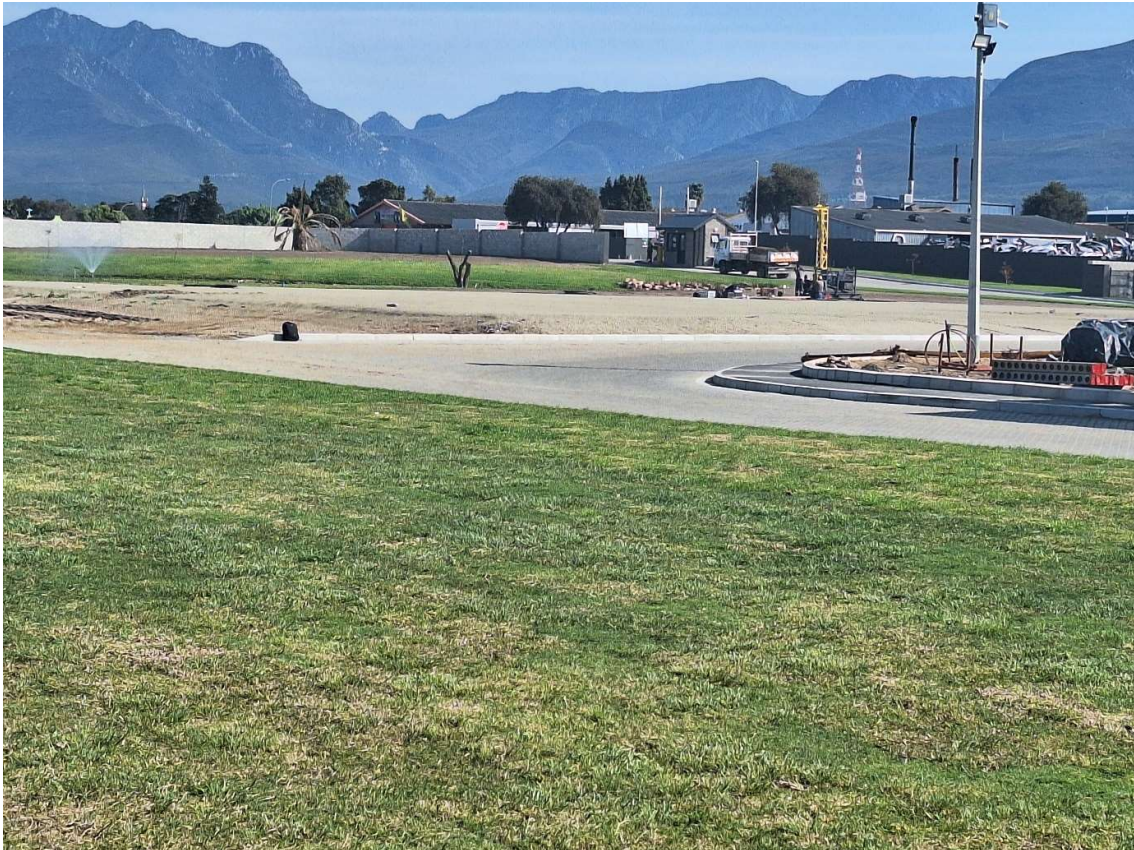

George Municipality Water Depot, Erf 464 George, Western Cape

Terrestrial Animal Species Specialist Assessment:
Site Sensitivity Verification Report and Compliance Statement for a 24G Rectification
Process



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Date: October 2024
Version: Draft Final



DECLARATION OF SPECIALIST INDEPENDENCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose 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 a competent authority to such a relevant authority and the applicant;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.

Vusumzi Martins

Vusumzi Martins (PhD candidate)
Faunal Specialist
September 2024

SUMMARY OF EXPERIENCE AND ABRIDGED CV - VUSUMZI MARTINS

Core skills

- MSc. Zoology (University of Fort Hare) and 7 years of work experience in the field of terrestrial fauna conservation and management. Expertise with conducting different research projects involving at mammal ecology and behaviour, human-wildlife conflict, and natural resources use.
- Extensive ecological and field work experience across a range of environments including indigenous forests, mountain terrain fynbos and grasslands.
- Experience in conducting transdisciplinary research aimed at understanding the motivations and impacts of wild fauna harvesting and implementing mitigation strategies.

Work experience

- 2023-2023: Social-ecological research- Cape Leopard Trust.
- 2018-2019: Conservation co-ordinator- Kwantu Private Game Reserve (Makanda, Eastern Cape).
- 2014-2015: Biodiversity officer (SANBI Groen Sebenza)- Eastern Cape Parks and Tourism Agency.
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Qualifications

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- MSc. Zoology (with distinction, 2015, University of Fort Hare)
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Publications

- Martins, V., Shackleton, C., and De Vos, A., (2024). Bushmeat hunting practices by rural communities in the forests of Eastern South Africa: motivations, methods and perceptions. (In Prep)
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SACNASP Registration - Professional Natural Scientist (Ecological Sciences), 131088.

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ABBREVIATIONS AND ACCRONYMS

CBA	Critical Biodiversity Area
CD:NGI	Chief Directorate: National Geo-spatial Information
DFFE	Department of Forestry, Fisheries, and the Environment
ESA	Ecological Support Area
EWT	Endangered Wildlife Trust
NEMA	National Environmental Management Act
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDP	Site Development Plan
SSVR	Site Sensitivity Verification Report
WCBSP	Western Cape Biodiversity Spatial Plan

1. INTRODUCTION

1.1 Background and Site Location

Confluent Environmental Pty (Ltd.) was appointed by Cape EPrac to provide Terrestrial Animal Specialist inputs for a retrospective assessment of activities relating to unauthorised vegetation clearing and further proposed development, in terms of the National Environmental Management Act (NEMA, Act 107 of 1998), for the George Municipality Water Depot on ErF 464 in George, Western Cape. The depot is situated in a semi-urban area, surrounded by a mosaic of land uses, including residential developments, commercial zones, and patches of indigenous vegetation (Figure 1).

The property owner initiated the unlawful clearance of vegetation to facilitate the expansion of the George Municipality Water Depot without obtaining the required environmental authorization. Recognizing the unlawful actions, the owners voluntarily reported the unauthorized activity to the relevant authorities. To rectify this, the property owner now seeks to apply for environmental authorization through a section 24G application under the National Environmental Management Act (NEMA). This application aims to obtain retrospective authorization for the vegetation clearance and the continued expansion of the water depot, ensuring compliance with environmental regulations.

Furthermore, the property owner has requested a Terrestrial Animal Specialist site sensitivity assessment for future development of the George Municipality Water Depot. This specialized assessment is key to identifying sensitive faunal species that may occur in and around the site, particularly in areas with endangered vegetation, wetlands, and the nearby non-perennial river.

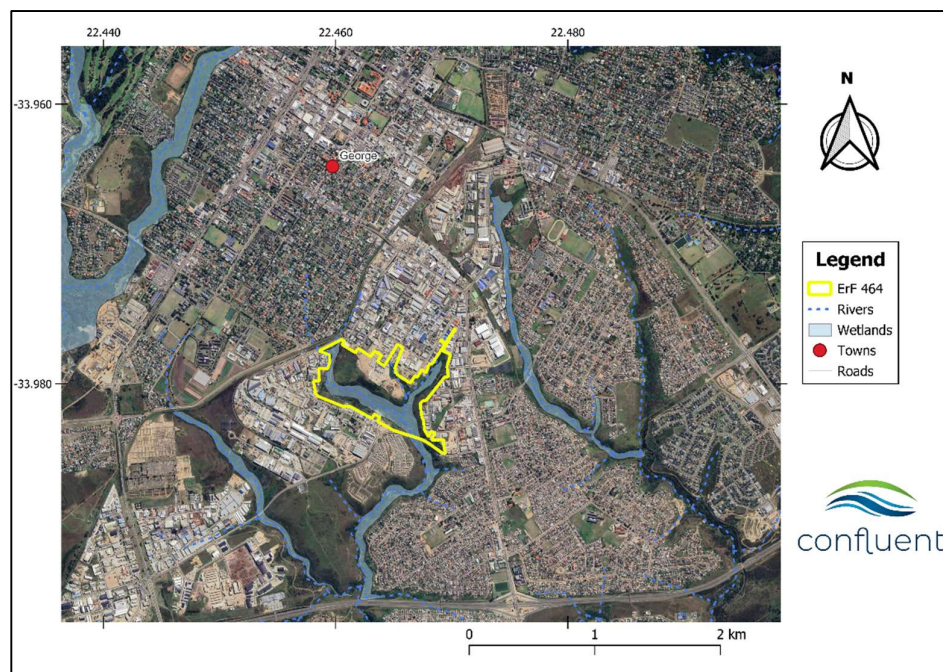


Figure 1: The general location of ErF 464 George, Western Cape

1.2 Unauthorised Clearing and Proposed Development

1.2.1 Unauthorised Clearing

The unauthorized clearing of vegetation on Erf 464 (Orange outline, Figure 2), intended for the expansion of the George Municipality Water Depot, has potentially caused significant ecological and environmental degradation. The area cleared by the property owners contained indigenous flora, which possibly supported serval terrestrial faunal species. Of particular concern is the removal of the critically endangered Garden Route Fynbos vegetation, which plays a vital role in preserving biodiversity. Furthermore, the site is located within a highly sensitive ecological zone that includes an unchanneled valley-bottom wetland and a non-perennial river, all of which provide essential ecosystem services.

