Animal Species Compliance Statement

prepared in accordance with the
"Protocol for the Specialist Assessment and minimum report content requirements for environmental impacts on Terrestrial Biodiversity"

Keurbooms Lifestyle Village on Portion 38 of the Farm 444 in Plettenberg Bay in the Western Cape Province

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Terrestrial Animal Species Complaince Statement Report for Keurbooms Lifestyle Village on Portion 38 of the Farm 444 in Plettenberg Bay in the Western Cape Province

31 January 2024

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SPECIALIST DETAILS & DECLARATION

This report has been prepared in accordance with the "Protocol for the specialist assessment and minimum report content requirements for environmental impacts on terrestrial biodiversity", as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), published in GN. No. 320 dated 20 March 2020. It has been prepared independently of influence or prejudice by any parties.

The details of Specialists are as follows –

Table 1: Details of Specialist

Specialist	Qualification and accreditation
Dr Wynand Vlok (Pr.Sci.Nat.)	• PhD Zoology • SACNASP Reg. no. 400109/95 (Zoological Science, Botanical Science)

Areas of specialisation:

- Environmental Impact Assessments (EIA's)
- Environmental Management Plans (EMP's)
- Aquatic environment and its associated biodiversity
- Terrestrial biodiversity

Professional affiliation:

- South African Society of Aquatic Scientists (SASAqS)
- Registered at the "The South African Council for Natural Scientific Professions" (SACNASP – registered as a "Professional Natural Scientist: Registration number - 400109/95)
- SACNASP – as Chairperson for the Professional Advisory Committee (Aquatic)

Employment history:

- BioAssets (owner of Consultancy CC) - 1/01/2007 - current
- University of Limpopo (formerly University of the North)
    - Senior lecturer: Department of Zoology/Biology (1/10/1996 – 31/12/2006)
    - Lecturer: Department of Physiology (1/1/1994 - 30/9/1996)
- Manager of a citrus farm (1992 – 1993)
- Technikon RSA (1989 – 1991) - Lecturer: Nature Conservation

Declaration of independence:

David Hoare Consulting (Pty) Ltd in an independent consultant and hereby declare that it does not have any financial or other vested interest in the undertaking of the proposed activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act 107 of 1998). In addition, remuneration for services provided by David Hoare Consulting (Pty) Ltd is not subjected to or based on approval of the proposed project by the relevant authorities responsible for authorising this proposed project.

Disclosure:

David Hoare Consulting (Pty) Ltd undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and will provide the competent authority with access to all information at its disposal regarding the application, whether such information is favourable to the applicant or not.

Based on information provided to David Hoare Consulting (Pty) Ltd by the client and in addition to information obtained during the course of this study, David Hoare Consulting (Pty) Ltd present the results and conclusion within the associated document to the best of the author's professional judgement and in accordance with best practise.

30 January 2024

Wynand Vlok	Date

TERMS OF REFERENCE

This report is prepared in compliance with the PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL ANIMAL SPECIES

This assessment follows the requirements of The Environmental Impact Assessment Regulations, as promulgated in terms of Section 24 (5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), published in GN. No. 320 dated 20 March 2020 for Terrestrial Biodiversity, and in GN. No. 1150 dated 30 October 2020 for Terrestrial Plant Species and Terrestrial Animal Species. As per these Regulations, the approach for assessing sensitivity with respect to Terrestrial Plant Species and Terrestrial Animal Species is in accordance with guidelines described in the latest version of the "*Species Environmental Assessment Guideline*", available at https://bgis.sanbi.org/.

The assessment and minimum reporting requirements of these protocols are associated with a level of environmental sensitivity identified by the national web based environmental screening tool (screening tool). The screening tool can be accessed at:

https://screening.environment.gov.za/screeningtool.

INTRODUCTION

Site location

The site, which is Erf 38/444, is in Goose Valley in Plettenberg Bay, slightly south-east (on the coastal side) of the N2 National Road between Plettenberg Bay and the crossing of the Bitou River. Refer to Figure 1 below for the general location.

The site is directly adjacent to the Goose Valley Golf Estate, on the northern boundary. There is a road running from the N2 to the lagoon, past the property. More than half of the property is within the salt marsh part of the lagoon (see Figure 2).

The scope of this report is the part of the property that is proposed for development. The entire site is 8.58 ha of which less than half on the western side is proposed for development.

Figure 2: Aerial image of the site and surrounding areas.

Figure 1: Location of the site.

Identified Theme Sensitivities

A sensitivity screening report from the DEA Online Screening Tool was requested in the application category: Transformation of land | Indigenous vegetation. The DEA Screening Tool report for the area, dated 23/01/2024, indicates the following sensitivities (see Figure 3):

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Animal Species Theme		X		

Animal Species theme

Sensitivity features are indicates as follows:

Sensitivity	Feature(s)
High	Aves-Circus ranivorus
High	Aves-Circus maurus
High	Aves-Stephanoaetus coronatus
High	Aves-Hydroprogne caspia
High	Aves-Neotis denhami
High	Aves-Bradypterus sylvaticus
High	Aves-Polemaetus bellicosus
Medium	Amphibia-Afrixalus knysnae
Medium	Aves-Podica senegalensis
Medium	Aves-Afrotis afra
Medium	Mammalia-Chlorotalpa duthieae
Medium	Sensitive species 8
Medium	Invertebrate-Sarophorus punctatus
Medium	Invertebrate-Aneuryphymus montanus

