwa.gov.za/iwqs/rhp/eco/peseismodel.aspx>.
- Nel, J.L., Driver, A., Strydom W.F., Maherry, A., Petersen, C., Hill, L., Roux, D.J., Nienaber, S., Van Deventer, H., Swartz, E. & Smith-Adao, L.B. 2011. *Atlas of Freshwater Ecosystem Priority Areas in South Africa: Maps to support sustainable development of water resources*. Water Research Commission Report No. TT 500/11, Water Research Commission, Pretoria.
- NFEPA: Driver, A., Nel, J.L., Snaddon, K., Murrui, K., Roux, D.J., Hill, L., Swartz, E.R., Manuel, J. and Funke, N. 2011. Implementation Manual for Freshwater Ecosystem Priority Areas. Water Research Commission. Report No. 1801/1/11. Online available: <http://bgis.sanbi.org/nfepa/project.asp>
- Van Deventer, H., Smith-Adao, L., Collins, N.B., Grenfell, M., Grundling, A., Grundling, P-L., Impson, D., Job, N., Lötter, M., Ollis, D., Petersen, C., Scherman, P., Sieben, E., Snaddon, K., Tererai, F. & Van der Colff, D. 2019. *South African National Biodiversity Assessment 2018: Technical Report. Volume 2b: Inland Aquatic (Freshwater) Realm*. CSIR report number CSIR/NRE/ECOS/IR/2019/0004/A. South African National Biodiversity Institute, Pretoria. <http://hdl.handle.net/20.500.12050/6230>.
- Van Deventer, H.; Smith-Adao, L.; Mbona, N.; Petersen, C.; Skowno, A.; Collins, N.B.; Grenfell, M.; Job, N.; Lötter, M.; Ollis, D.; Scherman, P.; Sieben, E.; Snaddon, K. 2018. *South African Inventory of Inland Aquatic Ecosystems*. South African National Biodiversity Institute, Pretoria. Report Number: CSIR report number CSIR/NRE/ECOS/IR/2018/0001/A; SANBI report number <http://hdl.handle.net/20.500.12050/5847>.

APPENDIX A – LOCALITY MAP



Figure A1: A digital satellite image depicting the study area and associated investigation area in relation to the surrounding area.

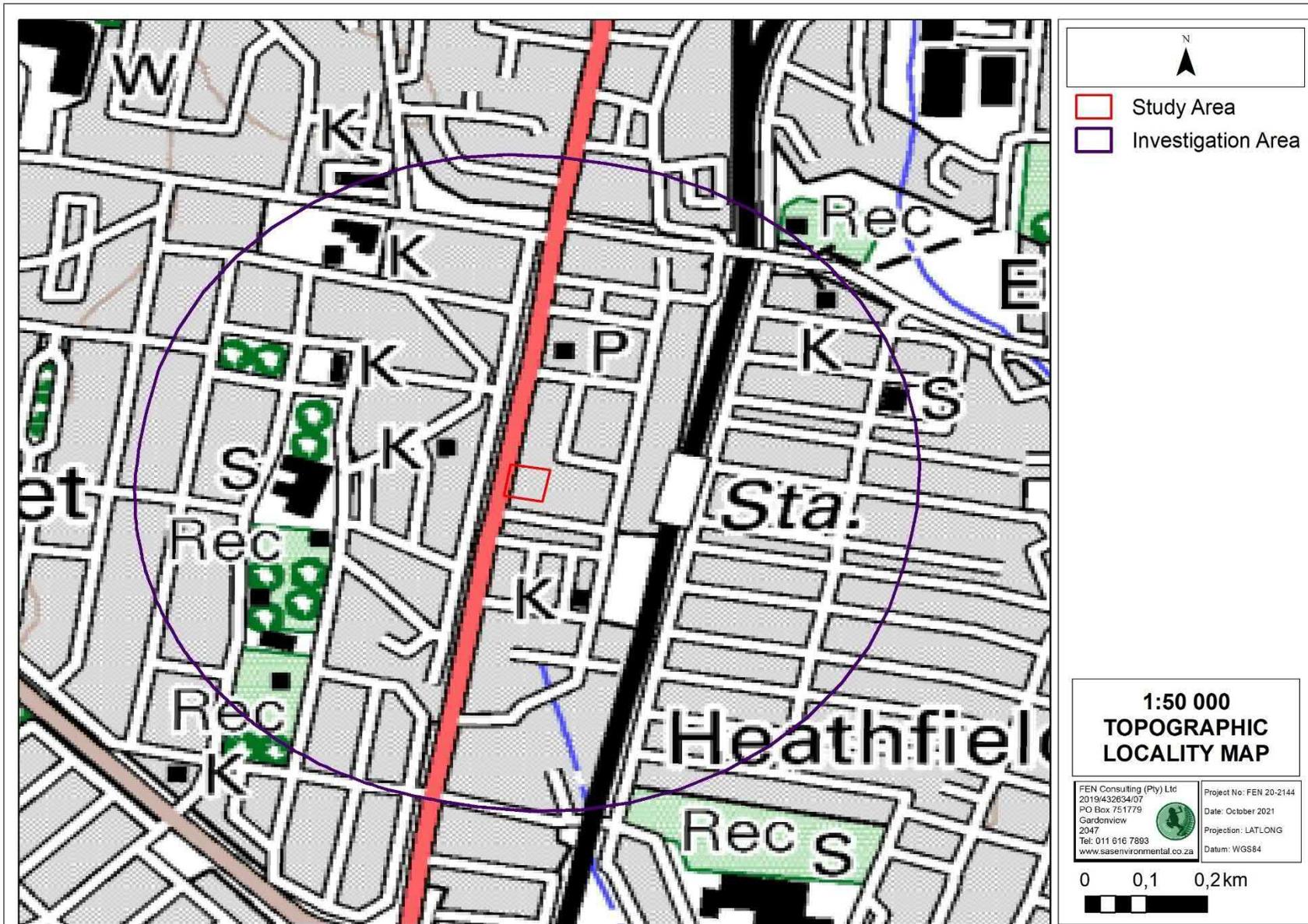


Figure A2: The study area and associated investigation area depicted on a 1:50 000 topographical map in relation to the surrounding area.

## APPENDIX B – DESKTOP BACKGROUND INFORMATION

**Table 1: Desktop data relating to the characteristics of the watercourses associated with the study and investigation areas.**