The landowners cleared additional indigenous vegetation outside the depot's current fence line, establishing an illegal dumping site on the cleared land (outlined in red, Figure 2). This area is included in the Section 24G application, indicating that the clearing of indigenous vegetation and creation of a dumping site were initiated without prior environmental authorization. These unauthorized activities have likely intensified environmental degradation, posing serious risks of habitat loss and contamination, which could impact the surrounding wetland and the nearby non-perennial river.



Figure 2: Map showing the unauthorized clearing of indigenous vegetation on ErF 464

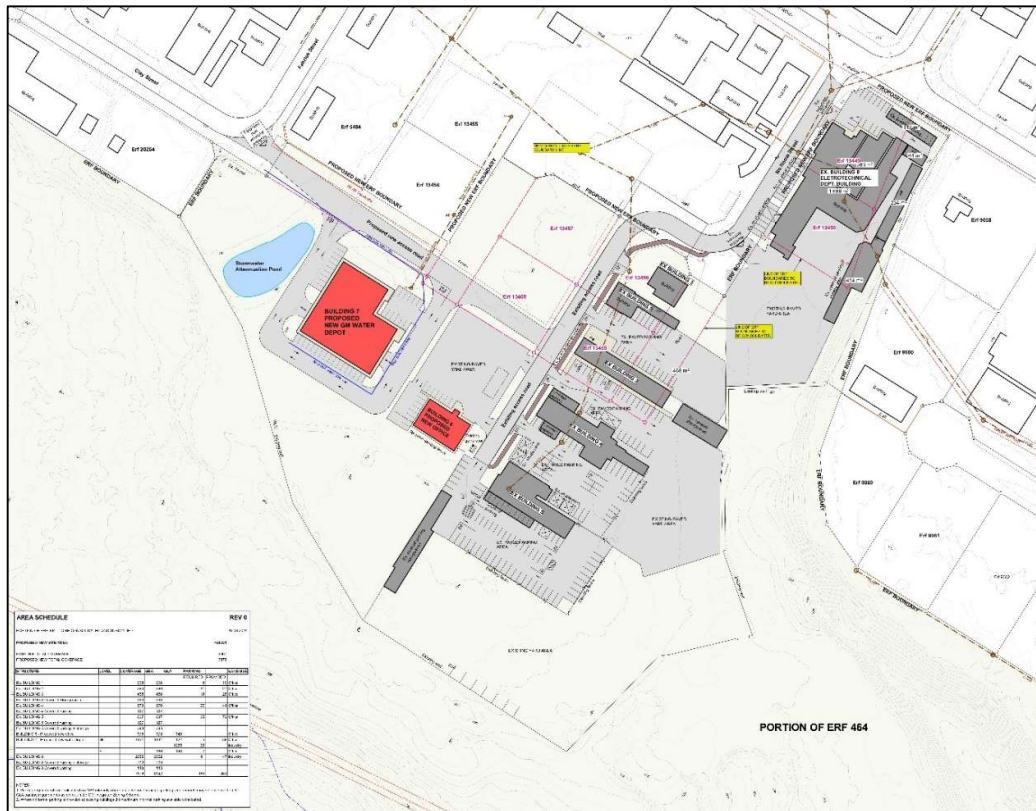


Figure 3: Site development plan showing the proposed new buildings in red

As part of the Section 24G application, the site development plan includes several ongoing developments aimed at enhancing the operational capacity of the George Municipality Water Depot. Key ongoing developments include:

- New office building (Building 6, Figure 3).
- New Water Depot (Building 7, Figure 3).

1.2.2 Proposed development

The property owner also plans to undertake future developments to expand the water depot, with the area located outside the current fence line of the depot. Figure 4 outlines the future proposed development site and shows the watercourses present which include a wetland and a non-perennial river. These watercourses may be crucial for the survival of local faunal species, possibly providing critical habitats, breeding grounds, and water sources.

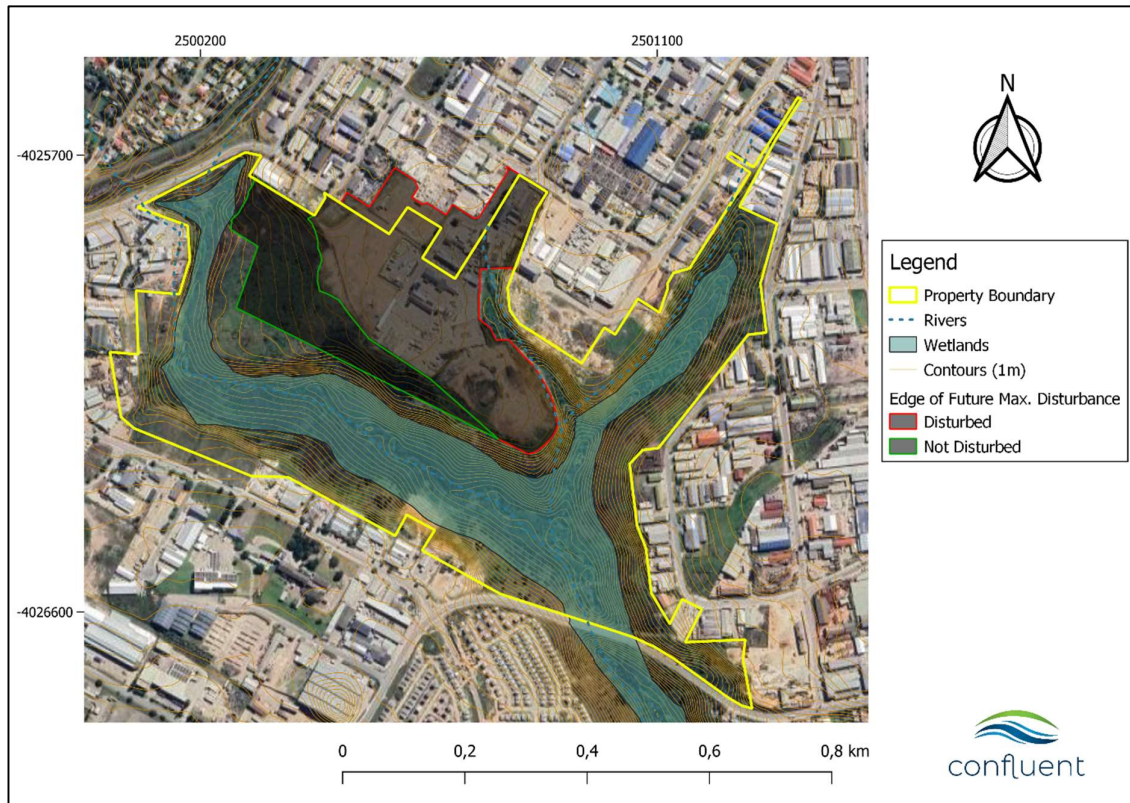


Figure 4: Map showing the area where potential future developments might take place and the water courses on Erf 464.

2. TERMS OF REFERENCE

2.1 Online Screening Tool

The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA; Act 107 of 1998), and the animal species protocols specified the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020). As such, the Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool is used to assess the site sensitivity for the property.

The DFFE Screening Tool revealed a **HIGH** sensitivity for the terrestrial animal species theme across Erf 464 (Figure 5), with five faunal Species of Conservation Concern (SCC) highlighted (Table1).

A **HIGH** sensitivity rating indicates:

- Confirmed habitat for SCC.
- SCC, listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable, according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare. These areas are unsuitable for development due to a very likely impact on SCC.