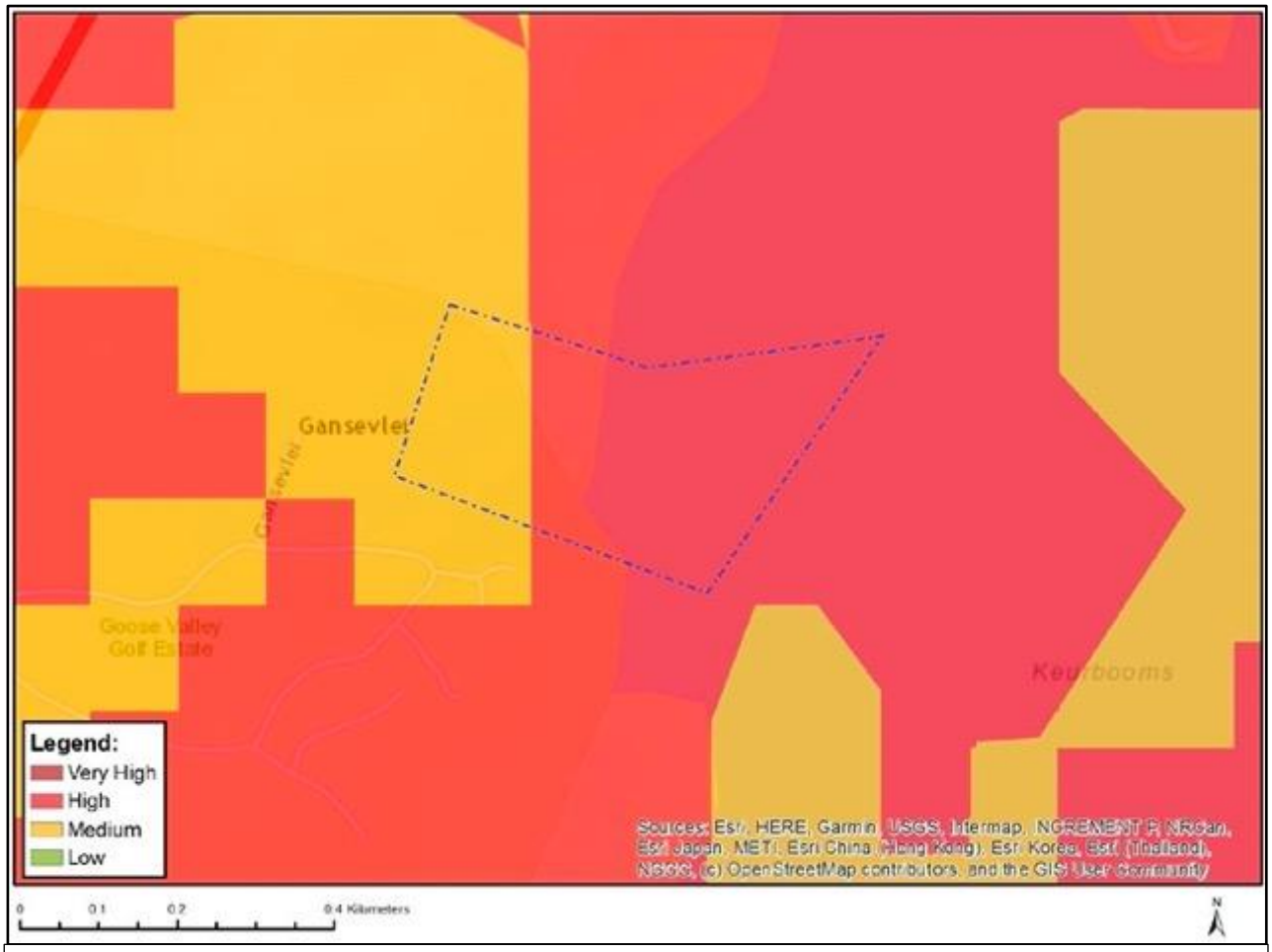


Figure 3: Map of relative animal species theme sensitivity.

ASSESSMENT METHODOLOGY

The detailed methodology followed as well as the sources of data and information used as part of this assessment is described below.

Project Area of Influence (PAOI)

The proposal is to develop the site for residential purposes. This will include 12 units and associated infrastructure (see Figure 4 for preferred layout). Anticipated impacts will mostly occur during the construction phase. These impacts are not expected to extend significantly beyond the boundaries of the study area, except for possible edge effects. The units on the eastern side are at the summit of a relatively steep slope that overlooks the estuary, for which erosion and downslope impacts are a potentially serious concern. The PAOI is therefore treated here as the development footprint within which direct impacts will occur, as well as the vegetated slope overlooking the estuary (Figure 5).

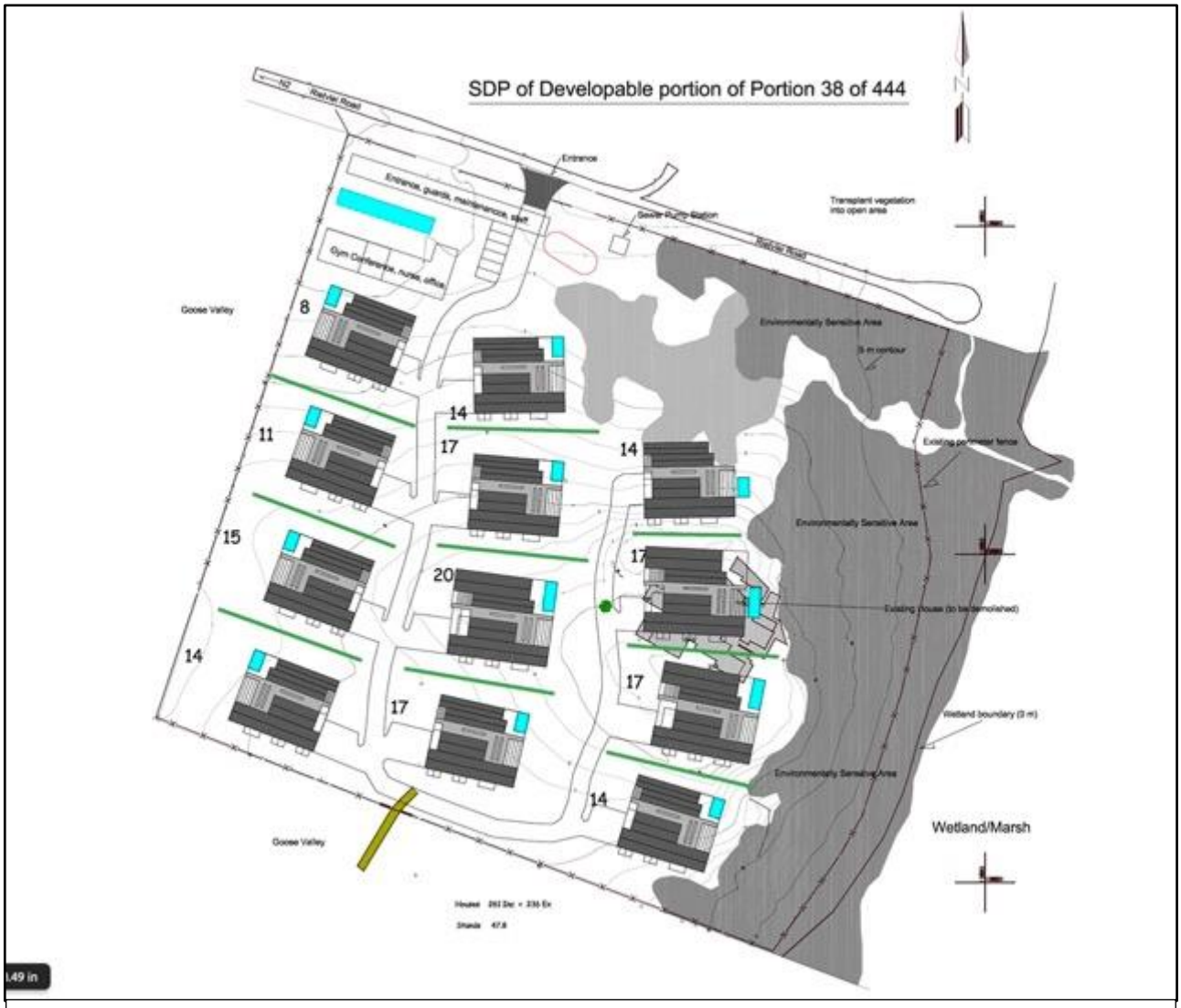


Figure 4: Proposed development on site.

Figure 5: Project Area of Influence (PAOI) for the current assessment.

There is an existing pathway along the base of the slope that forms a natural barrier to any downslope impacts that could potentially occur for the proposed project. The existing road along the northern boundary, and the existing Goose Valley Golf Estate along the other two (western and southern) boundaries, also form natural breaks in any potential impacts. The PAOI is therefore bound by these excisting barriers.

Survey timing

The study commenced as a desktop-study followed by site-specific field study on 1 March 2022 and 29 March 2023. The site is within the Fynbos Biome with an all-year rainfall season with a slight dip in early winter (Figure 6). A more accurate indication of rainfall seasonality, which drives most ecological processes, is shown in Figure 7, which shows that Plettenberg Bay has peak rainfall from August to November, with another smaller peak in March to April. The timing of the survey in February is therefore suitable in terms of assessing the flora and vegetation of the site. The overall condition of the vegetation was possible to be determined with a high degree of confidence.