Aquatic ecoregion and sub-regions in which the study area is located		Detail of the study area in terms of the National Freshwater Ecosystem Priority Area (NFEPA) (2011) database	
Ecoregion	Cape Folded Mountains	FEPACODE	The study area is located within a sub-quaternary catchment not classified as a catchment of freshwater ecosystem importance.
Catchment	Berg/Bot/Potberg		
Quaternary Catchment	G22D		
WMA	Berg		
subWMA	Greater Cape Town		
Dominant characteristics of the Cape Folded Mountains Ecoregion Level II (19.03) (Kleynhans <i>et al.</i> , 2007)		NFEPA Wetlands (Figure 7)	According to the NFEPA Database, no wetlands are associated with the study or investigation area. The closest natural wetland is located approximately 960 m east of the study area (Natural channelled valley bottom wetland associated with the Princess Vlei wetland system).
Level II Code	19.03		
Dominant primary terrain morphology	Low mountains		
Dominant primary vegetation types	Mountain fynbos, Sand plain fynbos, West coast Renosterveld, Dune Thicket.		
Altitude (m a.m.s.l.)	0 to 700		
MAP (mm)	500 - 1000	Wetland Vegetation Type	The study area is situated within the Southwest Sand Fynbos (Critically Endangered) Wetland Vegetation Type. The threat status is provided by Mbona <i>et al.</i> (2015).
The coefficient of Variation (% of MAP)	<20 - 30		
Rainfall concentration index	30 to 50	NFEPA Rivers (Figure 7)	As per the NFEPA database, no rivers are located within the study or investigation area. The Diep River is located approximately 560 m east of the study area, which has been canalised. According to the NFEPA Database and the PES1999 database, the Diep River is considered to be in a seriously to critically/extremely modified ecological condition (RIVCON = EF).
Rainfall seasonality	Winter		
Mean annual temp. (°C)	14 to 18		
Winter temperature (July)	6 to 18		
Summer temperature (Feb)	12 to 26		
Median annual simulated runoff (mm)	200 - >250		
Importance of the study area according to the City of Cape Town Dataset (2017) (Figure 8)			
According to the City of Cape Town Dataset (2017), no wetlands are located within the study or investigation area. The dataset identified a natural floodplain wetland associated with the Diep River, approximately 520 m north-east of the study area.			
Importance of the study area according to the City of Cape Town Biodiversity Network (2017) (Figure 9)			
According to the City of Cape Town Biodiversity Network (2017), no areas of biodiversity importance are associated with the study or investigation area.			
National Biodiversity Assessment (2018): South African Inventory of Inland Aquatic Ecosystems (SAIIAE) (Figure 10) (National Wetland Map 5 is included in the NBA)			
According to the NBA 2018: SAIIAE no wetlands or rivers are located within the study or investigation area. This dataset identified a natural floodplain wetland associated with the Diep River, approximately 520 m north-east of the study area; this corresponds to the findings of the NFEPA dataset.			
National web based environmental screening tool (2020)			
The screening tool is intended for pre-screening of sensitivities in the landscape to be assessed within the EIA process. This assists with implementing the migration hierarchy by allowing developers to adjust their proposed development footprint to avoid sensitive areas.		The study area is located in an area considered of <b>very high</b> aquatic biodiversity sensitivity, due to it the study area being located in a strategic water source area. .	

CBA = Critical Biodiversity Area; DWS = Department of Water and Sanitation; EI = Ecological Importance; ES = Ecological Sensitivity; EPL = Ecosystem Protection Level; ESA = Ecological Support Area; ETS = Ecosystem Threat Status; m.a.m.s.l = Metres Above Mean Sea Level; MAP = Mean Annual Precipitation; NBA = National Biodiversity Assessment; NFEPA = National Freshwater Ecosystem Priority Areas; PES = Present Ecological State; SAIIAE = South African Inventory of Inland Aquatic Ecosystems; WMA = Water Management Area

## APPENDIX C - DECLARATION OF INDEPENDENCE

### DETAILS, EXPERTISE AND CURRICULUM VITAE OF SPECIALISTS

#### 1. (a) (i) Details of the specialist who prepared the report

Stephen van Staden	MSc (Environmental Management) (University of Johannesburg)
Kim Marais	BSc Hons (Zoology) (University of Witwatersrand)
Christel du Preez	MSc Environmental Sciences (North West University)

#### 1. (a). (ii) The expertise of that specialist to compile a specialist report including a curriculum vitae

Company of Specialist:	SAS Environmental Group of Companies		
Name / Contact person:	Christel du Preez		
Postal address:	221 Riverside Lofts, Tygerfalls Boulevard, Bellville,		
Postal code:	7539	Cell:	074 580 6823
Telephone:	011 616 7893	Fax:	086 724 3132
E-mail:	<a href="mailto:christel@sasenvgroup.co.za">christel@sasenvgroup.co.za</a>		
Qualifications	MSc Environmental Sciences (North West University)		
Registration / Associations	Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)		

#### 1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority.

I, Stephen van Staden, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct.



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Signature of the Specialist

I, Kim Marais, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct.

*Kim Marais*

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Signature of the Specialist

I, Christel du Preez, declare that -

- I act as the **independent specialist** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

*C du Preez*

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**SAS ENVIRONMENTAL GROUP OF COMPANIES –  
SPECIALIST CONSULTANT INFORMATION  
CURRICULUM VITAE OF STEPHEN VAN STADEN**

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**PERSONAL DETAILS**

Position in Company	Group CEO, Water Resource Discipline Lead, Managing Member, Ecologist, Aquatic Ecologist
Joined SAS Environmental Group of Companies	2003 (year of establishment)

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**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)  
Accredited River Health Practitioner by the South African River Health Program (RHP)  
Member of the South African Soil Surveyors Association (SASSO) Member of the Gauteng Wetland Forum  
Member of the Gauteng Wetland Forum  
Member of International Association of Impact Assessors (IAIA) South Africa;  
Member of the Land Rehabilitation Society of South Africa (LaRSSA)

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**EDUCATION**
**Qualifications**

MSc Environmental Management (University of Johannesburg)	2003
BSc (Hons) Zoology (Aquatic Ecology) (University of Johannesburg)	2001
BSc (Zoology, Geography and Environmental Management) (University of Johannesburg)	2000

**Short Courses**

Integrated Water Resource Management, the National Water Act, and Water Use Authorisations, focusing on WULAs and IWWMPs	2017
Tools for Wetland Assessment (Rhodes University)	2017
Legal liability training course (Legricon Pty Ltd)	2018
Hazard identification and risk assessment training course (Legricon Pty Ltd)	2018
Wetland Management: Introduction and Delineation (WLID1502S) (University of the Free State)	2018
Hydropedology and Wetland Functioning (TerraSoil Science and Water Business Academy)	2018

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**AREAS OF WORK EXPERIENCE**

South Africa – All Provinces  
Southern Africa – Lesotho, Botswana, Mozambique, Zimbabwe Zambia  
Eastern Africa – Tanzania Mauritius  
West Africa – Ghana, Liberia, Angola, Guinea Bissau, Nigeria, Sierra Leona  
Central Africa – Democratic Republic of the Congo

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**DEVELOPMENT SECTORS OF EXPERIENCE**

1. Mining: Coal, chrome, Platinum Group Metals (PGMs), mineral sands, gold, phosphate, river sand, clay, fluorspar
  2. Linear developments (energy transmission, telecommunication, pipelines, roads)
  3. Minerals beneficiation
  4. Renewable energy (Hydro, wind and solar)
  5. Commercial development
  6. Residential development
  7. Agriculture
  8. Industrial/chemical
-

## KEY SPECIALIST DISCIPLINES

### Legislative Requirements, Processes and Assessments

- Water Use Applications (Water Use Licence Applications / General Authorisations)
- Environmental and Water Use Audits
- Freshwater Resource Management and Monitoring as part of EMPR and WUL conditions

### Freshwater Assessments

- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant Species and Landscape Plans
- Freshwater Offset Plans
- Hydropedological Assessment
- Pit Closure Analysis

### Aquatic Ecological Assessment and Water Quality Studies

- Habitat Assessment Indices (IHAS, HRC, IHIA & RHAM)
- Aquatic Macro-Invertebrates (SASS5 & MIRAI)
- Fish Assemblage Integrity Index (FRAI)
- Fish Health Assessments
- Riparian Vegetation Integrity (VEGRAI)
- Toxicological Analysis
- Water quality Monitoring
- Screening Test
- Riverine Rehabilitation Plans

### Biodiversity Assessments

- Floral Assessments
- Biodiversity Actions Plan (BAP)
- Biodiversity Management Plan (BMP)
- Alien and Invasive Control Plan (AICP)
- Ecological Scan
- Terrestrial Monitoring
- Biodiversity Offset Plan