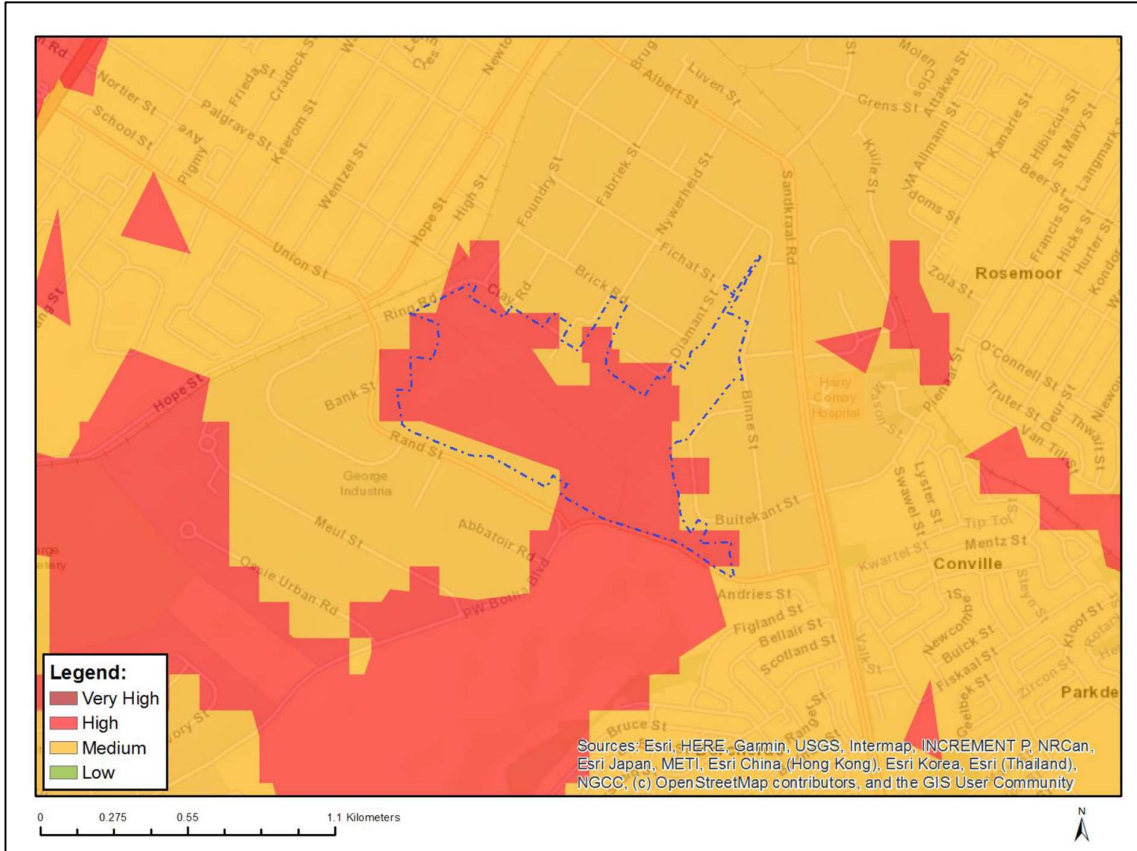


Figure 5: DFFE Online Screening Tool outcome for the terrestrial animal species theme for ErF 464 George. The property boundary is indicated by the blue dashed line.

Table 1. Species of Conservation Concern highlighted by the DFFE Online Screening Tool for ErF 464

Sensitivity	Classification	Scientific name	Common name	Red list status
High	Aves	<i>Circus ranivorus</i>	African marsh harrier	Endangered
High	Aves	<i>Bradypterus sylvaticus</i>	Knysna warbler	Vulnerable
Medium	Aves	<i>Neotis denhami</i>	Denham's bustard	Near Threatened
Medium	Amphibia	<i>Afrixalus knysnae</i>	Knysna Leaf-Folding frog	Endangered
Medium	Sensitive species 8	-	-	Vulnerable
Medium	Mammal	<i>Chlorotalpa duthieae</i>	Duthie's golden mole	Vulnerable
Medium	Invertebrate	<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	Vulnerable

2.2 Scope of Work

The purpose of this report is to verify the site sensitivity of the proposed development of a George Municipality Water Depot on ErF 464 for the terrestrial animal species theme in accordance with the protocols specified in the Published Government Notice No. 1150, Government Gazette 43855 (30 October 2020). The site sensitivity verification includes:

- A desktop assessment, to:
 - Characterize the vegetation, climate, general habitat features and topography of the property.
 - Assess the property's location within the context of the Western Cape Biodiversity Spatial Plan (WCBSP).
 - Conduct a historical assessment of the property and immediate surroundings for any disturbances, development and changes in land use or habitat characteristics over time.
 - Provide information on the habitat requirements for Species of Conservation concern highlighted by the DFFE online screening tool, in addition to other SCC indicated through online resources (e.g. Virtual Museum, iNaturalist) for the property and surrounding areas.
- On-site inspection(s) and field assessments to:
 - Verify the current land use and identify current impacts or disturbances on the property.
 - Characterize faunal habitats, determine the habitat suitability and the likelihood of SCC occurring on the property.
 - Conduct taxa-specific sampling for SCC in suitable habitats.
- Any other available and relevant information
- Should the site sensitivity verification indicate a **LOW** sensitivity, then a Terrestrial Animal Species Compliance Statement will be issued.
- Should the site sensitivity verification indicate a **HIGH** sensitivity, then a Terrestrial Animal Species Specialist Assessment including an Impact Assessment will be compiled.

3. DESKTOP ASSESSMENT

3.1 Vegetation, Climate and General Habitat

George has an oceanic climate, characterised by with warm summers, and mild to chilly winters. The region has an average annual rainfall of 700-900 mm, while temperatures range from 8°C to 30°C throughout the year (Figure 6). The temperature averages between 20 and 28 °C in the summer and between 5 and 10 °C in the winter.

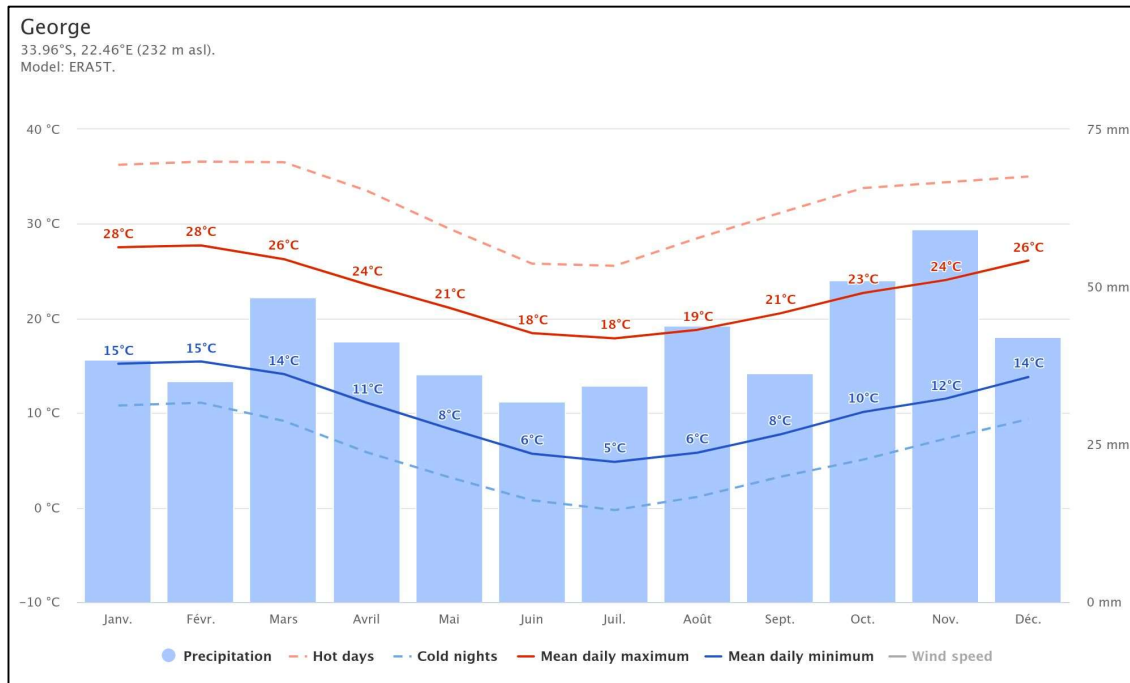


Figure 6. Summary of historical climate (modelled) for George, Western Cape (www.meteoblu.com).

The general area that the site occurs is characterised by a mosaic of vegetation types, primarily dominated by Fynbos and Afrotemperate forests, with rich riparian zones and ecotones that enhance the area's vegetation diversity. The vegetation type on Erf 464 is classified as Garden Route Granite Fynbos (Figure 7), a critically endangered ecosystem within the Fynbos Biome (Rebelo et al., 2006). This vegetation type is critically endangered due to its restricted range and extensive habitat loss over the past three decades (1990–2018) (Government Gazette, 2011). This ecosystem type has experienced rapid fragmentation, primarily due to urban expansion, agriculture, and alien plant invasion, which have left less than 30% of its original extent (Rebelo et al., 2006).

The flora supports a diverse range of fauna that rely on the vegetation for their habitat, feeding and breeding. Several species of mammals e.g. Bushbuck (*Tragelaphus scriptus*), Cape Grysbok (*Raphicerus melanotis*), Cape gerbil (*Gerbilliscus afra*), striped mouse (*Rhabdomys pumilio*); birds e.g. Southern Boubou (*Laniarius ferrugineus*), Jackal buzzard (*Buteo rufofuscus*), black harrier (*Circus maurus*); reptiles and amphibians have been recorded in the area and play essential roles in the ecosystem's trophic dynamics (Midgley & Bond, 2001; Rebelo et al., 2006).

