

**SANRAL FREEWAY MANAGEMENT SYSTEM (FMS) / INTELLIGENT
TRANSPORT SYSTEM (ITS), GQEBERHA**

PLANT SPECIES COMPLIANCE STATEMENT

Prepared for:



Prepared by:



Gqeberha

*Also in Cape Town, Makhanda, Johannesburg, East London and
Maputo (Mozambique)*

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.	
<p>Declaration of Independence</p> <p>This is to certify that the following report has been prepared as per the requirements of:</p> <ul style="list-style-type: none"> Section 32 (3) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) Environmental Impact Assessment Regulations 2017 as per Government Notice No. 40772 Government Gazette, 4 December 2014 (as amended); and <p>I, Luc Strydom, hereby declare that this report has been prepared independently of any influence or prejudice.</p> <p>Signed:</p>  <p>Date: 23 June 2023</p>	



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<p>Declaration of Independence</p> <p>This is to certify that the following report has been prepared as per the requirements of:</p> <ul style="list-style-type: none"> Section 32 (3) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) Environmental Impact Assessment Regulations 2017 as per Government Notice No. 40772 Government Gazette, 4 December 2014 (as amended); and <p>I, Brian Reeves, hereby declare that this report has been prepared independently of any influence or prejudice</p> <p>Signed: </p> <p>Date: 26/06/2023</p>	

Please refer to the Curricula vitae in Appendix A for more information.



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1 INTRODUCTION

1.1 BACKGROUND

The South African National Roads Agency Limited (SANRAL) Southern Region are proposing to install a Freeway Management System (FMS) / Intelligent Transport System (ITS) along the National Route 2 Section 11 between Westlands (km19.0) and Colchester (km69.0), as well as the Regional Route 75 Section 1 between Gqeberha (km1.0) and Despatch (km16.0). Part of the ITS project will consist of the implementation of a Roadside System, which will include installation of camera masts, laying of fibre optical communications infrastructure, electricity supply to the masts and civil construction functions such as pipe jacking to allow for road crossings.

A small component of the project triggers the listed activity shown in Table 1-1 below and is therefore subject to a Basic Assessment in terms of the NEMA EIA Regulations (2014, as amended).

Table 1-1: Triggering activities in terms of the NEMA EIA regulations (2014, as amended)

Activity No(s):	Relevant Basic Assessment Activity (Listing Notice 1 of the EIA Regulations, 2014 as amended).	Portion of the proposed project to which the applicable listed activity relates.
19 A	<p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from—</p> <p>(ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater</p>	<p>The infrastructure is located in/adjacent to an estuary and within 100 m of the high-water mark of the sea. The construction of the infrastructure within these zones requires the excavation of more than 5 cubic metres of material.</p>

1.2 DESCRIPTION OF THE ACTIVITY

The activity will involve the installation of three cameras on poles, digging trenches (approximately 500 mm deep and 500 mm wide) between the camera locations, and installing cabling within the trenches before recovering the trenches with the excavated material.

1.3 NATIONAL ONLINE SCREENING TOOL

The National Online Screening Tool identified *High* sensitivity within the Plant Species Theme. This is due to the predicted presence of the following species of special concern:

- *Aspalathus cliffortiifolia* (sensitivity indicated as *Medium*)
- *Aspalathus recurvispina* (sensitivity indicated as *Medium*)
- *Lebeckia gracilis* (sensitivity indicated as *Medium*)
- *Erica chloroloma* (sensitivity indicated as *Medium*)
- *Gymnosporia elliptica* (sensitivity indicated as *Medium*)
- Sensitive species 588 (sensitivity indicated as *Medium*)
- Sensitive species 657 (sensitivity indicated as *Medium*)
- *Centella tridentata* var. *hermanniifolia* (sensitivity indicated as *Medium*)
- *Rapanea gilliana* (sensitivity indicated as *Medium*)
- Sensitive species 1192 (sensitivity indicated as *Medium*)
- Sensitive species 1032 (sensitivity indicated as *Medium*)



- *Achyranthemum sordescens* [syn. *Syncarpha sordescens*] (sensitivity indicated as *Medium*)