### Soil and Land Capability Assessment

- Soil and Land Capability Assessment
- Hydropedological Assessment

### Visual Impact Assessment

- Visual Baseline and Impact Assessments
- Visual Impact Peer Review Assessments



## SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

### CURRICULUM VITAE OF **KIM MARAIS**

#### PERSONAL DETAILS

Position in Company	Senior Scientist
	Water Resource Manager
Joined SAS Environmental Group of Companies	2015

#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP – Reg No. 117137/17)  
Member of the Western Cape Wetland Forum (WCWF)

#### EDUCATION

##### Qualifications

BSc (Hons) Zoology (University of the Witwatersrand)	2012
BSc (Zoology and Conservation) (University of the Witwatersrand)	2011

##### Short Courses

Aquatic and Wetland Plant Identification (Cripsis Environment)	2019
Tools for Wetland Assessment (Rhodes University)	2018
Certificate in Environmental Law for Environmental Managers (CEM)	2014
Certificate for Introduction to Environmental Management (CEM)	2013

#### AREAS OF WORK EXPERIENCE

**South Africa** – Gauteng, Mpumalanga, KwaZulu-Natal, Northern Cape, Eastern Cape,  
**Africa** - Uganda

#### KEY SPECIALIST DISCIPLINES

##### Biodiversity Assessments

- Biodiversity Action Plans (BAP)
- Alien and Invasive Control Plans (AICP)
- Faunal Eco Scans
- Faunal Impact Assessments

##### Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Watercourse Maintenance and Management Plans
- Freshwater Offset Plan

##### Aquatic Ecological Assessment and Water Quality Studies

- Riparian Vegetation Integrity (VEGRAI)
- Water quality Monitoring
- Riverine Rehabilitation Plans

##### Legislative Requirements, Processes and Assessments

- Water Use Applications (Water Use Licence Applications / General Authorisations)
- Water Use Audits
- Freshwater Resource Management and Monitoring as part of EMPR and WUL conditions
- Public Participation processes



## SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

### CURRICULUM VITAE OF CHRISTEL DU PREEZ

#### PERSONAL DETAILS

Position in Company Senior Scientist (Watercourse ecology)  
 Joined SAS Environmental Group of Companies 2016

#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP)  
 (SACNASP – Reg No. 120240/19)  
 Member of the Western Cape Wetland Forum (WCF)  
 Member of the Gauteng Wetland Forum (GWF)

#### EDUCATION

##### Qualifications

MSc Environmental Sciences (North West University) 2017  
 BSc Hons Environmental Sciences (North West University) 2012  
 BSc Environmental and Biological Sciences (North West University) 2011

##### Short Courses

Wetland and Aquatic plant Identification presented by Carin van Ginkel (Crispis Environmental) 2019  
 Wetland Management: Introduction and Delineation presented by the Centre of Environmental Management  
 University of the Free State 2018  
 Tools for Wetland Assessment presented by Prof. F. Ellery and Rhodes University 2017  
 Basic Principles of ecological rehabilitation and mine closure presented by the Centre for Environmental  
 Management North West University 2015

#### AREAS OF WORK EXPERIENCE

**South Africa** – Gauteng, Mpumalanga, Limpopo, Western Cape, Northern Cape, Eastern Cape

#### KEY SPECIALIST DISCIPLINES

##### Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant species and Landscape Plan
- Freshwater Offset Plan

# Appendix H1: Terrestrial Biodiversity Specialists Report



# F.E.N. Consulting

Applying science to the real world

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**Name:** Christel du Preez  
Chris Hooton  
**Date:** Friday, 29 October 2021  
**Ref:** FEN 20-2150

## SLR Consulting

68 on Main, Old Main Road  
Kloof, Durban  
3640  
Tel: 011 467 0945  
Email: [amothilal@slrconsulting.com](mailto:amothilal@slrconsulting.com)

**Attention: Ms. A. Mothilal**

**RE: TERRESTRIAL ECOLOGICAL COMPLIANCE STATEMENT AS PART OF THE S24G RECTIFICATION PROCESS FOR THE BERGVLIET SHELL RETAIL SERVICE STATION, BERGVLIET, WESTERN CAPE.**

## 1. INTRODUCTION AND BACKGROUND SETTING

Freshwater Ecological Network (FEN) Consulting (Pty) Ltd was appointed by SLR Consulting to prepare a Terrestrial Biodiversity Verification and compliance statement as per the Department of Forestry, Fisheries and Environment (DFFE) Screening Tool as part of the Section 24G rectification process for the existing Bergvliet Shell retail service station, located in Bergvliet, Western Cape Province (hereafter referred to as the 'study area') (Figure A1 in **Appendix A**). The Bergvliet Shell retail service station is located on Erf 80998 (total extent of 0.28 ha), within an urbanised setting and Main Road is located along its western boundary. Initial site operations commenced in 1974 which is prior to the promulgation of the Environment Conservation Act, 1989 (No. 73 of 1989) (ECA) and the National Environmental Management Act, 1998 (No. 107 of 1998) (NEMA). As such, the site did not require an environmental authorisation at inception. The site has subsequently undergone three upgrades and expansions without obtaining the relevant environmental authorisations. Thus, a section 24G rectification process is required for the unlawful commencement of listed activities in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).

This memorandum focuses on the possible presence of Peringuey's Meadow Katydid (*Conocephalus peringueyi* (VU)), the Cape Flats Frog (*Microbatrachella capensis* (CR)) and the Western Leopard Toad (*Sclerophrys pantherina* (EN)) within the study area as listed in the DFFE Screening Tool (**Appendix B**). The memorandum will also address the Very High sensitivity indicated for the Terrestrial Biodiversity theme and the Low Plant Species sensitivity theme.

This verification report will follow the requirements as stated in 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 (Act No. 107 of 1998) (NEMA).

The outcome of this site sensitivity verification assessment will present the recorded site assessment results so as to:

- Confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool (DFFE, 2020), such as new/upgrading of developments or infrastructure, the change in vegetation cover or status etc.; and
- Present a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

## 2. OUTCOMES OF THE APPLICATION OF THE DFFE SCREENING TOOL

The protocol for the assessment of terrestrial (fauna and flora) biodiversity is prepared in support of the national web based environmental screening tool (DFFE, 2020) which provides the criteria and requirements for the assessment and reporting of impacts on terrestrial biodiversity for activities requiring Environmental Authorisation (EA). For terrestrial biodiversity, the requirements are for landscapes and/or sites which support various levels of threatened or unique biodiversity. The relevant faunal and floral biodiversity data stated within the national web based environmental screening tool (DFFE, 2020) has been provided by the South African National Biodiversity Institute (SANBI).

According to the screening tool applied to the study area, the area is of “Very High” terrestrial biodiversity combined sensitivity (Table 1 – **Appendix B**). The study area is considered “Medium” for combined Animal Species Theme Sensitivity as the study area is located within the known distribution areas of the following species: the invertebrate Perringuey’s Meadow Katydid (*Conocephalus peringueyi* (VU)) and amphibians such as the Cape Flats Frog (*Microbatrachella capensis* (CR)) and the Western Leopard Toad (*Sclerophrys pantherine* (EN)). For the combined Plant Species sensitivity the site is indicated as “Low” and no sensitive or threatened plant species have been indicated as occurring within the site. For this report, focus on the possible persistence of the above mentioned species within the study area will be assessed. The overall terrestrial sensitivity as indicated by the screening tool will also be addressed.

The applicant, intending to undertake an activity within the study area identified as being of “very high sensitivity” for terrestrial biodiversity on the national web based environmental screening tool must submit a Terrestrial Biodiversity Compliance Statement to the competent authority unless the initial site survey or findings by the specialist determine that a high risk to the regional terrestrial biodiversity in the area is likely, in which case a biodiversity assessment must be undertaken.