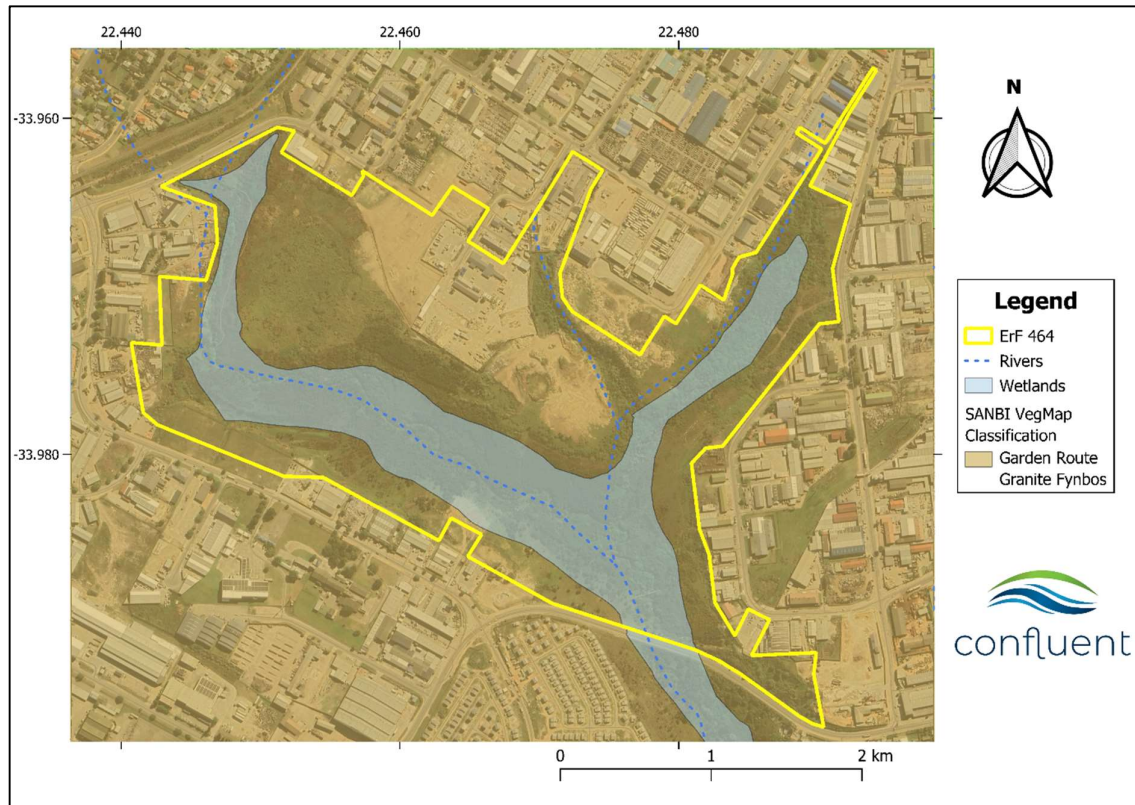


Figure 7. Map showing the vegetation classification of the area and water courses at the site

3.2 Western Cape Biodiversity Spatial Plan

Additional mapping layers were applied to the site to include the Western Cape Biodiversity Spatial Plan (CapeNature, 2017), with Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs) and Other Natural Areas (ONAs) assessed in the proposed development area in relation to the mapped conservation features of the Western Cape Biodiversity Spatial Plan (2017).

Most of the property falls within a CBA1 and CBA2 area (Figure 6). There are also ESA2 areas present in the north boundary of the property. The reason for the CBA1, CBA2 and ESA2 assignments are because the property falls within areas flagged for protection within the WCBSP (CapeNature, 2017):

- Feature 1: Bontebok Extended Distribution Range
- Feature 2: Water source protection- Kaaimans
- Feature 3: Watercourse protection- South-Eastern Coastal Belt

The presence of these key features highlights the area's importance for biodiversity conservation and water resource management.

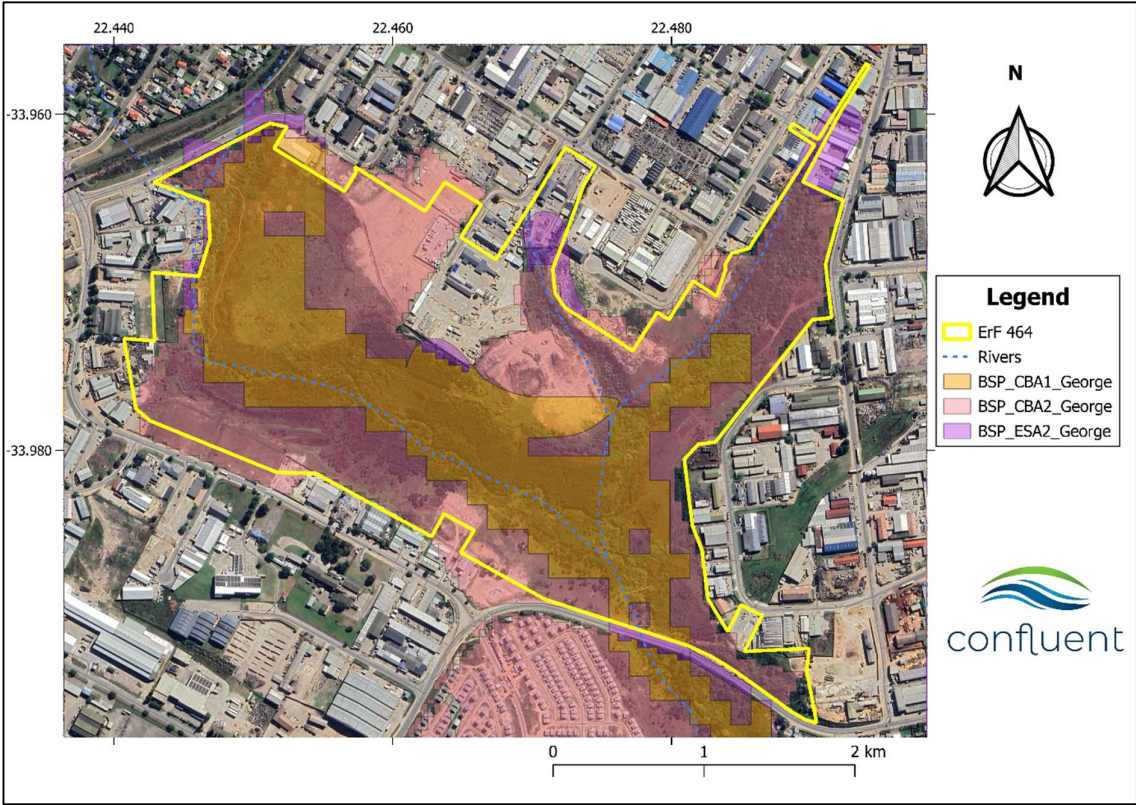


Figure 8. The proposed development area in relation to mapped conservation features of the Western Cape Biodiversity Spatial Plan (2017).

Table 2. Definitions and objectives for the conservation categories identified in the Western Cape Biodiversity Spatial Plan (CapeNature, 2017).

WCBSP Category	Definition	Management Objective
Critical Biodiversity Area 1 (CBA1)	Areas in a natural condition. Required to meet biodiversity targets for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.
Critical Biodiversity Area 2 (CBA2)	Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.
Ecological Support Area 2 (ESA 2)	Areas severely degraded or have no natural cover and ecological functioning severely impaired. Not essential for meeting biodiversity targets but support ecological functioning and delivering ecosystem services.	Restoration required to return ecological functioning. Some limited habitat loss may be acceptable. A greater range of land uses over wider areas is appropriate but ensures the underlying biodiversity objectives and ecological functioning are not compromised.

3.3 Historical Assessment of Project Area

The site assessment will integrate both the Section 24G site and Site Sensitivity Verification for area where future development may occur. This approach ensures that all relevant factors are considered in the planning process, aligning with environmental regulations and best practices.

The analysis of historic satellite imagery from 1939 to 2024 showed that from 1939 to 1989, the depot is situated within a largely undeveloped, open landscape, surrounded by fields and some scattered roads and structure. By 1989, there was an increase in urbanization, with new infrastructure and housing. During this period the vegetation around the depot remains open. The 2003 image shows a noticeable increase in the vegetation around the depot. In the 2018 image, sections within the depot appear to have been cleared, likely due to infrastructure expansion. By 2020 and continuing into 2024, further vegetation clearing has occurred, with areas within the depot completely cleared.