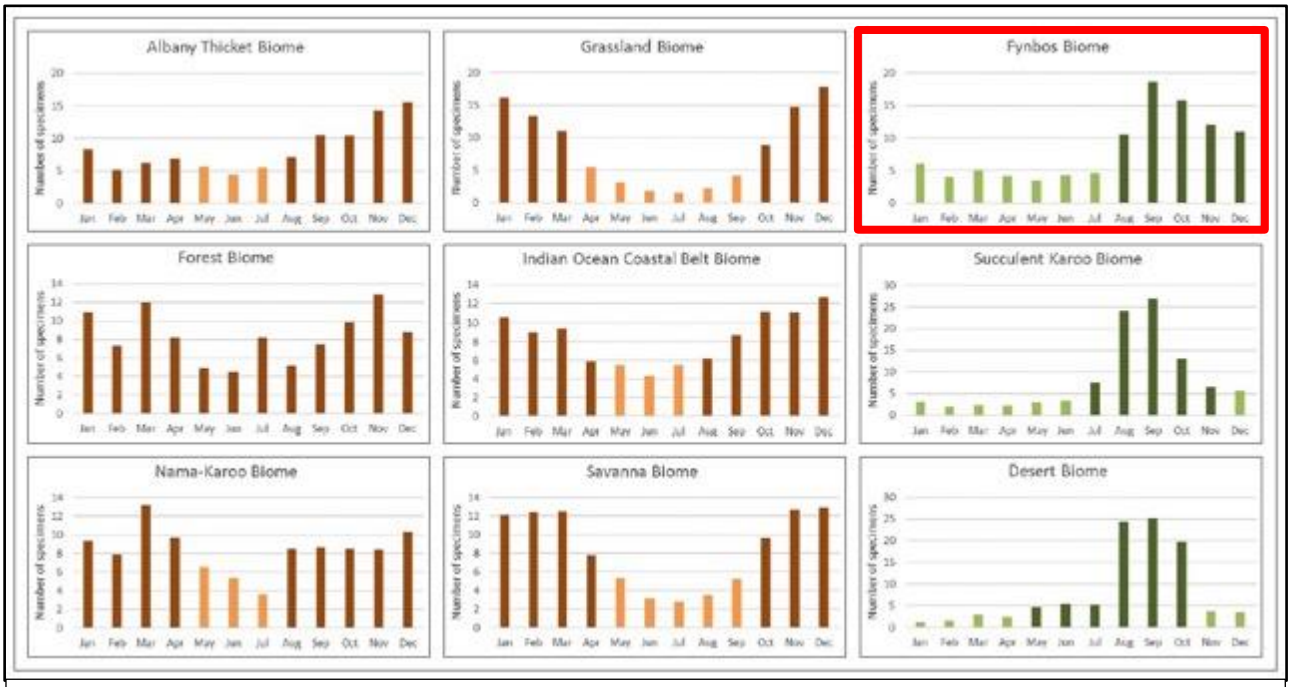


Figure 7: Recommended survey periods for different biomes (Species Environmental Assessment Guidelines). The site is within the Fynbos Biome.

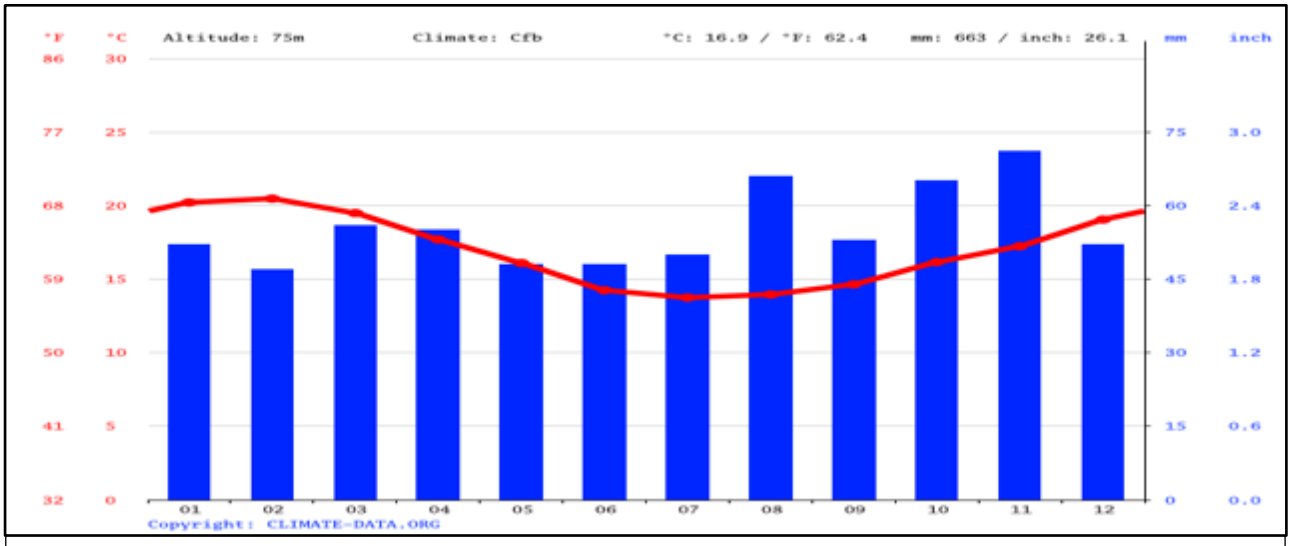


Figure 6: Climate diagram showing average monthly rainfall and temperature for Plettenberg Bay.

Field survey approach

The study commenced as a desktop-study followed by a site-specific field study. During the field survey of habitats on site, the entire site was assessed on foot. Field surveys included both meander searches of general areas, and active searching in habitats that were considered to be suitable for specific groups or species. Meander surveys were undertaken with no time restrictions - the objective was to comprehensively examine all natural areas. A hand-held Garmin GPSMap 64s was used to record a track within which observations were made (Figure 8). Digital photographs were taken of features and habitats on site, as well as of any animal species that were seen. Any animal species recorded were uploaded to the iNaturalist website (https://www.inaturalist.org) and are accessible by viewing the observations for the site (use the Explore menu, zoom and pan until the desired study area is within the browser window, click the button "Redo search in map", and all observations for that area will be shown and listed).

Aerial imagery from Google Earth was used to identify and assess habitats on site. This included historical imagery that may show information not visible in any single dated image. Patterns identified from satellite imagery were verified on the ground. Digital photographs were taken at locations where features of interest were observed. During the field survey, particular attention was paid to ensuring that all habitat variability was covered physically on the ground.

Figure 8: GPS track log of areas walked in the course of undertaking this assessment.

Sources of information

Fauna

- Lists of animal species that have a geographical range that includes the study area were obtained from literature sources (Bates et al., 2014 for reptiles, du Preez & Carruthers 2009 for frogs, Mills & Hes 1997 and Friedmann and Daly, 2004 for mammals). This was supplemented with information from the Animal Demography Unit website (adu.uct.ac.za) and literature searches for specific animals, where necessary.
- Appendix 2 is a summary (for the QDS3422AA) of amphibians, mammals and retiles that may occur on the study site.

Limitations

The following assumptions, limitations, uncertainties are listed regarding the assessment of the site:

- The assessment is based on two detailed site visits. The current study is based on extensive site visits as well as a desktop study of the available information. The time spent on site was adequate for understanding general patterns across affected areas.
- Compiling the list of species that could potentially occur on site is limited by the paucity of collection records for the area. The list of animal species that could potentially occur on site was therefore taken from a wider area and from literature sources that may include species that do not occur on site and may miss species that do occur on site. In order to compile a comprehensive site-specific list of the biota on site, studies would be required that would include different seasons, be undertaken over a number of years and include extensive sampling. Due to legislated time constraints for environmental authorisation processes, this is not possible.
- Rare and threatened animal species are, by their nature, usually very difficult to locate and can be easily missed.