## 3. DEFINITIONS AND LEGISLATIVE REQUIREMENTS

The legislation considered during this investigation included the following:

- The Constitution of the Republic of South Africa, 1996<sup>1</sup>;
- The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA);

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<sup>1</sup> Since 1996, the Constitution has been amended by seventeen amendments acts. The Constitution is formally entitled the ‘Constitution of the Republic of South Africa, 1996’. It was previously also numbered as if it were an Act of Parliament – Act No. 108 of 1996 – but since the passage of the Citation of Constitutional Laws Act, neither it nor the acts amending it are allocated act numbers.

- Government Notice R598 Alien and Invasive Species Regulations as published in the Government Gazette 37885 dated 1 August 2014 as it relates to the National Environmental Management Biodiversity Act, 1998 (Act No.107 of 1998);
- The Conservation of Agricultural Resource Act, 1983 (Act No. 43 of 1983) (CARA); and
- City of Cape Town. 2017 City of Cape Town Biodiversity Network [Vector] 2017. Available from the Biodiversity GIS [website](#).

#### 4. INVESTIGATION FINDINGS

A database review and desktop analyses was undertaken in terms of the study area whilst the surrounding landscape was also taken into consideration. The results of which are presented in **Appendix B** with the relevant maps. For ease of reference the results of the background assessment have been summarised in the points below:

- The National List of Threatened Ecosystems indicates that the study area is located in the Critically Endangered Cape Flats Sand Fynbos (FFd 5) vegetation type; and
- The study area does not represent any areas of conservation importance (CBA/ESA or Other Natural Areas) within the City of Cape Town Biodiversity Network.

A field investigation to ground truth the desktop findings was undertaken on the 20<sup>th</sup> of October 2021. The broader area surrounding the study area was considered utilising digital satellite imagery prior to and after the field investigation. At the time of the survey, it was early summer, which in the Western Cape corresponds to reduced rainfall and a general reduction in faunal species activity.

The study area has been completely developed into a retail fuel service station, with tar surface covering most of the study area (Figure 1). Small ornamental gardens are located along the northern and eastern boundary of the study area with a small garden at the study area entrance, mostly hosting typical garden ornamental species such as *Aloe striata*, restio species, *Crassula orate*, *Catharanthus roseus*, *Cotyledon orbiculata*, *Drosanthemum speciosum* and *Chlorophytum* species (Figure 1). Large tree species are only present on the property east of the study area and along Main Road located across the study area (to the west), predominantly alien tree species such as *Eucalyptus* species. The study area does not offer any habitat for faunal species due to the overall level of development and limited areas of vegetation within the study area that may provide refuge for fauna (Figures 1 and 2).

Signs of all faunal classes were limited to species capable of surviving in largely human modified habitats. No evidence of mammals were identified. Avifaunal species were limited to common species that have adapted to high density urbanisation including species in the family Columbidae (pigeons and doves), *Passer melanurus* (Cape Sparrow) and *Motacilla capensis* (Cape Wagtail). These species likely forage over the larger urban area, and are not solely reliant on the study area. Signs of reptiles and amphibians were largely absent, attributable to the unsuitable / lack of habitat. Invertebrates observed during the site assessment were common, ubiquitous species associated with urban areas, notably species of the Order Lepidoptera (Butterflies and moths) as well as the Orders Hemiptera (Bugs) and Diptera (Flies).



Figure 1: Overview photographs of the study area. Small ornamental gardens were identified along the northern (top right) and at the entrance to the study area (bottom). Large tree species (*Eucalyptus* spp.) are only present across the road from the study area (bottom left)

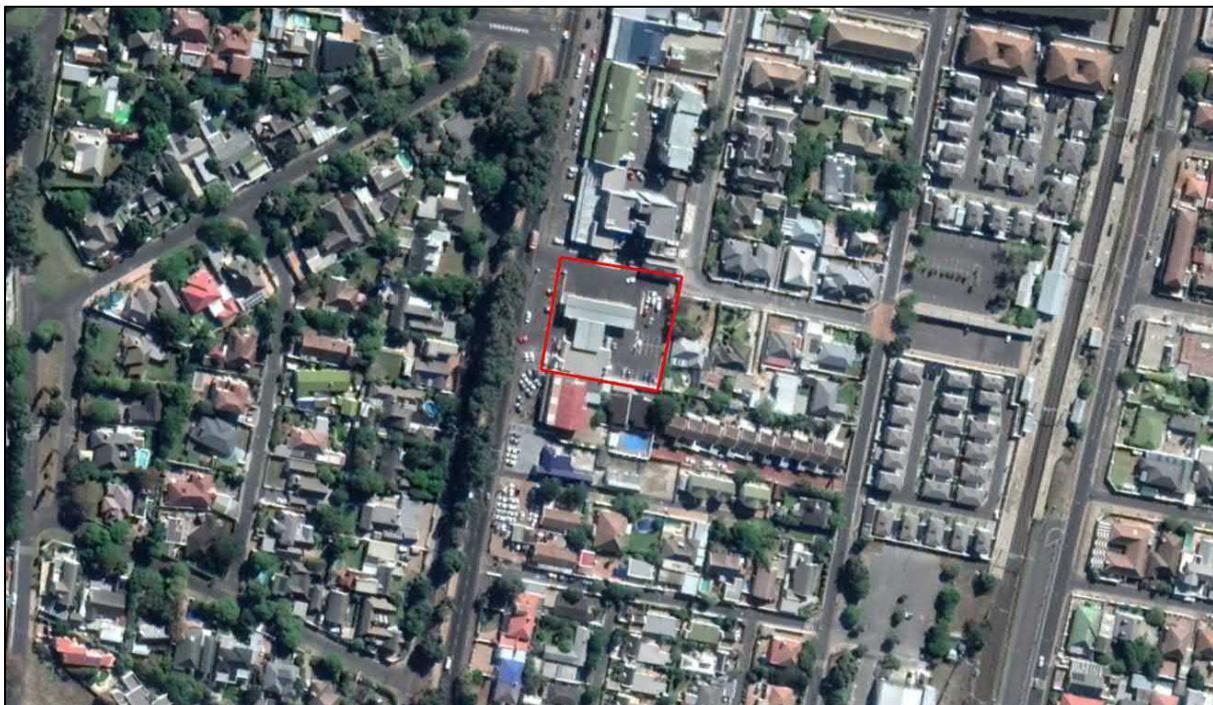


Figure 2: Digital aerial photography showing the study area (red polygon) within the larger landscape which is largely absent of suitable corridors for faunal movement.

### **Species of Conservation Concern identified by the DFFE screening tool (2020)**

The following paragraphs provide insight into the relevant faunal Species of Conservation Concern (SCC) as flagged by the DFFE screening tool (2020) and provides substantiated reasoning for whether these species may be associated with the study area or any nearby surroundings.

**Peringuey's Meadow Katydid (*Conocephalus peringueyi* (VU))** is known from mountains in the Fynbos biome. Given the urbanised environment in which the study area is located, the developed state of the site and the lack of suitable vegetation (habitat) available to support this species, it is unlikely that this species will occur within, or in close proximity to the study area.

The **Cape Flats Frog (*Microbatrachella capensis* (CR))** lives in sandy, coastal lowland fynbos heathland, and it is not generally found in anthropogenic habitats. It has specialized habitat requirements associated with natural, seasonal, seepage pools and vleis, and depends on black, acidic waters for breeding. This species can tolerate very limited habitat disturbance. The study area provides none of the habitat requirements for this species, with the nearest potentially suitable habitat located approximately 730 m east of the study area, namely Little Princess Vlei. It must, however be noted that according to the iNaturalist database, there are currently no records for this species at the Princess vlei.