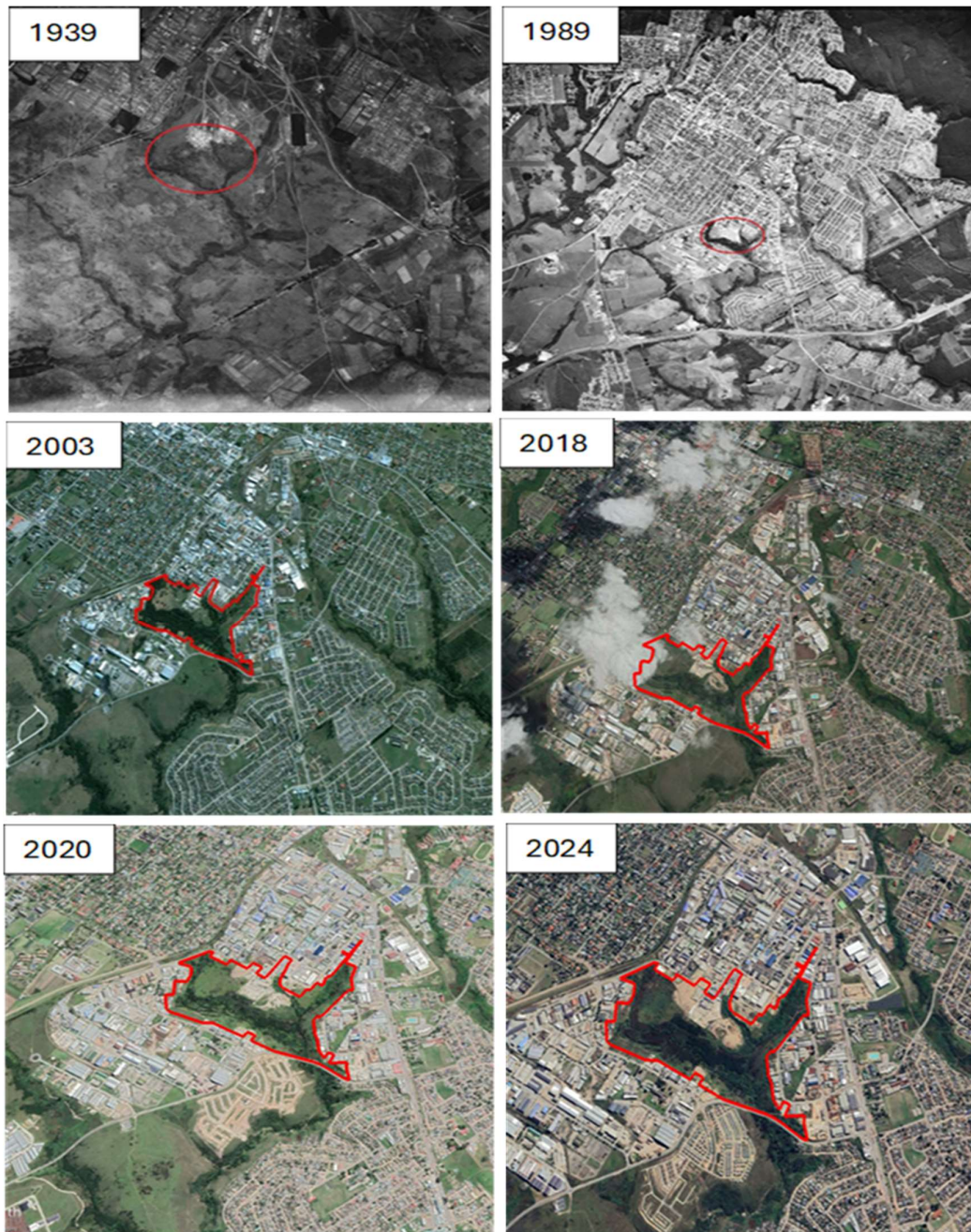


Figure 9. Historical imagery of development area sourced from the CD: NGI geospatial portal and Google Earth.

3.4 Species of Conservation Concern

In addition to the SCC highlighted by the DFFE screening tool, the following public resources were consulted to provide additional SCC for the George Municipality Water Depot and its immediate surroundings:

1. iNaturalist (all taxa) within a 2 km x 2 km radius of the property.
2. Virtual Museum for herpetofauna, mammals and invertebrate taxa within the Quarter Degree Squares (QDS) 3322DC: DungBeetleMAP, FrogMAP, LacewingMAP, LepiMAP, MammalMAP, OdonataMAP, ReptileMAP, ScorpionMAP, SpiderMAP.
3. South African Bird Atlas Project (SABAP2) for pentad 3355_2235.

Some SCC reported on the platforms were highly unlikely to occur at the site given either clearly unsuitable habitat or being deemed a vagrant/transient animal. For the purposes of this report these animals were excluded from further assessment (see also Section 4.2 and Appendix 1 for additional information).

The combined list of SCC (from DFFE Screening Tool and public resources) possibly occurring on the site, along with their habitat, breeding and feeding requirements are listed in Table 3. The information for each SCC presented in Table 3 stems largely from the online SANBI Red List of South African Species (<http://speciesstatus.sanbi.org>) in addition to a few key resources for each taxa:

1. Avifauna: Roberts Birds of Southern Africa VII (Roberts, Hockey, Dean, & Ryan, 2005)
2. Mammals: The Mammals of the Southern African Subregion (Skinner & Chimimba, 2005)
3. Invertebrates:
 - Field guide to the insects of South Africa (Picker, Griffiths, & Weaving, 2019)
 - Field guide to the butterflies of South Africa (Woodhall, 2005)

Any information presented from different sources is cited in the text.

Table 3. Summary of habitat, breeding, and feeding requirements for animal SCC potentially occurring in the proposed development site.

Red list status	Species	Habitat	Breeding	Feeding
AVIFAUNA				
Vulnerable	<i>Circus maurus</i> Black harrier	In Western Cape, mostly found in Fynbos, especially montane Fynbos and strandveld. Less common in dry restios and renosterveld. Elsewhere, occurs in dry grassland, Karoo scrub, crop fields (wheat) and grasslands (sometime >3000m elevation). Many move from Fynbos to Karoo and grasslands during the winter, likely to follow rodent numbers (e.g. capitalise on late summer litter of Sloggett's ice rats in Free State and Lesotho). Birds move away following fires and don't return for several years.	Mainly monogamous but some polygamy observed. Mate fidelity is low. Usually solitary nester and territorial, but in Western Cape some semi-colonial nesting observed with less territorial behaviour. Nest is a small structure of grass, stems and small twigs. Usually on or just above ground, in rank marsh grasses or near Fynbos bushes and sedges (<i>Juncus</i> spp.) Nests most often in marshes or next to small streams, but also on damp soil or dry ground. Nest areas reused in successive years (one observation of nest site used for 26 years).	Mainly monogamous but some polygamy observed. Mate fidelity is low. Usually solitary nester and territorial, but in Western Cape some semi-colonial nesting observed with less territorial behaviour. Nest is a small structure of grass, stems and small twigs. Usually on or just above ground, in rank marsh grasses or near Fynbos bushes and sedges (<i>Juncus</i> spp.) Nests most often in marshes or next to small streams, but also on damp soil or dry ground. Nest areas reused in successive years (one observation of nest site used for 26 years).
Vulnerable	<i>Bradypterus sylvaticus</i> Knysna warbler	Inhabits dense understorey vegetation along riverbanks in fynbos forest patches, riverine woodland and afro-montane forest and has even adapted to thickets of non-native brambles (e.g. <i>Rubus</i>). (BirdLife International, 2016).	Breeds from August and December coinciding with the greatest abundance of invertebrate species. (BirdLife International, 2016).	Mostly on ground, creeping through dense, matted vegetation and scratches in humus. Eats mostly grasshoppers, insect larvae, spiders, slugs, worms
Near Threatened	<i>Neotis denhami</i> Denham's bustard	Inhabits a mosaic of cultivated pastures, agricultural croplands and natural vegetation, with seasonal variation in their preferences (Allan, 2003). Cultivated pastures are favoured habitat during winter in the southern Cape (Allan, 2003).	Male courtship displays occur between August and January, but mainly in September and October (Allan, 2003). Eggs are laid in September and October, with unfledged young present between September and January (Allan, 2003). Preference for natural vegetation over	Ground-dwelling bird that forages in open grasslands and savannas (Tarboton, 1989). Diet is omnivorous including insects, seeds, fruit, and vegetation. Grasshoppers, beetles and termites are important insect prey, especially in the breeding season (Allan, 2003). Feeding technique is probing and pecking the ground with their long bills.