OUTCOME OF THE ASSESSMENT

Historical disturbance on site

Historical aerial photographs (1936, 1960, 1974) (see Figure 9, for example from 1960), shows that the property has probably always been in a natural state, with no evidence of soil disturbance from ploughing. The existing house is already in place in 1960, as well as a short row of trees along the boundary to the south of the house. These patterns are mostly consistent with the vegetation patterns found on site, as determined from the site visit - the exception is that the fynbos on site appears from its current structure and species composition to be secondary, but no conclusive evidence of ploughing exists from the available imagery.

Figure 9: Historical aerial image of the property, dated 14 December 1960.

Verification of observations on site

According to the "AMENDMENT TO THE PROTOCOLS FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON TERRESTRIAL ANIMAL AND PLANT SPECIES IN TERMS OF SECTIONS 24(5)(a) AND (h) AND 44 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998", a specialist report must include the following:

5.3.4A verifiable evidence from the specialist's site inspection, including as a minimum:

5.3.4A.1 a map showing the specialist's GPS track in relation to the study area; and

5.3.4A.2 at least 4 spatially representative sample site descriptions from across the study area that include as a minimum:

(a) precise geographical coordinates of the sample site;

(b) at least one in situ photograph (taken on site by the specialist during the site inspection) of the sample site; and

(c) a habitat description of the sample site;"

To address these specific requirements, photographs of landscapes on site were taken at various localities to show conditions on site. A map showing the location of these photographs is provided in Figure 10. A GPS track log in provided in Figure 8 in the section of this report titled "Field Survey Approach".

Figure 10: Location of photographs taken on site during the site inspection.

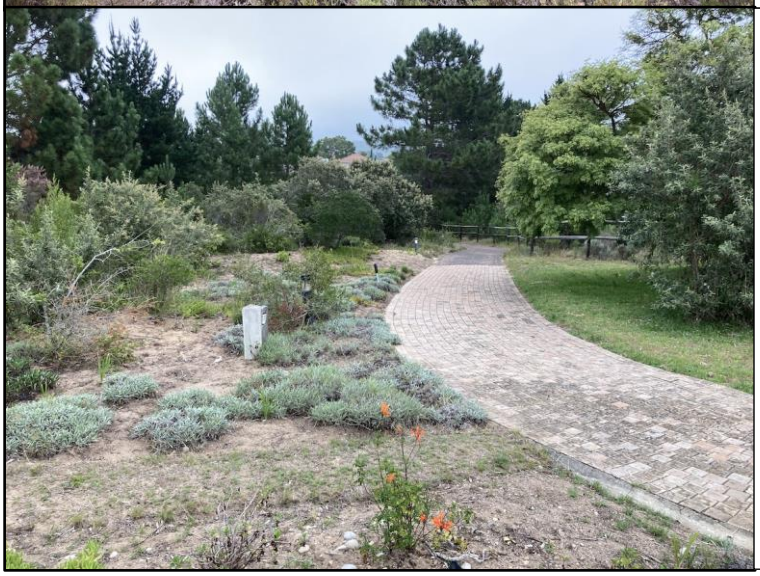
	**Photo 6019** **34° 1' 27.9" S, 23° 23' 12.51" E** **Secondary fynbos alongside the existing driveway on site.**
	**Photo 6018** **34° 1' 30.51" S, 23° 23' 10.488" E** **View of secondary fynbos on site, dominated by *Osteospermum moniliferum, Erica peltata, Passerina corymbosa, Anthospermum aethiopicum, Agathosma apiculata, Trichocephalus stipularis, Seriphium plumosum, Eriocephalus africanus, Chironia baccifera, Helichrysum cymosum* and *Restion triticeus*.**
	**Photo 6027** **34° 1' 31.04" S, 23° 23' 15.198" E** **View down the driveway of the existing house southwards towards the Goose Valley Golf Estate, showing gardens.**

	**Photo 6042** **34° 1' 31.5" S, 23° 23' 24.75" E** **Photo from within the estuarine area looking back towards the existing house on site. Note the band of thicket growing on the slope between the house and the estuarine vegetation. In the foreground is mixed salt marsh vegetation and Juncus.**
	**Photo 6052** **34° 1' 29.99" S, 23° 23' 22.152" E** **Photo from within the estuarine area looking back towards the existing house on site. Note the band of thicket growing on the slope between the house and the estuarine vegetation. The foreground is dominated by *Juncus kraussii*, a typical component of the esturaine tidal vegetation.**
	**Photo 6048** **34° 1' 33.77" S, 23° 23' 25.788" E** **Example of dune fynbos / thicket mosaic within vegetated dunes in the estuarine environment.**

	**Photo 6033** **34° 1' 31.63" S, 23° 23' 15.108" E** **Garden rehabilitation on the south-eastern side of the existing house.**
	**Photo 6037** **34° 1' 31.83" S, 23° 23' 17.49" E** **Top of the slope next to the existing house showing the edge of the thicket on the estuarine-facing slope. and a view of the estuary below**
	**Photo 6039** **34° 1' 32.48" S, 23° 23' 16.332" E** **Southern edge of existing gardens showing area where exotic pine trees have been cleared where they are invading into the thicket vegetation.**

Natural habitats on site

Based on two detailed field surveys to verify conditions on site, it was determined that the site consists of a single vegetation community, namely Fynbos, with a small amount of disturbance around the edge. There is some woody encroachment that has taken place in recent years, otherwise this pattern has been stable for nearly 100 years. A general habitat map is shown for the entire property in Figure 11. A series of photographs are provided above that give various views of the vegetation on site (in section of report "Verification of observations on site" with locations shown in Figure 10). The habitat assessment is important for understanding the natural status of the vegetation on site (whether in a natural state or secondary, and whether degraded, disturbed or in good condition), which affects the sensitivity. For the Plant Species assessment, it also provides habitats in which sensitive species could potentially occur.

Estuarine salt marsh

This is the vegetation within the estuarine environment that is subject to occasional to daily flooding from tidal rise and fall of water. An example of the vegetation is shown in Photo 6042. It is a combination of herbaceous and succulent species with taller rushes. The species composition includes the following: *Chenolea diffusa, Gazania rigens, Juncus kraussii, Limonium scabrum, M*orella cordifolia, Salicornia decumbens, Samolus porosus, Sporobolus virginicus, Triglochin bulbosa and *Triglochin striata*. The rush, *Juncus kraussii*, is dominant in extended areas (Photo 6052). The salt marsh vegetation is functional and in relatively good condition.