The **Western Leopard Toad (*Sclerophrys pantherina* (EN))** forages in fynbos heathland, farmland, suburban gardens, and urban open areas, although always in close proximity to freshwater habitats. Although the study area has small open space areas (dominated by ornamental plants), the lack of access to a nearby freshwater habitat makes it unlikely that the study area would be utilised by this species. Furthermore, the highly urbanised environment and network of roads will significantly reduce the movement potential for this species into the study area. The nearest suitable habitat for this species is located at Little Princess Vlei, where there are several records for this species according to the iNaturalist database.

Due to the transformation and habitat degradation of the study area, the findings of the site visit do not align with the findings reported in the national web based screening tool (DFFE, 2020). The study area comprises no vegetation that can be considered characteristic of the vegetation or landscape in which the Peringuey's Meadow Katydid (*Conocephalus peringueyi* (VU)), the Cape Flats Frog (*Microbatrachella capensis* (CR)) and the Western leopard toad (*Sclerophrys pantherina* (EN)) would occur.

## **5. BUSINESS CASE, OPPORTUNITIES AND CONSTRAINTS APPLICABLE TO THE STUDY AREA.**

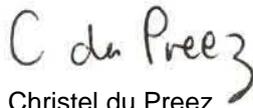
The study area occurs within an urban landscape which has been completely transformed from the reference vegetation state. The Princess Vlei open space area, located approximately 730 m east of the study area, will offer potential habitat for the triggered species, however, as there is insufficient habitat in the study area and limited interconnected movement corridors, species are unlikely to migrate / move from Princess Vlei to the study area.

Floral and faunal habitat is limited to small garden areas / flower beds within the study area comprising ornamental species and does not mimic the features described for the reference vegetation type (Mucina and Rutherford, 2006). Very few, if any faunal species are anticipated to utilise the study area as a result of the aforementioned habitat transformation, notable for Species of Conservation Concern (SCC). Thus, the faunal and floral composition of the study area is not anticipated to be of significant conservation value from a terrestrial biodiversity perspective and as such the impacts on the receiving environment from the upgrades that were done at the Bergvliet Shell retail service station would have been very low and unlikely to impact upon any terrestrial ecosystem services, functions or species.

Therefore, it is the opinion of the specialists that the upgrades posed no limitations, from a biodiversity resource management point of view. No unique (including floral SCC) or undisturbed habitat with the necessary characteristics required to support Peringuey's Meadow Katydid (*Conocephalus peringueyi* (VU)), the Cape Flats Frog (*Microbatrachella capensis* (CR)) and the Western leopard toad (*Sclerophrys pantherina* (EN)) or any other faunal SCC were observed in the study area. Thus, FEN Consulting does not support the Medium Animal Species theme or Very High Terrestrial Sensitivity theme for the study area. The **overall sensitivity for the study area is deemed to be low**, congruent with the current level of habitat therein.

We trust that we have interpreted your requirements correctly. Please do not hesitate to contact us if there are any aspects of this memorandum that you would like to discuss.

Yours Faithfully,



Christel du Preez  
Pr. Sci. Nat

Reviewed and signed off by C. Hooton and K. Marais (SACNASP REG No. 117137/17)  
Declaration of independence and CV included in Appendix C and D respectively

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## REFERENCES

- City of Cape Town. 2017 City of Cape Town Biodiversity Network [Vector] 2017. Available from the Biodiversity GIS [website](#),
- IBA: Marnewick MD, Retief EF, Theron NT, Wright DR, Anderson TA. 2015. Important Bird and Biodiversity Areas of South Africa. Johannesburg: BirdLife South Africa. Online available: <http://bgis.sanbi.org/IBA/project.asp>
- Mucina, L & Rutherford, MC. 2012. The vegetation of South Africa, Lesotho and Swaziland. SANBI Strelitzia 19, Pretoria.
- NPAES: DEA and SANBI. 2009. National Protected Areas Expansion Strategy Resource Document. Online available: <http://bgis.sanbi.org/protectedareas/NPAESinfo.asp>
- SAPAD: Department of Environmental Affairs. 2020. South Africa Protected Areas Database (SAPAD\_OR\_2020\_Q3). Online available: [http://egis.environment.gov.za]
- Threatened Ecosystems: National Environmental Management Biodiversity Act: National list of ecosystems that are threatened and in need of protection (G 34809, GoN 1002). 2011. Department of Environmental Affairs. Online available: <http://bgis.sanbi.org/ecosystems/project.asp>

### APPENDIX A- LOCALITY MAP

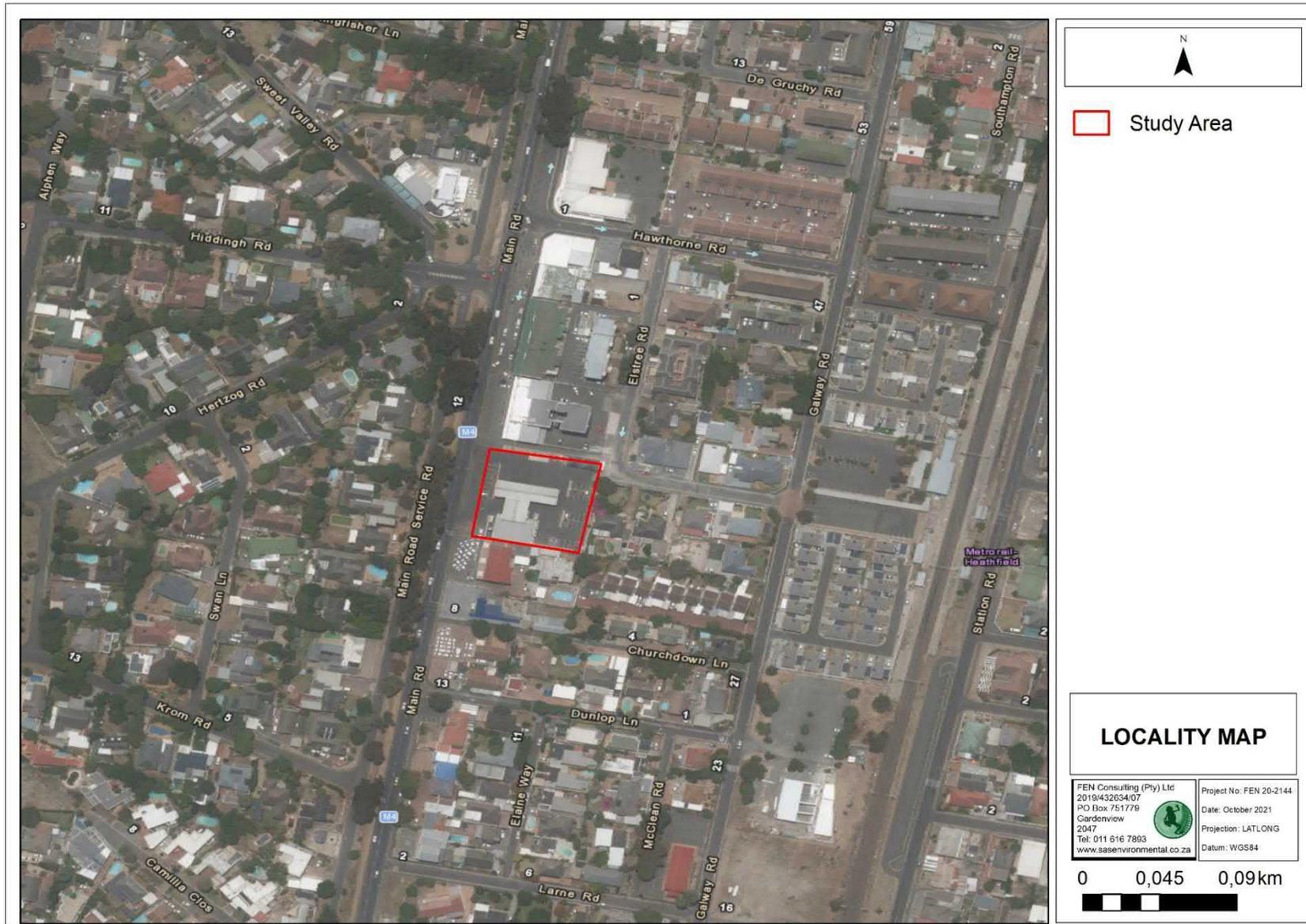


Figure A1: The locality of the study area in relation to its surroundings.