Red list status	Species	Habitat	Breeding	Feeding
		Harvested cereal crop fields (stubble fields) are favoured, but ploughed fields and fields with growing cereal crops are avoided (Allan, 2003). Primarily inhabits open grasslands and African savannas (Allan, 2003). Being large-bodied with low flight manoeuvrability also leads to preference for open habitat. Preference for grasslands with a mix of short and tall grasses, and good visibility for foraging. Proximity to water sources, such as rivers or wetlands, is important for drinking and potential foraging (Allan, 2003). Avoids dense forests and habitats with high human disturbance.	pastures during summer breeding months. Larger bird groupings occur in winter, while in summer smaller groupings or individual birds occur. Nesting sites are concealed in open grasslands, often near vegetation or shrubs. Females construct shallow ground nests lined with grass or plant materials. Clutches consist of 1-3 eggs, incubated primarily by the female. Incubation lasts around 21-24 days.	Opportunistically feed on grasshopper swarms.
AMPHIBIANS				
Endangered	<i>Afrivalus knysnae</i> Knysna banana frog	It lives in a coastal mosaic of vegetation types, including mountain fynbos heathland and forest. It breeds in small dams and shallow semi-permanent water with much emergent vegetation, and even in well vegetated ornamental garden ponds.	It breeds in small dams and shallow semi-permanent water with much emergent vegetation, and even in well vegetated ornamental garden ponds. Species in this genus deposit between 20 and 50 eggs on vegetation above water, folded in a grass leaf.	The species diet is chiefly insects.
MAMMALS				
Vulnerable	Sensitive Species 8	Specialised habitat requirements within a home range of approximately 0.75 ha (Skinner & Chimimba, 2005). Strong habitat	This species can breed throughout the year. Males establish territories and exhibit aggressive behaviours	Highly selective feeders, often feeding on food below troops of monkeys or frugivorous birds which drop lots of material. Preference for fruit, but also fallen

Red list status	Species	Habitat	Breeding	Feeding
		preference for dense vegetation with good undergrowth providing good cover in which to retreat. Forest, thicket, dense coastal bush, independent of water. Can adapt to fragmented habitat given sufficient cover and food availability. Actively avoids open grasslands, and areas with human disturbance.	towards other males and to attract females.	leaves, flowers and insects. Seldom actively browse. Active in the early morning and late afternoon, foraging for around 8 hours a day within their territory.
Vulnerable	<i>Chlorotalpa duthieae</i> Duthie's golden mole	Occur on alluvial sands and sandy loams in southern Cape Afrotropical forests (Bronner, 2014). Preference for forest vegetation over fynbos. Narrow coastal band 275 km long between Wilderness and Port Elizabeth with fairly disjunct populations. Can occur in gardens and pastures adjoining forests. Mainly active at night.	Little is known but a female was recorded with a litter of two young in November (Bronner, 2014).	Shallow subsurface foraging tunnels radiate outwards from beneath the roots of trees. Forages at night in tunnels and through the leaf litter. Diet includes earthworms.
INVERTEBRATES				
Vulnerable	<i>Aneuryphymus montanus</i> Yellow-winged Agile Grasshopper	Very low area of occupancy between 100 and 1 000 km ² . Threatened by declining habitat due to invasion by aliens and habitat transformation. Strong association with sclerophyllous fynbos vegetation on the southern slopes of the Outeniqua mountains, post-fire. Threats to the species include habitat transformation and invasion by alien plants.	Unknown	Unknown

4. FIELD ASSESSMENT

4.1 Methods

Following the Species Environmental Assessment Guidelines (SANBI, 2020) and Table 3, taxa-specific sampling techniques were conducted in habitats where SCC were likely to occur. Taxa-specific sampling was interspersed with a meander across the project area to collect additional opportunistic data for all fauna and inspect all habitat types (Table 4).

Table 4. Sampling techniques conducted for potential SCC occurring on the site.

Taxa	Field methods	Public platform where observations were reported
Avifauna	• Meander* across site for direct observations. • 4 point counts (5-minute bird counts).	Birdlasser (species lists), iNaturalist (photos)
Mammals	• Meander* across site for direct observations, tracks, scats and signs.	iNaturalist (photos)
Amphibia	• Meander* across site for direct observations. • Active searching.	iNaturalist (photos)
Invertebrates	• Meander* across site for direct observations. • Active searching. • Sweep netting.	iNaturalist (photos)

* Meandering involved slow walking across the site through various habitat types and key landscape features. Active observations took place for all fauna throughout this walk which was then supplemented by taxa specific sampling methods in habitats deemed most suitable for SCC.

4.2 Assumptions and Limitations

1. While the public platforms mentioned in Section 3.4 are excellent sources of additional information for animal species occurring within an area, these results require some expert interpretation to determine which of the SCC are relevant to include in the faunal assessment of the project area. For example, the coarse spatial scale of reporting within the Virtual Museum platforms (Quarter Degree Square level (27km x 27km) or SABAP2 pentad level (9km x 7 km) can result in species records from habitats quite different to those present on site. Additionally, these platforms include sightings of vagrant or transient animals upon which an assessment cannot reasonably be based. Expert interpretation is therefore applied to the full list of SCC identified by the various public platforms (see Appendix 1) and some species are then excluded from further assessment due to the project area clearly lacking suitable habitat or the species clearly representing a vagrant or transient animal outside its normal range. The SCC assessed in this report therefore represents those which may reasonably occur on site. However, there is always the possibility that some SCC (although highly unlikely to occur on site) are overlooked in this process.

2. One field visit took place to the site for the faunal assessment. This only represents a “snap-shot” in time and it is possible that SCC occurring on site were not observed during this visit. These results should therefore be interpreted with this in mind and not be treated as an exhaustive list of species occurring on site.
3. The site visit took place during daylight hours so the likelihood of encountering nocturnal species was limited.
4. The site visit coincided with winter for the site. This may be of consequence for detecting some species showing seasonal variation in breeding and activity patterns. Nevertheless, the precautionary principle is applied where appropriate.
5. Evidence of animals in the form of tracks, scats and signs always brings with it a level of uncertainty, but best efforts were made in this regard and uncertainties are highlighted in the report.

4.3 Site Inspection Details

A site visit to ErF 464 took place on the 4th of October 2024 under warm and sunny conditions, which were ideal for terrestrial faunal species observations, as many species tend to be more active and visible in such favourable weather. Upon arrival at the site, the cleared Section 24G area, where the construction of building 7 is to take place, was clearly visible. The areas had been completely cleared of indigenous vegetation. Additionally, it was observed that the property owners had already commenced with the construction of Building 6, the proposed new office. Furthermore, activities were taking place in the area designated for the proposed Building 7 (Figure 10).

The area outside the current fence line of the depot where the future developments are proposed, contains remnants of indigenous Garden Route Granite Fynbos as mapped. Though a significant amount of the vegetation has already been cleared and an illegal dumping site had been established. The dumping has not only led to the physical clearing of indigenous plant life, further compromising the ecological integrity, but has also introduced large quantities of waste into the endangered vegetation, the nearby river and wetland systems. The combined impacts of vegetation clearing, persistent dumping, and active development at the site have severely compromised its capacity to support ecologically significant faunal species, reducing habitat suitability and connectivity crucial for biodiversity conservation in this fragile ecosystem.



Figure 10: Images from the site inspection conducted at the George Municipal Depot, ErF 464: (1a&b) Ongoing construction of new office building; (2a&b) Cleared area and ongoing activities on site where the new water depot is to be constructed; (3a&b) Area where future development is to occur ; (4a&b) Non-perennial river and artificial wetland in area where future development is to occur

4.4 Results

4.4.1 Avifauna

No SCC were detected on site. An avifaunal survey conducted during the site visit yielded a total of 20 bird species (Figure 11) (see Appendix 2). The survey employed a multi-faceted approach, comprising systematic bird counts across the property, supplemented by opportunistic observations and targeted searches for nesting and roosting sites.