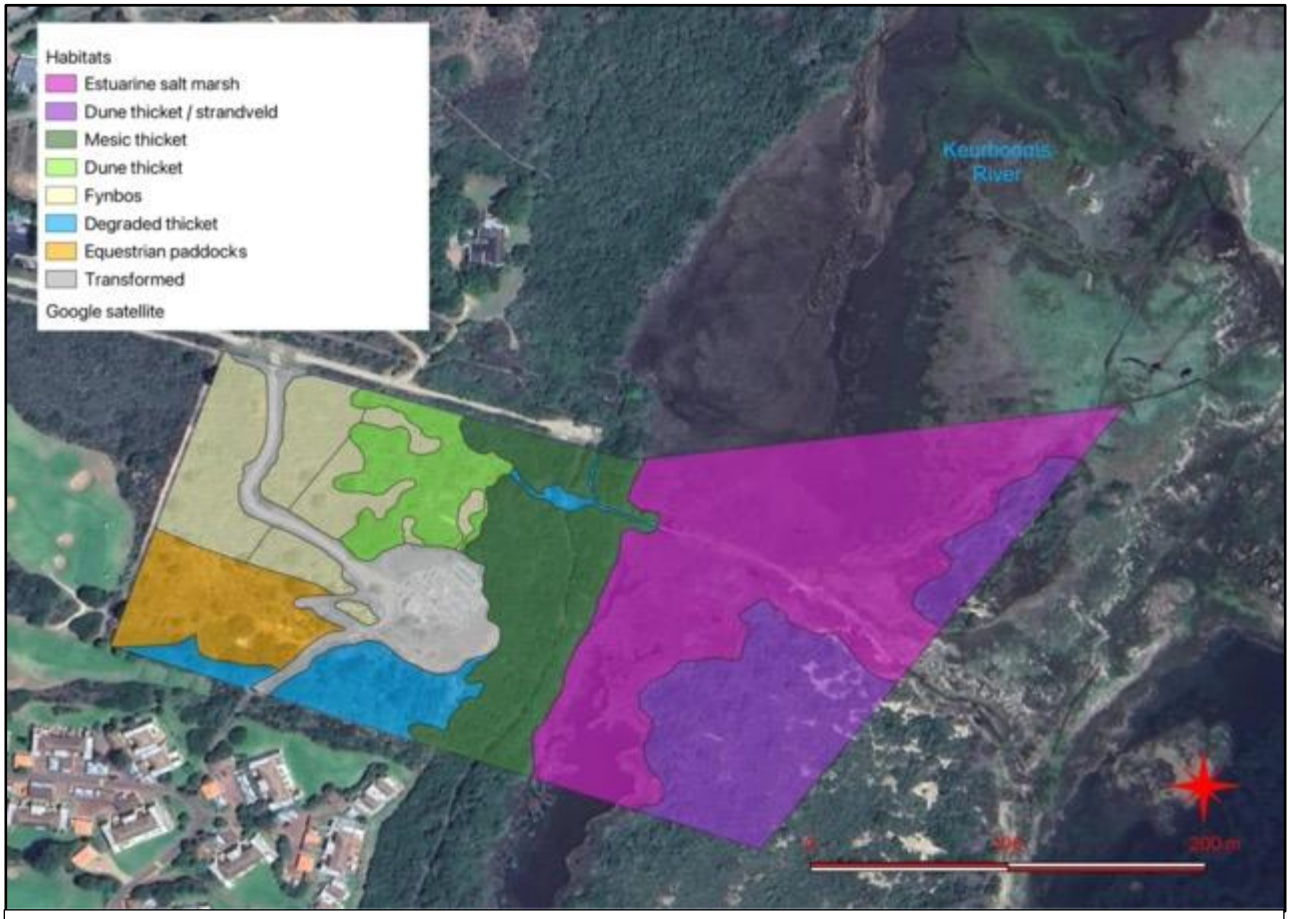


Figure 11: Map of habitats on site.

Dune thicket / strandveld mosaic

There are areas within the estuarine environment with raied vegetated dunes. The vegetation is a mosaic of strandveld/fynbos and dune thicket. An example of the vegetation is shown in Photo 6048. The species composition includes the following: *Agathosma apiculata, Asparagus aethiopicus, Crassula atropurpurea, Cynanchum natalitium, Cyperus brevis, Gasteria acinacifolia, Gazania rigens, Metalasia muricata, Morella cordifolia, Olea exasperata, Passerina rigida, Polygala myrtifolia, Pterocelastrus tricuspidatus, Restio eleocharis, Robsonodendron maritimum, Searsia crenata, Sideroxylon inerme* and *Solanum africanum*. The vegetation is functional and in relatively good condition. There are a few signs of trampling from people traversing the area, but this is relatively minimal.

Mesic thicket

The thicket on site occurs on the relatively steep, sea-facing slope and is relatively typical of the thicket overlooking the coast in the Plettenberg Bay and Keurbooms area. It is mesic thicket, tending towards low forest, sometimes being a single stratum with a tangled structure (typical of thicket), and in areas where the vegetation is taller, having a completely open understorey (more typical of forest). An example of the vegetation (in the background) is shown in Photo 6052. The species composition includes the following: *Apodytes dimidiata, Buddleja saligna, Carissa bispinosa, Euclea racemosa, Justicia leptantha, Lauridia tetragona, Mystroxylon aethiopicum, Scolopia zeyheri* and *Sideroxylon inerme*.

There is some **Degraded Thicket** to the south of the existing house, mostly degraded due to heavy invasion by pine trees, but also more recently invaded by the wattle, *Acacia cyclops*. There has been recent clearing of alien plants within this area. This is shown in Photo 6039.

Dune thicket

There is an area just inland of the thicket slope that has been mapped as Dune Thicket. It is possible that it has developed over an extended period of time (>100 years) within areas of fynbos in the absence of fire. However, the landscape slopes more steeply here than where the fynbos is mapped, and historical aerial photos show some evidence that this area probably persists as thicket over an extended period of time (prior to current historical periods in which fire has been regularly excluded). The species composition includes the following: *Aloe arborescens, Apodytes dimidiata, Asplenium aethiopicum, Chrysocoma ciliata, Clausena anisata, Cynanchum obtusifolium, Diospyros dichrophylla, Erica sparsa, Grewia occidentalis, Gymnosporia nemorosa, Hypoestes forskaolii, Indigofera verrucosa, Maytenus procumbens, Mystroxylon aethiopicum, Olea europaea, Pittosporum viridiflorum, Pterocelastrus tricuspidatus, Rhoicissus digitata, Rhynchosia caribaea, Rubia petiolaris, Searsia crenata, Sideroxylon inerme, Tarchonanthus littoralis* and *Viscum rotundifolium*.

Fynbos

The fynbos on site has uniform structure over most of the area where it occurs, but is moribund, invaded by several alien invasive species, and has relatively low species richness. An example of the vegetation is shown in Photo 6018 and 6019. The species composition includes the following: the fynbos shrubs, *Agathosma apiculata, Anthospermum aethiopicum, Erica peltata, Eriocephalus africanus, Helichrysum cymosum, Passerina corymbosa, Seriphium plumosum* and *Trichocephalus stipularis*, the restios, *Restio triticeus*, and *Thamnochortus insignis*, the grasses and sedges, *Cyperus brevis, Cyperus uitenhagensis, Digitaria eriantha, Megathyrsus maximus, Pentameris pallida* and *Tristachya leucothrix*, the herbaceous species, *Brunsvigia orientalis, Carpobrotus edulis, Chironia baccifera, Hypochaeris radicata, Indigofera poliotes, Indigofera priorii, Pelargonium dipetalum, Pollichia campestris* and *Senecio inaequidens*, and the woody shrubs, *Asparagus aethiopicus, Carissa bispinosa, Diospyros dichrophylla, Grewia occidentalis, Osteospermum moniliferum, Pterocelastrus tricuspidatu, Searsia lucida* and *Sideroxylon inerme*.

This is a poor species richness and composition for intact healthy fynbos and suggests that the fynbos is either old secondary, or has been chronically disturbed for an extended period of time. The herbaceous species include some weedy species typical of disturbed areas (*Carpobrotus edulis, Hypochaeris radicata,* and *Senecio inaequidens*), there are a proportionally high number of grass

species (typical of old secondary fynbos, or fynbos with a high disturbance regime from factors such as grazing) and there area a high number of woody shrub species (indicating absence of fire). The typical fynbos shrubs are common in secondary fynbos, and there is a low presence of restios, ericas, and proteoids that are typical of fynbos.

Part of the fynbos on site is within the regional vegetation type, Garden Route Shale Fynbos (Endangered) and part is within Goukamma Dune Thicket. However, it is the same habitat - the discrepancy is due to local inaccuracies in the regional mapping. Where the fynbos occurs within the Goukamma Dune Thicket vegetation type, it occurs as a mosaic with thicket.