## APPENDIX B- BACKGROUND INFORMATION

Table 1: Summary of the conservation characteristics for the study area with a focus on terrestrial database sets.

CONSERVATION DETAILS PERTAINING TO THE STUDY AREA (VARIOUS DATABASES)		DETAILS OF THE STUDY AREA IN TERMS OF MUCINA & RUTHERFORD (2006, 2018, 2012)				
<p><b>NATIONAL BIODIVERSITY ASSESSMENT (NBA):</b> Ecosystem types are categorised as “not protected”, “poorly protected”, “moderately protected” and “well protected” based on the proportion of each ecosystem type that occurs within a protected area recognised in the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (NEMPAA), and compared with the biodiversity target for that ecosystem type. The ecosystem protection level status is assigned using the following criteria:</p> <ol style="list-style-type: none"> <li>I. if an ecosystem type has more than 100% of its biodiversity target protected in a formal protected area either a or b, it is classified as well protected;</li> <li>II. when less than 100% of the biodiversity target is met in formal a or b protected areas it is classified it as moderately protected;</li> <li>III. if less than 50% of the biodiversity target is met, it is classified it as poorly protected; and</li> <li>IV. If less than 5% it is hardly protected.</li> </ol>		<b>Biome</b>	The study area is situated within the <b>Fynbos Biome</b> .			
		<b>Bioregion</b>	The study area is located within the <b>Southwest Fynbos Bioregion</b>			
		<b>Vegetation Type</b>	The study area falls within the <b>Cape Flats Sand Fynbos (FFd 5)</b> .			
		<b>Climate</b>	Winter-rainfall regime with precipitation peaking from May to August, with overall MAP between 580 – 980 mm. Mists occur frequently in winter. Mean daily maximum and minimum monthly temperatures 27.1 °C and 7.3 °C for February and July, respectively. Frost incidence about 3 days per year.			
			<b>MAP* (mm)</b>	<b>MAT* (°C)</b>	<b>MFD* (Days)</b>	<b>MAPE* (mm)</b>
		<b>576</b>	<b>16.2</b>	<b>3</b>	<b>2034</b>	<b>65</b>
<p><b>NBA (2018):</b></p> <ol style="list-style-type: none"> <li>1) <b>Ecosystem Protection Level</b></li> <li>2) <b>Ecosystem Threat Status</b></li> </ol>	<p><u>NBA 2018 dataset:</u> The study area falls within the Cape Flats Sand Fynbos which is considered a <b>Critically Endangered</b> ecosystem and is currently <b>Not Protected</b>.</p>	<b>Altitude (m)</b>	20 – 200m			
		<b>Distribution</b>	Western Cape Province			
		<b>Conservation</b>	<b>Critically Endangered</b> . Target 30%. Less than 1% statutorily conserved. Almost 80% already transformed by urban sprawl or by cultivation. Alien species of <i>Acacia</i> , pines and gum trees ( <i>Eucalyptus</i> ) have replaced the original fynbos vegetation in large areas. Erosion generally very low.			
<p><b>National Threatened Ecosystems (2011)</b></p>	<p>The study area currently falls within an ecosystem that is critically endangered. For Environmental Impact Assessments (EIAs), the 2011 National list of Threatened Ecosystems remains the trigger for a Basic Assessment in terms of Listing Notice 3 of the EIA Regulations published under the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA).</p>	<b>Geology &amp; Soils</b>	Acid, tertiary, deep, grey regic sands, usually white, often Lamotte form. Land types mainly Ga, Hb and Db.			
		<b>Vegetation &amp; landscape features</b>	Moderately undulating and flat plains, with dense, moderately taal, ericoid shrubland containing scattered emergent tall shrubs. Proteoid and restioid fynbos are dominant, with asteraceous and ericaceous fynbos occurring in drier and wetter areas, respectively.			
<p><b>IBA (2015) (Figure A2)</b></p>	<p>According to the IBA Dataset, the False Bay Nature Reserve is located approximately 2.8 km south-east of the study area. This IBA has the following trigger species: Globally threatened species are African Black Oystercatcher (<i>Haematopus moquini</i>), Lesser Flamingo (<i>Phoeniconaias minor</i>) and Cape Cormorant. Regionally threatened species are Greater Flamingo (<i>Phoenicopterus roseus</i>), Great White Pelican (<i>Pelecanus onocrotalus</i>), African Marsh Harrier (<i>Circus ranivorus</i>), Lanner Falcon (<i>Falco biarmicus</i>), Maccoa Duck (<i>Oxyura maccoa</i>) and Caspian Tern (<i>Sterna caspia</i>). Common biome-restricted species in the IBA include Cape Spurfowl (<i>Pternistis capensis</i>) and Cape Bulbul (<i>Pycnonotus capensis</i>). Species that meet the 1% or more congregatory threshold include Black-necked Grebe (<i>Podiceps cristatus</i>) (maximum 174 individuals), Cape Teal (<i>Anas capensis</i>) (450 individuals), Cape Shoveler (<i>Anas smithii</i>) (630 individuals), Pied Avocet (<i>Recurvirostra avosetta</i>) (550 individuals), Kelp Gull (<i>Larus dominicanus</i>) (2 000 individuals), Hartlaub's Gull (<i>Chroicocephalus hartlaubii</i>) (830 individuals), Swift Tern (<i>Thalasseus bergii</i>) (160 individuals), Egyptian Goose (<i>Alopochen aegyptiaca</i>), Black-winged Stilt (<i>Himantopus himantopus</i>), Southern Pochard (<i>Netta erythrophthalma</i>), White-breasted Cormorant (<i>Phalacrocorax lucidus</i>), Greater Flamingo, Spur-winged Goose (<i>Plectropterus gambensis</i>) and Common Tern (<i>Sterna hirundo</i>).</p>					

<p><b>SAPAD (2021, Q2); SACAD (2021, Q2); NPAES (2009). Figure A2 and A3</b></p>	<p>According to the South African Protected Areas Database (SAPAD, 2021), the Cape Peninsula Nature Area, False Bay Nature Reserve, Greater Zandvlei Estuary Nature Reserve, Silvermine Nature Reserve and the Table Mountain National Park are all located within 5 km buffer of the study area. The Table Mountain National Park Marine Protected Area (MPA), Table Mountain National Park and the Zeekoevlei Local Nature Reserve, are located within 10 km buffer of the study area. According to the National Protected Areas Expansion Strategy (NPAES, 2009) indicates that the Table Mountain National Park and the Rondevlei Bird Sanctuary is located within 5 km buffer of the study area. The Table Mountain National Park MPA and Zandvlei Bird Sanctuary is located within the 10 km buffer of the study area. According to the South African Conservation Area Database (SACAD, 2021) the False Bay Nature Reserve is located within the 5 km buffer of the study area. A nature reserve is a declared area, or regarded as having been declared, in terms of section 23 of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ((NEMPAA), as a nature reserve. Alternatively, it is an area which before or after the commencement of this Act was or is declared or designated in terms of provincial legislation for a purpose for which that area could in terms of section 23 (2) of NEMPAA be declared as a nature reserve.</p>
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**CITY OF CAPE TOWN BIODIVERSITY NETWORK (2017)**

The study area does not fall within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA).