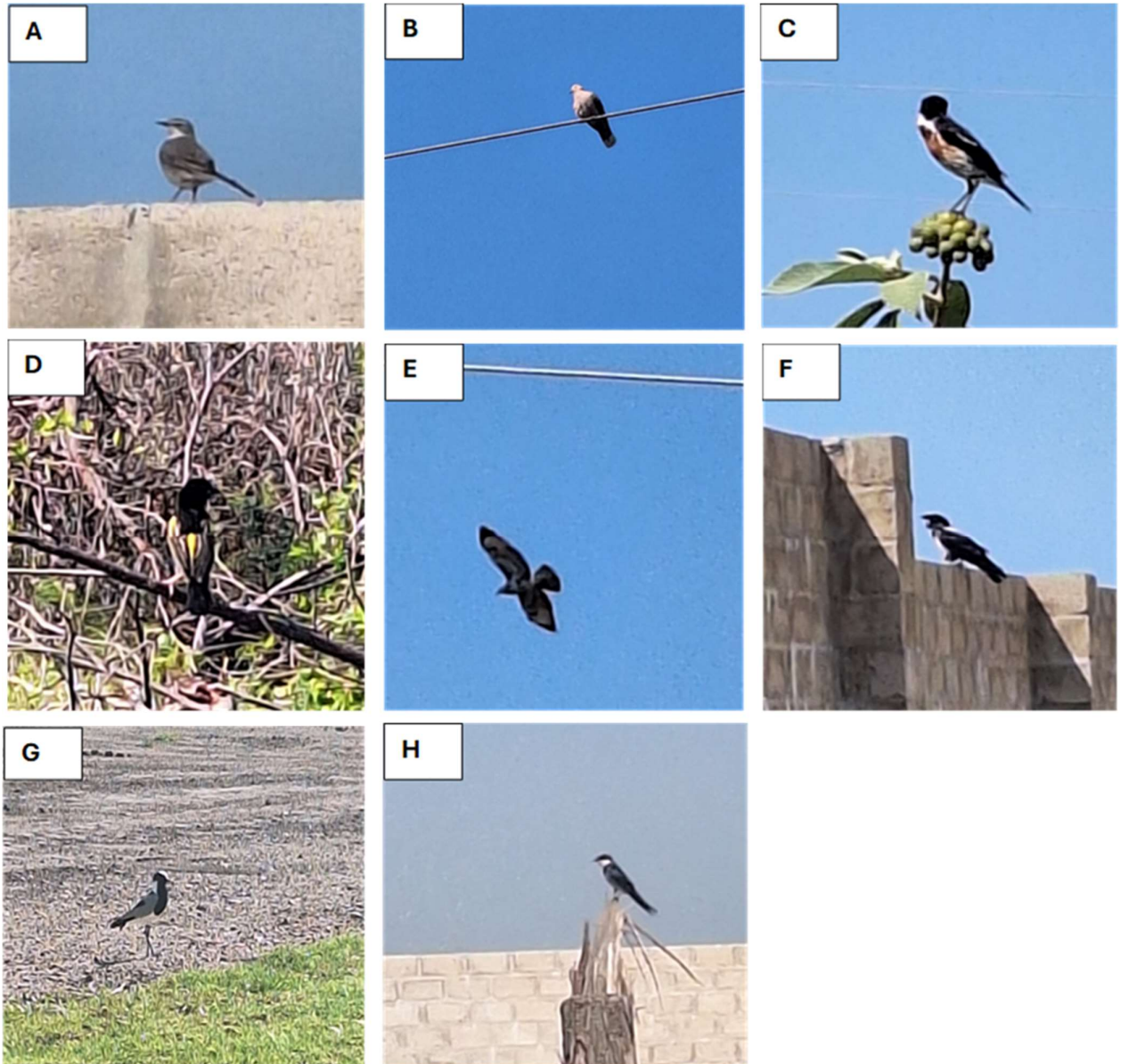


Figure 11: Evidence of avifauna on ErF 464: (a) Cape wagtail (*Motacilla capensis*) (b) Laughing dove (*Spilopelia senegalensis*) (c) African stonechat (*Saxicola torquatus*) (d) Yellow bishop (*Euplectes capensis*) (e) Jackal buzzard (*Buteo rufofuscus*) (f) Pied Crow (*Corvus albus*) (g) Blacksmith lapwing (*Vanellus armatus*) (h) Southern Fiscal (*Lanius collaris*)

4.4.2 Mammals

During the site visit, no mammal Species of Conservation Concern (SCC), were observed. Additionally, there were no signs of mammal presence in the Section 24G site, or the area designated for future development. No mole surface tunnels were observed on both the sites beside from several soil heaps created by the Cape mole rat (*Georychus capensis*) (Figure 12). However, the habitat in the site designated for future development appears suitable for a variety of mammal species. Further ecological assessments are recommended before any future developments.

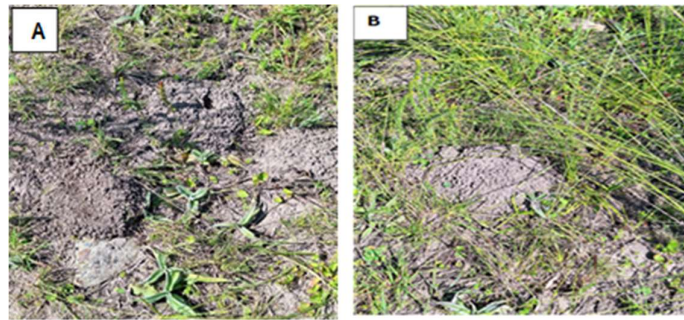


Figure 12: Soil heaps made by Cape Mole Rat (*Georychus capensis*)

4.4.1 Terrestrial Invertebrates

No SCC were detected during the site inspection conducted on the property. Figure 13 shows the different terrestrial invertebrates and signs observed during the site assessment.



Figure 13: Evidence of terrestrial invertebrates on ErF 464 (a) Monkey beetle (*Tribe Hopliini*) (b) Spide-web made by species belonging to order Araneae (c) Carpenter bee (*Xylocopa spp.*) (d) Painted Lady (*Vanessa cardui*)

4.4.2 Amphibians

Although the endangered Knysna leaf-folding frog (*Afrixalus knysnae*), identified as a species of conservation concern (SCC) by the screening tool and public resource platforms, the species was not encountered during the survey of Erf 464. The habitat conditions at the site were found to be unsuitable for the species. The influx of stormwater into the non-perennial river does not provide the stagnant or slow-flowing waters preferred by species. Additionally, elevated levels of suspended sediments in both the river and wetland may have further degraded habitat quality, impacting the species ability to thrive in these waterbodies. The absence of suitable plants, essential for egg-laying, further reduces the suitability of this habitat for the Knysna leaf-folding frog. No other amphibian species were detected at the site.

4.4.3 Likelihood of Occurrence for SCC

Following the terrestrial fauna surveys and site inspection, the possible SCC occurring on the proposed development site were evaluated according to their likelihood of occurrence. It is always possible that a species assessed as having a low probability of occurrence can still occur on the site and therefore this table should only be used as a guideline.

Table 5. Likelihood of occurrence for terrestrial fauna SCC in the proposed development site.

Red list status	Species	Observed on site	Suitable habitat	Likelihood of occurrence
AVIFAUNA				
Vulnerable	<i>Bradypterus sylvaticus</i> Knysna warbler	No	No	LOW Unfavourable habitat as the SCC inhabits dense understorey vegetation along riverbanks in fynbos forest patches, riverine woodland and afro-montane forests.
Vulnerable	<i>Circus maurus</i> Black harrier	No	No	LOW Habitat at the site not suitable for the species. Species prefers montane fynbos, renosterveld and strandveld habitats.
Near Threatened	<i>Neotis denhami</i> Denham's bustard	No	No	LOW The habitat at the site is not suitable for the species. Species prefers open ground, including agricultural land, grassland, flood-plains and burnt fynbos.
AMPHIBIANS				
Endangered	<i>Afrixalus knysnae</i> Knysna leaf folding frog	No	Yes	LOW Habitat not suitable for the species. The SCC requires slow moving or stationary water. Furthermore, no suitable broad-leafed plants were available for the Knysna leaf-folding frog (<i>Afrixalus knysnae</i>) to lay its eggs, likely contributing to the species' absence.
MAMMALS				
Vulnerable	Sensitive Species 8	No	No	LOW Unfavourable habitat as SCC prefers forests, subtropical and tropical regions, savannas, grasslands, deserts, and rocky and mountainous regions

Red list status	Species	Observed on site	Suitable habitat	Likelihood of occurrence
Vulnerable	<i>Chlorotalpa duthieae</i> Duthie's golden mole	No	No	LOW Though habitat may be suitable for the species the highly disturbed nature of the site may not support the species
INVERTEBRATES				
Vulnerable	<i>Aneuryphymus montanus</i> Yellow-winged Agile Grasshopper	No	No	LOW Unfavourable habitat, as SCC prefers sclerophyllous fynbos vegetation on the southern slopes of the Outeniqua mountains.

4.5 Project area of Influence (PAOI)

The unlawful clearance of indigenous vegetation for infrastructure development within the George Municipality Water Depot is unlikely to have significant implications from a faunal perspective. The vegetation that was removed primarily consisted of degraded habitats and areas that had previously experienced anthropogenic disturbances. Such locations typically possess limited ecological value and biodiversity support.

Moreover, the absence of faunal Species of Conservation Concern further underscores the limited ecological significance of the area. This indicates that the habitat did not serve as critical refuge or breeding grounds for vulnerable or threatened species. The ecological integrity of the site has likely been compromised for some time, resulting in a reduced capacity to sustain diverse fauna.

Additionally, the prior anthropogenic disturbances such as previous infrastructure development may have also contributed to a decline in the site's overall biodiversity, reducing its capability to support wildlife. The fragmentation of habitats, driven by ongoing anthropogenic activities, also intensifies the situation, limiting the movement of fauna and their access to essential resources.

While the unlawful clearance of indigenous vegetation raises important environmental concerns, the specific context of the affected areas suggests that the impact on faunal communities will be minimal. This is largely due to the degraded state of the habitat prior to clearance, which already limited its functionality and the presence of significant species.