There is an area within the Fynbos that has been mapped as **Equestrian Paddocks**. Historical aerial photographs indicate that this was previously similar to the areas currently containing fynbos, but the area has been trampled and grazed to such an extent that the original vegetation has been lost, to be replaced by a plant community of more weedy species. The ground is covered mostly by a combination of *Cyperus brevis* and Digitaria eriantha, but there are localised areas where the tall restio, *Thamnochortus insignis*, has become dominant, and a few woody species have also established, including *Asparagus aethiopicus, Carissa bispinosa, Osteospermum moniliferum* and *Pterocelastrus tricuspidatus*.

Animal species flagged for the study area

According to the National Web-Based Environmental Screening Tool (DFFE), a small number of animal species have been flagged as of concern for the current project (see previous section of this report). These are all species that require specific habitat conditions to inhabit the site.

Circus ranivorus (African marsh harrier)

Endangered

This site was flagged as having **High sensitivity** potential for this species. Widespread but sparsely distributed throughout central, eastern and southern Africa, only absent from areas of lower rainfall (<300 mm p.a.). It is dependent on permanent wetlands for breeding, feeding and roosting. The main threat to this species is loss and degradation of wetlands. It also hunts over drier floodplains, grasslands, croplands, and Fynbos, where it preys mainly on small rodents, as well as birds, reptiles, frogs and insects.

There are no (suitable) wetlands on site although there are nearby in the Keurbooms River. The proposed development is located well away from these habitats. The species is unlikely to occur on site (except possible foraging in a small part of the site - fynbos) and the proposed project will have little effect on it.

Circus maurus (Black harrier)

Endangered

This site was flagged as having **High sensitivity** potential for this species. This is a rare endemic raptor with its main distribution centred on the fynbos and karoo inland of that. Black Harriers breed in the montane fynbos, renosterveld and strandveld habitats of the Western Cape and many individuals disperse into the karoo and grassland habitats during the autumn and winter months. This species prefers coastal and mountain fynbos, highland grasslands, Karoo sub-desert scrub and open plains with low shrubs and croplands. Harriers breed close to coastal and upland marshes, damp sites, near vleis or streams with tall shrubs or reeds. South-facing slopes are preferred in mountain areas where temperatures are cooler and vegetation is taller.

There are estuarine wetlands nearby that could potentially be suitable, but it is unknown if they occur there or not - there are no recent observations in the Plettenberg Bay area. In the event that they did occur in the area, the proposed project would have little effect on them.

Stephanoaetus coronatus (Crowned Eagle)

Near Threatened

This site was flagged as having **High sensitivity** potential for this species. Occurs from Guinea to South Africa, with an isolated population in Ethiopia. It is found at low densities in eastern and southern South Africa. It generally prefers forest habitats, such as gallery forest, dense woodland, forest gorges in savanna or grassland and alien tree plantations (such as *Eucalyptus* and pine). Not threatened internationally but Near-threatened in South Africa, largely due to persecution by small stock farmers and destruction of forest habitats, although it has adapted to living in alien tree plantations.

There are forest-like habitats on site and extensive forests in the general Plettenberg Bay area, including suitable gorges and nesting sites. It has been recorded in the Plettenberg Bay area, as well as further west, therefore must be assumed to be present in the general area. The mesic thicket on site may not be of tall enough stature for nesting, but could possibly form part of foraging habitat. On condition these mesic thicket areas are protected, there will be negligible impact on this species, but any impact on the forest could negatively effect habitat for this species.

Hydroprogne caspia (Caspian Tern)

Vulnerable

This site was flagged as having **High sensitivity** potential for this species. Distributed globally. Within South Africa, it is concentrated at estuaries and sheltered bays along the coastline and at large, permanent inland waterbodies (Brooke 1984). The species breeds colonially, with the number of colonies used for breeding and the numbers of birds present at each varying widely between years (Crawford 1997). Breeding habitat used along the coast is largely offshore islands, as well as sandy beaches and islands at salt works, where protection is offered (du Toit et al. 2003). Breeding at inland sites takes place on small, low islets in pans and dams.

It has been recorded from the Keurbooms River in Plettenberg Bay, therefore must be assumed to be present in the general area. The estuarine habitats on site are the most likely location where they would occur. On condition these estuarine areas are protected, there will be negligible impact on this species.

Neotis denhami (Denham's Bustard)

Vulnerable

This site was flagged as having **High sensitivity** potential for this species. Has a wide but fragmented Afrotropical range. It occurs widely but sparsely over much of the mesic eastern half of South Africa. In the Western Cape, it can be locally numerous in mosaics of cultivated pastures, agricultural croplands and natural vegetation with seasonal differences in the use of each habitat (Taylor et al. 2015).

It has been recorded several times in the general Garden Route area, including inland of Plettenberg Bay, but mostly in open landscapes with agricultural fields, not in urban areas or wooded areas. It is unlikely that it occurs on site.

Bradypterus sylvaticus (Knysna Warbler)

Vulnerable

This site was flagged as having **High sensitivity** potential for this species. Has a restricted and fragmented distribution in four areas of Eastern and Western Cape. One sub-population occurs in the Garden Route between Tsitsikamma and Stilbaai. It occurs along the edges of Afrotemperate forests and in thick, tangled vegetation along the banks of watercourses or drainage lines in forest patches in the Fynbos Biome (Taylor et al. 2015). Population decline is attributed to clearance of habitat for developments, agriculture and silviculture, leading to a decrease in the amount of available habitat, as well as the quality (Taylor et al. 2015).

Potentially suitable habitat occurs on site within the Mesic Thicket areas. It has been previously recorded in coastal thicket in Plettenberg Bay within the urban fringe. The species could occur on

site within thicket margin areas. These areas are outside the development footprint of the proposed project. The presence of houses does not seem to limit the species. On condition the Mesic Thicket habitat is preserved, the proposed project would have little effect on them.

Polemaetus bellicosus (Martial Eagle)

Endangered

This site was flagged as having **Medium sensitivity** potential for this species. The Martial Eagle is found throughout sub-Saharan Africa, only being absent from the lowland forests of West Africa (Ferguson-Lees and Christie 2001). With the exception of Lesotho, the species is widespread in the region but is more commonly encountered in protected areas such as in the Lowveld and Kalahari (Barnes 2000). Martial Eagles still require an exceptionally large home range, in excess of 130 km^2 (Brown et al. 1982). Densities in areas stocked with indigenous game are higher than in areas supporting only domestic stock, and the species is virtually absent from cultivated areas (Machange et al. 2005). Martial Eagles occur in a variety of habitats but seem to prefer arid and mesic savannah but are also commonly found at forest edges and in open shrubland (Simmons 2005). Birds will occupy most habitats provided there are adequate tall trees or pylons for nesting and perching (Machange et al. 2005). It rarely occurs in mountainous areas. It is known to nest on human-made structures, such as pylons and wind-pumps, and in alien trees (Tarboton and Allan 1984).

Suitable forest and forest margin habitat occurs on site, including possible nesting sites. It has been previously recorded north of Harkerville. If it occurs in the general area, the site may constitute a small part of the overall range of any individual or breeding pair (if they occur there). On condition natural habitat is preserved, the proposed project would have little effect on them - even loss of all habitat on site would be unlikely to affect the species, given the large ranges of individuals.