**NATIONAL WEB BASED ENVIRONMENTAL SCREENING TOOL (2020)**

The screening tool is intended to allow for pre-screening of sensitivities in the landscape to be assessed within the EA process. this assists with implementing the mitigation hierarchy by allowing developers to adjust the development footprint to avoid sensitive areas

Terrestrial Theme	The Terrestrial Sensitivity for the entire study area is considered of <b>Very High sensitivity</b> . The triggered sensitivity features include a <b>Critically Endangered ecosystem</b> (i.e. the Cape Flats Sand Fynbos as per the NBA, 2018).
Plant Species Theme	For the plant species theme, the study area is considered of <b>Low sensitivity</b> .
Animal Species Theme	For the animal species theme, the study area is considered of <b>Medium sensitivity</b> . Species identified by the EIA Screening tool: Invertebrate - <i>Conocephalus peringueyi</i> (Peringuey's Meadow Katydid), Amphibia - <i>Microbatrachella capensis</i> (Cape Flats Frog) and <i>Sclerophrys pantherine</i> (Western leopard toad).

CBA = Critical Biodiversity Area; DWS = Department of Water and Sanitation; EI = Ecological Importance; ES = Ecological Sensitivity; EPL = Ecosystem Protection Level; ESA = Ecological Support Area; ETS = Ecosystem Threat Status; m.a.m.s.l = Metres Above Mean Sea Level; MAP = Mean Annual Precipitation; NBA = National Biodiversity Assessment; NFEPA = National Freshwater Ecosystem Priority Areas; PES = Present Ecological State; SAIIE = South African Inventory of Inland Aquatic Ecosystems; WMA = Water Management Area

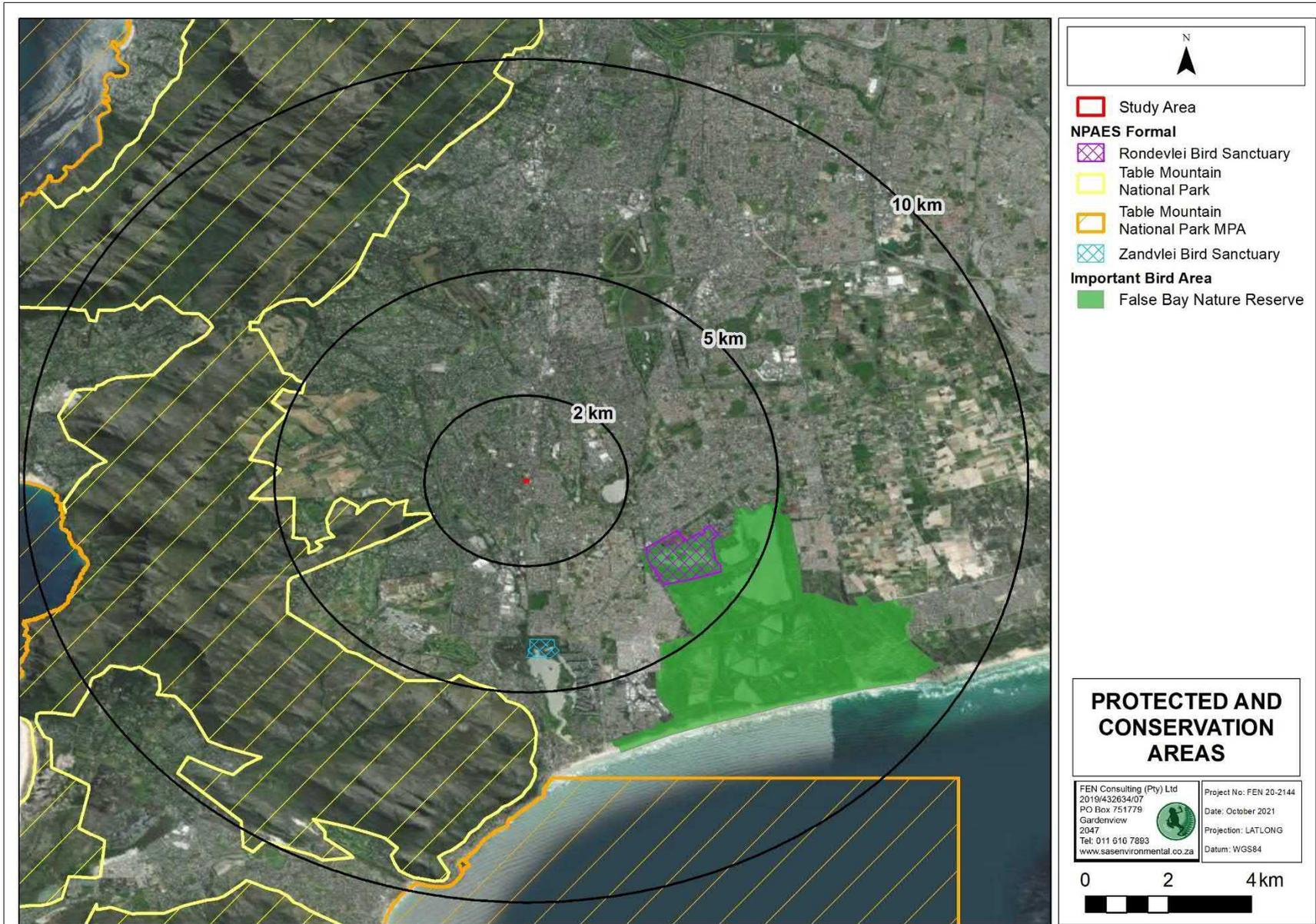


Figure A2: Important Bird Areas as per the IBA dataset (2015) and protected areas as per the National Protected Areas Expansion Strategy (NPAES, 2009) dataset.