5. SITE SENSITIVITY VERIFICATION AND COMPLIANCE STATEMENT

During the site visit, the faunal specialist conducted a thorough assessment of the site's sensitivity regarding the terrestrial animal theme on ErF 464, George, Western Cape. Contrary to the **HIGH** sensitivity rating indicated by the Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool, our findings suggest that the site's actual sensitivity is **LOW**. This conclusion is drawn from a detailed evaluation that combines both field observations and an analysis of habitat conditions.

The assessment reveals that historical land use practices and existing environmental disturbances have significantly reduced the ecological value and faunal diversity of the area. Specifically, several key factors contribute to this determination of **LOW** site sensitivity for terrestrial animal Species of Conservation Concern (SCC):

- Evidence of and continued development at the site has led to the degradation of natural habitats, resulting in reduced quality and availability of suitable environments for various faunal species.
- The absence of SCC's associated with high biodiversity and conservation value further supports the low sensitivity rating. Species typically found in more ecologically intact areas were not observed during the assessment.
- Ongoing disturbances, including pollution and habitat fragmentation, have likely contributed to a decline in both the quantity and diversity of fauna. These factors limit the ability of the site to support a rich assemblage of terrestrial wildlife.

- The observed faunal diversity during the site visit was notably low, indicating that the area is not functioning as a significant habitat for conservation-worthy species.

Additionally, site verification for the area where future development is proposed also indicates a **LOW** sensitivity rating. This finding supports the notion that the ecological conditions of both the unauthorised cleared site and the site proposed for future development are similar.

Considering these findings, and in accordance with the protocols outlined in Gazette no. 1150 (October 2020), a **Compliance Statement** is issued for George Municipality Water Depot, ErF 464, George, Western Cape. This statement acknowledges that the unlawful clearance of indigenous vegetation for infrastructure development is unlikely to have any significant impacts on terrestrial animal SCC, given the site's **LOW** sensitivity.

6. RECOMMENDATIONS

In light of the assessment findings regarding the low ecological sensitivity of the site on ErF 464, as well as the ongoing and future proposed developments, the following recommendations are proposed that aim to balance development needs with ecological preservation, ensuring that the site can sustain its ecological value while accommodating growth. By implementing these strategies, the property owners can mitigate potential impacts on the environment and promote biodiversity growth.

- Engage in habitat restoration projects to rehabilitate degraded areas. This can include replanting indigenous vegetation, removing invasive species, and creating wildlife corridors to facilitate movement and enhance biodiversity.
- Establish a comprehensive monitoring program to regularly assess the ecological conditions of the site. This should include tracking changes in faunal diversity, habitat quality, and the presence of Species of Conservation Concern (SCC).
- Establish buffer zones around sensitive habitats to mitigate the impact of construction and development activities. These zones can help protect critical areas from disturbances and provide space for wildlife to thrive.
- Work closely with the Department of Forestry, Fisheries and the Environment (DFFE) and other relevant organizations to ensure compliance with environmental regulations and to gain support for conservation initiatives.
- Encourage the adoption of sustainable development practices that prioritize environmental conservation and minimize ecological footprints. This includes green building techniques, efficient resource use, and sustainable landscaping.

By implementing these recommendations, the site can better manage ongoing and future developments while enhancing its ecological integrity and supporting local biodiversity.

General recommendations and best practice guidelines should be followed for all animal species encountered (regardless of whether they are SCC or not) during any stage of development on a site. These are summarised in Box 1 below:

BOX 1: Best practice principles for ALL fauna encountered during construction or operational phases of projects.

If any animals are seen on site, a photo or video should be taken if at all possible (to assist in identification) and all fauna encountered on site should be reported to the ECO immediately. This is particularly important when:

- An animal is harmed or compromised in any way during construction.
- Ground-dwelling animals, their nests or eggs are unearthed during earthworks (e.g. moles, tortoise eggs, terrapins/frogs estivating).
- Any animal with limited mobility is found on site (e.g. tortoises, moles, chameleons).
- Any potentially dangerous animal is encountered. This includes any potentially venomous animal (e.g. snakes, scorpions) or any medium-large animal that has become cornered in a room/enclosed area such that it cannot escape (e.g. porcupines, monkeys, baboons, antelope). It is critical in the case of snakes/scorpions to get pictures/videos to aid in identification and appropriate treatment of anyone needing medical assistance.
- Any animal that shows reluctance to escape or move away from the construction site, thereby increasing its exposure to harm or increasing the risk of injuring people on site. The ECO should provide guidance or assistance to get all animals to safety, treating any injured animals and issuing instructions on when to continue with construction (once they are satisfied that all animals have been removed from site) or put additional mitigation measures in place to protect animals on the site from harm.

Some helpful contact details numbers for the ECO's disposal include:

For any injured animals or animals to be removed from site (domestic or wild):

A local SPCA can collect and treat most animals, and should be a first point of call for assistance. If they cannot directly assist, they will revert and notify the relevant authorities/vets. In the Garden Route please contact:

SPCA George: 044 878 1990

SPCA Mossel Bay: 044 693 0824

For any assistance with snake removals/relocations, identifications, or bite treatment:

African Snakebite Institute (all details available on www.africansnakebiteinstitute.com)

General Enquiries: +27 73 186 9176

Snakebite Emergencies: +27 82 494 2039

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APPENDIX 1: SCC IDENTIFIED FROM PUBLIC PLATFORMS.

SCC were included or excluded from further analysis in this report based on expert interpretation for the presence/absence of key landscape and habitat features on site. See Section 4.2 Assumptions and Limitations for more information.

Taxa	Species	Common name	Regional, Global Assessment status	Source	Assessed in report Y/N
Avifauna	<i>Bradypterus sylvaticus</i>	Knysna Wabler	VU	SABAP2	Y
	<i>Circus ranivorus</i>	African Marsh Harrier	EN	SABAP2	Y
	<i>Neotis denhami</i>	Denham's Bastard	NT	SABAP2	Y
	<i>Aquila verreauxii</i>	Verreaux's (Black) Eagle	VU	SABAP2	Y
	<i>Coracias garrulus</i>	European Roller	NT	SABAP2	Y
Mammal	<i>Chlorotalpa duthieae</i>	Duthies Golden Mole	VU	MammalMAP	Y
	<i>Damaliscus pygargus pygargus</i>	Bontebok	VU	MammalMAP	N
	<i>Genetta genetta</i>	Common Genet	LC	MammalMAP	N
	<i>Panthera pardus</i>	Leopard	VU	MammalMAP	N
Amphibian	<i>Afrxalus knysnae</i>	Knysna Leaf-folding frog	EN	FrogMAP	Y
Invertebrates	<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	VU	LepiMAP	Y

APPENDIX 2: AVIFAUNA SPECIES OBSERVED IN THE PROPOSED DEVELOPMENT SITE

Common name	Scientific name
Cape Robin-Chat	<i>Cossypha caffra</i>
Speckled Mousebird	<i>Colius striatus</i>
Southern Fiscal	<i>Lanius collaris</i>
Cape Longclaw	<i>Macronyx capensis</i>
Burchell's Coucal	<i>Centropus burchellii</i>
Forest Buzzard	<i>Buteo trizonatus</i>
Yellow Bishop	<i>Euplectes capensis</i>
African Stonechat	<i>Saxicola torquatus</i>
Blacksmith Lapwing	<i>Vanellus armatus</i>
Pied Crow	<i>Corvus albus</i>
Cape Canary	<i>Serinus canicollis</i>
Cape Bulbul	<i>Pycnonotus capensis</i>
Little Rush Warbler	<i>Bradypterus baboecala</i>
Common Waxbill	<i>Estrilda astrild</i>
Levaillant's Cisticola	<i>Cisticola tinniens</i>
African Stonechat	<i>Saxicola torquatus</i>
African Sacred Ibis	<i>Threskiornis aethiopicus</i>
Hadada Ibis	<i>Bostrychia hagedash</i>
Cape Wagtail	<i>Motacilla capensis</i>
Southern Masked Weaver	<i>Ploceus velatus</i>

APPENDIX 3: MAMMAL SPECIES OBSERVED ON IN THE PROPOSED DEVELOPMENT SITE

Order	Family	Common name	Scientific name	Notes
Rodentia	Bathyergidae	Cape mole rate	<i>Georychus capensis</i>	Soil heaps observed in the proposed development site

APPENDIX 4: TERRESTRIAL INVERTEBRATE SPECIES OBSERVED ON IN THE PROPOSED DEVELOPMENT SITE

Order	Family	Common name	Scientific name	Notes
Coleoptera	Scarabaeidae	Monkey beetle	<i>Tribe Hopliini</i>	Several individuals observed on a Arum Lilly (<i>Zantedeschia aethiopica</i>) plant
Araneae	Arachnida	-	-	Spider-webs seen at the site
Hymenoptera	Apidae	Carpenter bee	<i>Xylocopa caffra</i>	Several individual animals seen at the site
Lepidoptera	Nymphalidae	Painted Lady	<i>Vanessa cardui</i>	Observed in the area where proposed future development is to occur