Afrixalus knysnae (Knysna Leaf-folding Frog / Spiny Reed Frog)

Endangered

This site was flagged as having **Medium sensitivity** potential for this species. Endemic to the Western Cape Province, occurring from Groenvlei (3422BB) in the west to Covie (3323DC) in the east, and is confined to the coastal region by the Outeniqua and Tsitsikamma mountains (Pickersgill 1996, 2000). Found in the coastal mosaic of Mountain Fynbos and Afromontane Forest. As examples of habitats in which the species is found, FitzSimons (1946) recorded specimens in glades, clearings and roadside pools at Diepwalle (3323CA), while Pickersgill (2000) collected juveniles from "arum blooms on boggy ground near an irrigation dam at Barrington" (3322DD). The species has previously been recorded at Saasveld close to the Garden Route Dam (De Lange 2019, page 26 for locality information). The frogs breed in small dams and shallow semi-permanent water with much emergent vegetation and even in well vegetated ornamental garden ponds; it is suspected that this species requires high water quality for breeding. The species is threatened by habitat loss and degradation as a result of coastal development, forestry and agriculture, often due to draining, impoundment and eutrophication of wetlands near residential areas and agricultural lands, and encroachment of invasive alien vegetation.

No suitable habitat occurs on site. It is therefore unlikely that this species occurs on site. or nearby.

Podica senegalensis (African Finfoot)

Vulnerable

This site was flagged as having **Medium sensitivity** potential for this species. Found throughout central and western Africa. In southern Africa it is found throughout low-lying parts of northern and eastern South Africa and Swaziland, and along the coast, and is most common on large, east-flowing rivers of the Lowveld. The species is relatively numerous in Zululand in northern KwaZulu-Natal and along wooded drainages in coastal KwaZulu-Natal. It has been recorded in scattered locations in the Eastern Cape, with a concentration of records around East London. The westernmost record is from Mossel Bay. It occurs singly or in pairs on clear, perennial rivers and streams lined by thick riparian bush and with overhanging trees, shrubbery and reeds (Urban et al. 1986, Barnes and Parker 2000). It avoids both stagnant and fast-flowing turbulent waters, and prefers perennial to ephemeral watercourses, and clear to silted water.

No suitable habitat occurs on site. It is possible that parts of the Keurbooms River contains suitable habitat, but this would be in areas away from the current property. It is therefore unlikely that this species occurs on site. or nearby.

Afrotis afra (Southern Black Korhaan)

Vulnerable

This site was flagged as having **Medium sensitivity** potential for this species. The species is endemic to the region, being confined to the winter- and mixed winter-summer rainfall areas of the Albany Thicket, Fynbos and Succulent Karoo biomes, and the southern extreme of the Nama Karoo Biome, in South Africa's Western, Northern and Eastern Cape provinces (Crowe et al. 1994, Allan 2005). occurs in the Fynbos Biome, mainly in Renosterveld and Strandveld, and in the Nama and Succulent Karoo biomes (Crowe et al. 1994). The species shows a distinct preference for natural habitats over transformed land, although it is seen in cultivated land where little natural habitat remains available to it (Hofmeyr 2012). However, it is absent from pristine natural vegetation that is too dense and high to permit easy terrestrial mobility and good visibility.

The species has not been recently recorded in the Plettenberg Bay area, although potentially suitable habitat occurs there. No suitable habitat occurs on site. It is therefore unlikely that this species occurs on site. or nearby.

Chlorotalpa duthieae (Duthie's Golden Mole)

Vulnerable

This site was flagged as having **Medium sensitivity** potential for this species. Found in a narrow coastal band from Wilderness to Storms River mouth, as well as near Port Elizabeth. There is a disjunction in the distribution of this species showing that it does not occur in the Plettenberg Bay area, probably due to the absence of proper forests in this area. Locally common in coastal and scarp southern Cape Afrotemperate forest habitats, and adjacent pasturelands, cultivated lands and gardens. Restricted to alluvial sands and sandy loams in deeper forest habitats. They construct shallow subsurface foraging tunnels that radiate outwards from under the roots of trees.

There is mesic thicket habitat on site that has similar properties to low forest, as well as sandy soils in which the species is likely to occur. However, this does not match the described habitat conditions in which this species is known to occur. There are no records of this species in the Plettenberg Bay area. It is therefore unlikely that this species occurs on site. Nevertheless, if it did occur there, it would be within the mesic thicket, which is on the margin of the footprint of the proposed development. However, it is considered unlikely that the species occurs on site and it will therefore not be affected by the proposed development.

Sensitive species 8 (small antelope)

Vulnerable

This site was flagged as having **Medium sensitivity** potential for this species. Found in a variety of forested and wooded habitats, including primary and secondary forests, gallery forests, dry forest patches, coastal scrub farmland and regenerating forest (Venter et al. 2016). Within South Africa, they occur mainly within scarp and coastal forests, thickets or dense coastal bush (Skinner & Chimimba 2005), although they can occupy modified habitats. They frequent forest glades and open areas but need dense underbrush to rest or take cover. They are selective foragers which mainly feed on fruit, dicots and a small percentage of monocots (Venter et al. 2016).

There are several records of the species in areas around Plettenberg Bay, all within thicket or forest areas. Mesic thicket occurs on site but it is part of a small band of thicket that runs along the north-western edge of the KEurbooms River estuary. This band of vegetation is isolated (in a terrestrial migration sense) from natural areas to the east (around Keurbooms) by the presence of the river, and is also cut off from inland areas by the presence of urban areas and significant road infrastructure (including the N2). The species is therefore unlikely to occur there. In the event that the

species occurs on site, the proposed project is unlikely to have an effect on them, on condition the mesic thicket habitat is protected.

Sarophorus punctatus (Tunnelling dung beetle)

Endangered

This site was flagged as having **Medium sensitivity** potential for this species. This is a dung beetle that is one of five species in the Genus Sarophorus. There is little known about its biology, but available information indicates a feeding preference for old dung and carrion remains which imply detritus as preferred food rather than dung (Frolov & Scholtz 2003). The type for the species was collected in Keeurboomstrand in 1976 in natural thicket vegetation (Frolov & Scholtz 2003). More recent observations have been made in Wilderness Heights near George in June 2021 (Mish 2021), inland of Mossel Bay (Koen 2022) and near Herbetsdale (Koen 2022). It is not shown to occur anywhere else in the country (Frolov & Scholtz 2003).

Keurbooms River has forested areas that are the type locality for the species. All woodland on site is therefore potentially suitable habitat for this species, although the thicket vegetation on site does not have the same structural or compositional characteristics as those in Keurbooms. Based on known information, there is a low probability of this species occurring on site. However, in the event that the species occurs on site in mesic thicket, the proposed project would have little effect on them, especially if this habitat is properly protected.

Aneuryphymus montanus (Yellow-winged Agile Grasshopper)

Vulnerable B2ab(iii,v)

This site was flagged as having **Medium sensitivity** potential for this species. Only known from six localities in the Cape region (Brown 1960). The species is associated almost strictly with fynbos vegetation, although extending geographically towards East London, where it has been collected "amongst partly burnt stands of evergreen Sclerophyll in rocky foothills" (Brown 1960). It prefers south-facing cool slopes (Kinvig 2005). It is a medium-sized, robust, active geophilous insect which readily flies off when disturbed and is easily distinguished in flight by the pale lemon base of the hind wing (Brown 1960).

Published descriptions suggest that it is not often seen but, when observed, occurs in obvious numbers. No grasshoppers were seen on site that matched the description of this species. If it occurred in the area it would be found within fynbos, which does not occur on site. It is therefore unlikely that it would occur on site.

Summary

- The Knysna Warbler (Vulnerable) has been recorded from Plettenberg Bay and the site has suitable habitat, therefore there is a moderate to high probability of this species occurring in thicket margin areas on site, especially close to the estuary. These areas are not intended to be affected by the proposed project.
- The mesic thicket on site may constitute part of the general foraging range of Crowned Eagle (Near Threatened), but it is unlikely that they occur on site, or are dependent on it.
- The estuarine habitats of the Keurbooms River are suitable habitat for various species, but these areas are outside the development footprint and the PAOI.
- The Mesic Thicket habitat on site is potentially suitable habitat for a small antelope species, but due to landscape connectivitiy issues, it is unlikely that the species occurs there.
- There is a low probability of the small antelope (Vulnerable) occurring in the mesic thicket on site.