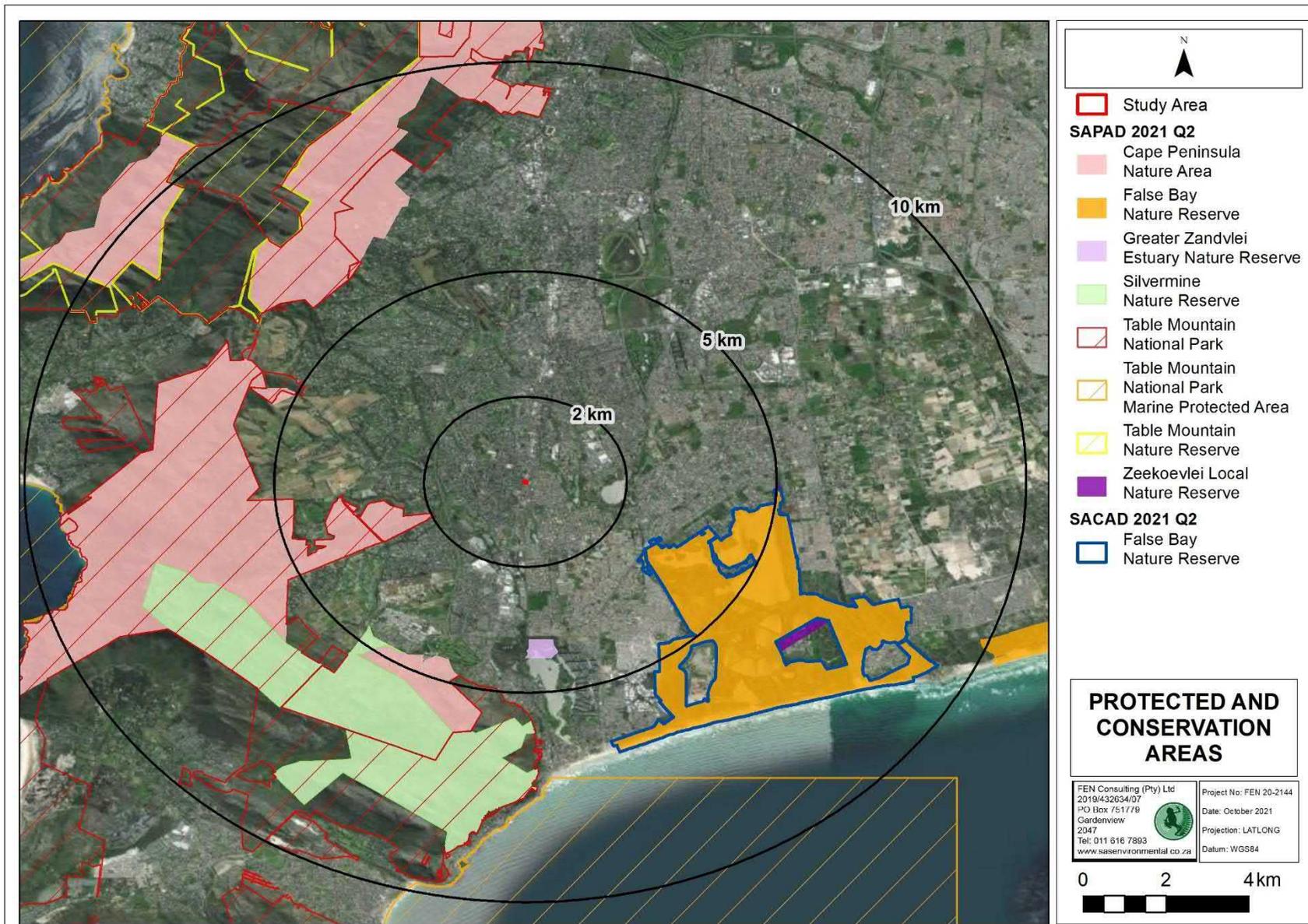


Figure A3: Protected and conservation areas within the 2 km, 5 km, and 10 km buffer zone of the study area as classified in the SACAD and SAPAD (2020) datasets.

## APPENDIX C- Declaration of Independence

### 1. (a) (i) Details of the specialist who prepared the report

Christel du Preez      MSc Environmental Sciences (North West University)

Chris Hooton          BTech Nature Conservation (Tshwane University of Technology)

Kim Marais             BSc (Hons) Zoology (Herpetology) (University of the Witwatersrand)

### 1. (a). (ii) The expertise of that specialist to compile a specialist report including a curriculum vitae

Company of Specialist:	FEN Consulting		
Name / Contact person:	Christel du Preez		
Postal address:	221 Riverside Lofts, Tygerfalls Boulevard, Bellville,		
Postal code:	7539	Cell:	074 580 6823
Telephone:	011 616 7893	Fax:	086 724 3132
E-mail:	<a href="mailto:christel@sasenvgroup.co.za">christel@sasenvgroup.co.za</a>		
Qualifications	MSc Environmental Sciences (North West University)		
Registration / Associations	Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)		

### 1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority

I, Kim Marais, declare that -

- I act as the **independent specialist (reviewer)** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

*Kim Marais*

-----  
Signature of the Specialist

**1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority**

I, Christel du Preez, declare that -

- I act as the **independent specialist** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

C du Preez

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**1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority**

I, Chris Hooten, declare that -

- I act as the **independent specialist** in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct

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## APPENDIX D- CV of specialist



### SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

#### CURRICULUM VITAE OF KIM MARAIS

##### PERSONAL DETAILS

Position in Company	Senior Scientist Water Resource Manager
Joined SAS Environmental Group of Companies	2015

##### MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP – Reg No. 117137/17)  
Member of the Western Cape Wetland Forum (WCWF)

##### EDUCATION

###### Qualifications

BSc (Hons) Zoology (University of the Witwatersrand)	2012
BSc (Zoology and Conservation) (University of the Witwatersrand)	2011

###### Short Courses

Aquatic and Wetland Plant Identification (Cripsis Environment)	2019
Tools for Wetland Assessment (Rhodes University)	2018
Certificate in Environmental Law for Environmental Managers (CEM)	2014
Certificate for Introduction to Environmental Management (CEM)	2013

##### KEY SPECIALIST DISCIPLINES

###### Biodiversity Assessments

- Biodiversity Action Plans (BAP)
- Alien and Invasive Control Plans (AICP)
- Faunal Eco Scans
- Faunal Impact Assessments

###### Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Watercourse Maintenance and Management Plans
- Freshwater Offset Plan

###### Aquatic Ecological Assessment and Water Quality Studies

- Riparian Vegetation Integrity (VEGRAI)
- Water quality Monitoring
- Riverine Rehabilitation Plans

###### Legislative Requirements, Processes and Assessments

- Water Use Applications (Water Use Licence Applications / General Authorisations)
- Water Use Audits
- Freshwater Resource Management and Monitoring as part of EMPR and WUL conditions
- Public Participation processes



## SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

### CURRICULUM VITAE OF CHRISTOPHER HOOTON

#### PERSONAL DETAILS

Position in Company	Senior Scientist, Member Biodiversity Specialist
Joined SAS Environmental Group of Companies	2013

#### EDUCATION

##### Qualifications

BTech Nature Conservation (Tshwane University of Technology)	2013
National Diploma Nature Conservation (Tshwane University of Technology)	2008

#### AREAS OF WORK EXPERIENCE

South Africa – Gauteng, Mpumalanga, North West, Limpopo, KwaZulu-Natal, Eastern Cape, Western Cape, Northern Cape, Free State  
Zimbabwe, Sierra Leone, Zambia

#### KEY SPECIALIST DISCIPLINES

##### Biodiversity Assessments

- Floral Assessments
- Faunal Assessments
- Biodiversity Actions Plan (BAP)
- Biodiversity Management Plan (BMP)
- Alien and Invasive Control Plan (AICP)
- Ecological Scan
- Protected Tree and Floral Marking and Reporting
- Biodiversity Offset Plan

##### Freshwater Assessments

- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning



## SAS ENVIRONMENTAL GROUP OF COMPANIES – SPECIALIST CONSULTANT INFORMATION

### CURRICULUM VITAE OF CHRISTEL DU PREEZ

#### PERSONAL DETAILS

Position in Company Senior Scientist (Watercourse ecology)  
 Joined SAS Environmental Group of Companies 2016

#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

Professional member of the South African Council for Natural Scientific Professions (SACNASP)  
 (SACNASP – Reg No. 120240/19)  
 Member of the Western Cape Wetland Forum (WCF)  
 Member of the Gauteng Wetland Forum (GWF)

#### EDUCATION

##### Qualifications

MSc Environmental Sciences (North West University)	2017
BSc Hons Environmental Sciences (North West University)	2012
BSc Environmental and Biological Sciences (North West University)	2011

##### Short Courses

Wetland and Aquatic plant Identification presented by Carin van Ginkel (Crispis Environmental)	2019
Wetland Management: Introduction and Delineation presented by the Centre of Environmental Management University of the Free State	2018
Tools for Wetland Assessment presented by Prof. F. Ellery and Rhodes University	2017
Basic Principles of ecological rehabilitation and mine closure presented by the Centre for Environmental Management North West University	2015

#### AREAS OF WORK EXPERIENCE

**South Africa** – Gauteng, Mpumalanga, Limpopo, Western Cape, Northern Cape, Eastern Cape

#### KEY SPECIALIST DISCIPLINES

##### Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant species and Landscape Plan
- Freshwater Offset Plan