It is therefore verified that the Animal Species Theme has <u>MEDIUM</u> sensitivity for the site (*suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model for this species*). Where SCC are found on site or have been confirmed to be likely present, a Terrestrial Animal Species Specialist Assessment must be submitted in accordance with the requirements specified for "very high" and "high" sensitivity (GN 1150: PROTOCOL FOR THE SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS FOR ENVIRONMENTAL

IMPACTS ON TERRESTRIAL ANIMAL SPECIES). None were recorded on site and a risk assessment suggests that none are likely to occur within habitats that are affected by the proposed project.

SITE ECOLOGICAL IMPORTANCE

The Species Environmental Assessment Guidelines require that a Site Ecological Importance (SEI) is calculated for each habitat on site, and provides methodology for making this calculation. The SEI is assessed separately for each biodiversity theme and is assessed below specifically for the Terrestrial Animal Species theme.

As per the Species Environmental Assessment Guidelines, Site Ecological Importance (SEI) is calculated as a function of the Biodiversity Importance (BI) of the receptor and its resilience to impacts (SEI = BI + RR). The Biodiversity Importance (BI) in turn is a function of Conservation Importance (CI) and Functional Integrity (FI), i.e. BI = CI + FI.

An assessment of habitats on site is provided below (Table 3) specifically for the Animal Species Theme.

Table 3: Site ecological importance for habitats found on site

Habitat	Conservation importance	Functional integrity	Receptor resilience	Site Ecological Importance (BI)
Estuarine habitats	Medium Confirmed or highly likely occurrence of populations of NT species, threatened species (CR, EN, VU) listed under Criterion A only and which have more than 10 locations or more than 10 000 mature individuals..	Very High Very large (> 100 ha) intact area for any conservation status of ecosystem type.	Low Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.	Very High (BI = High)
Mesic Thicket	Medium MEDIUM: > 50% of receptor contains natural habitat with potential to support SCC.	Medium Medium (> 5 ha but < 20 ha) semi-intact area for any conservation status of ecosystem type.	Very low Habitat that is unable to recover from major impacts, or species that are unlikely to remain at	High (BI = Medium)

	Two Endangered and two Vulnerable animal species are likely to occur within extended forest system that includes current site.	Moderately low habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches. Minimal current negative ecological impacts.	a site even when a disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed. Based on the fact that the habitat is structurally dominated by long-lived tree species.	
Fynbos / Dune Thicket	Low No confirmed or highly likely populations of SCC.	Medium From animal species perspective: Medium (> 5 ha but < 20 ha) semi-intact area for any conservation status of ecosystem type. Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches.	Low Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.	Medium (BI = Low)

Guidelines for development activities within different importance levels are given in the Table below (Table 4).

Table 42: Guidelines for interpreting SEI in the context of the proposed development activities

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

Medium	Minimisation and restoration mitigation – development activities of medium impact acceptable followed by appropriate restoration activities.
Low	Minimisation and restoration mitigation – development activities of medium to high impact acceptable followed by appropriate restoration activities
Very low	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.

Summary of site sensitivity

The parts of the site within the PAOI have Medium, Low and Very Low Site Ecological Importance (Figure 11) for the Terrestrial Animal Species Theme.

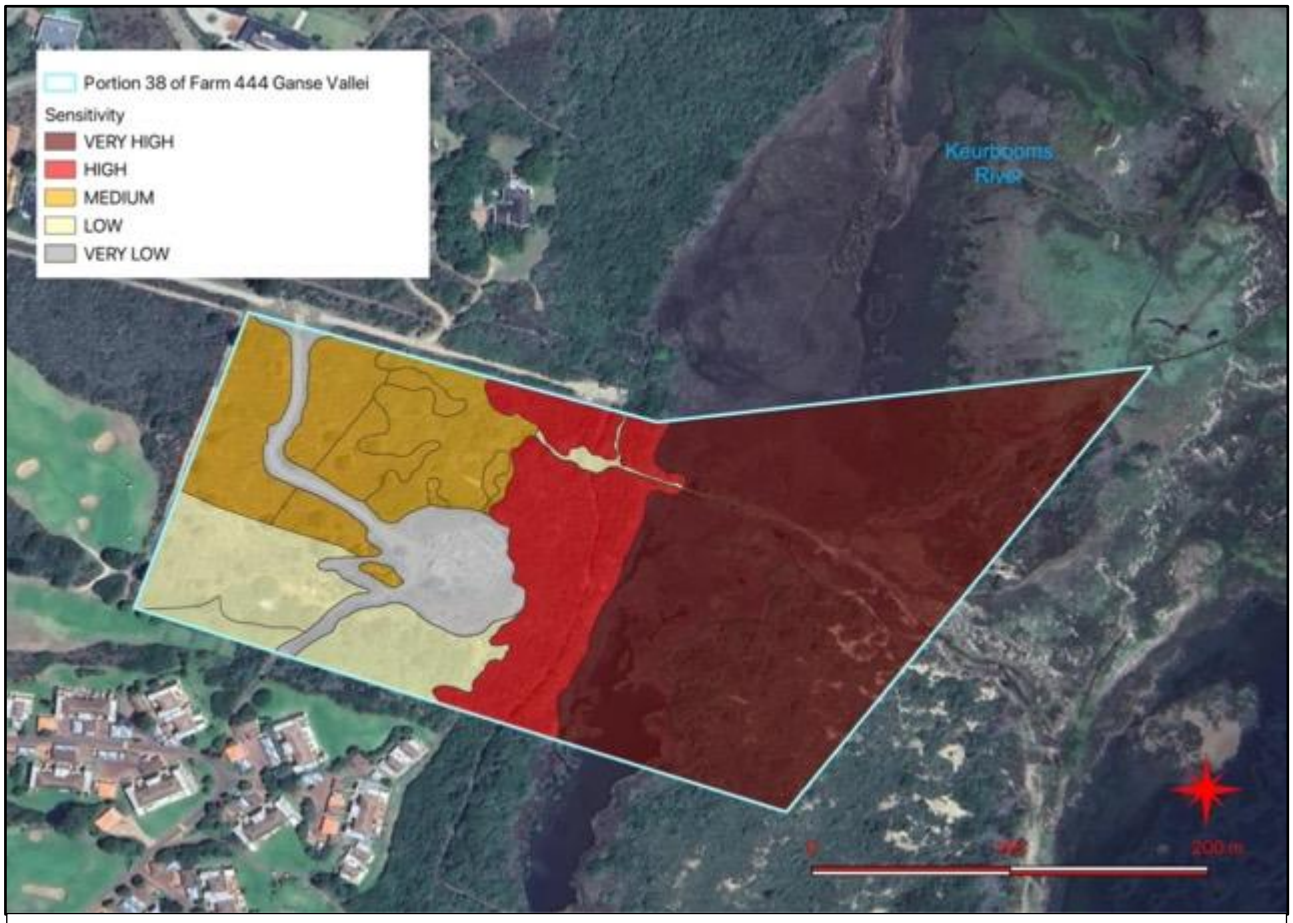


Figure 12: Animal species theme Site Ecological Importance for the site.

CONCLUSION

Desktop information, field data collection and mapping from aerial imagery provides the following verifications of patterns for various themes:

1. The site is not considered to be suitable or critical habitat for any of the animal species flagged for the site. Other parts of the property (outside of the proposed development footprint) have High or Very High Site Ecological Importnace for the Animal Species Theme, but these areas will not be affected.

2. The proposed development is unlikely to affect any of the species flagged for the site. The development is therefore supported.

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