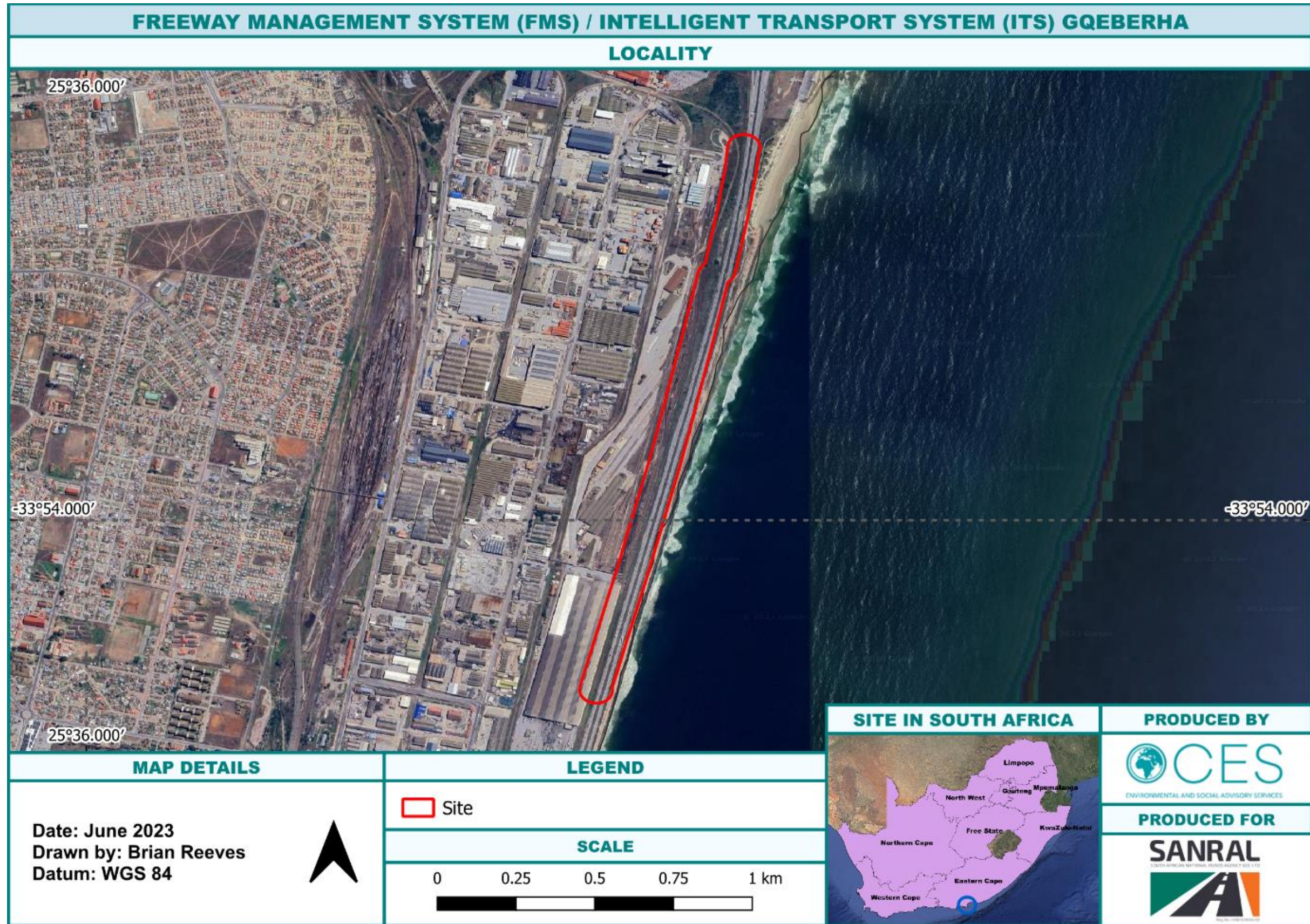


Figure 1-1: Locality



Figure 1-2: Proposed infrastructure to be installed



2 METHODS

The assessment involved a preliminary desktop assessment followed by two site surveys conducted on 20 April 2023 and 23 June 2023. The purpose of the site surveys was to assess the site-specific ecological conditions and current land-uses of the project area, as well as to identify sensitive plant species.

National level:

- South African Vegetation Map (SA VEGMAP) (Mucina *et al.*, 2018);
- Red List of South African Plants (SANBI, 2020);
- National Biodiversity Management: Biodiversity Act (NEM:BA) Alien and Invasive Species Lists (2014);
- NEM:BA: List of Threatened or Protected Species (TOPS) (2007);
- Department of Agriculture, Forestry and Fisheries (DAFF) List of Protected Trees (2014);
- Plants of Southern Africa (POSA) database – Quarter degree square level;
- Convention on International Trade in Endangered Species (CITES);
- International Union for Conservation of Nature (IUCN);

Provincial level:

- Cape Province Nature and Environment Conservation Ordinance (Ordinance 19. Of 1974)(NECO);

A field assessment was conducted on 20 April 2023 and 23 June 2023. These entailed an untimed meander sample until all observable species were recorded.

3 DESKTOP REVIEW

The desktop review entails a review of the vegetation type, as classified in the South African National Vegetation Map (Mucina *et al.*, 2018), the current protected species legislation and SANBI Red list data.

3.1 VEGETATION TYPES WITHIN THE PROJECT AREA

According to Mucina, *et al.* (2018), the project area falls within an area historically covered by *St Francis Dune Thicket (AT57)* and *Cape Seashore Vegetation (AZd3)*.

St Francis Dune Thicket (AT57) occurs along coastal stretches from near the Tsitsikamma River Mouth (west of Oyster Bay) eastward to the Sundays River Mouth on flat to moderately undulating coastal dunes. It consists of a mosaic of low thicket, occurring in small bush clumps dominated by small trees and woody shrubs, in a mosaic of low asteraceous fynbos. The thicket clumps are best developed in the dune slacks and fynbos shrubland dominates the upper dune slopes and crests. The vegetation type is largely restricted to the Schelm Hoek Formation.

Potential Species of Conservation Concern (SCC) which inhabit *St Francis Dune Thicket* and may potentially occur on the project site are described in Table 3-1.

The conservation target for the vegetation unit is **19%**, with approximately **14.13%** of the unit already transformed by mining, invasive aliens (*Acacia cyclops*), urban sprawl and erosion. According to the Red List of Ecosystems (Skowno *et al.*, 2021) *St Francis Dune Thicket* is classified as having an Ecosystem Threat Status (ETS) of **Least Concern** and an Ecosystem Protection Level (EPL) of **Poorly Protected**.



Cape Seashore Vegetation (AZd3) occurs along the south-west and south-coast of South Africa and is characterised by open grassy, herbaceous and to some extent also dwarf-shrubby (sometimes succulent) vegetation, often dominated by a single pioneer species.

Potential Species of Conservation Concern (SCC) which inhabit *St Francis Dune Thicket* and may potentially occur on the project site are described in Table 3-1.

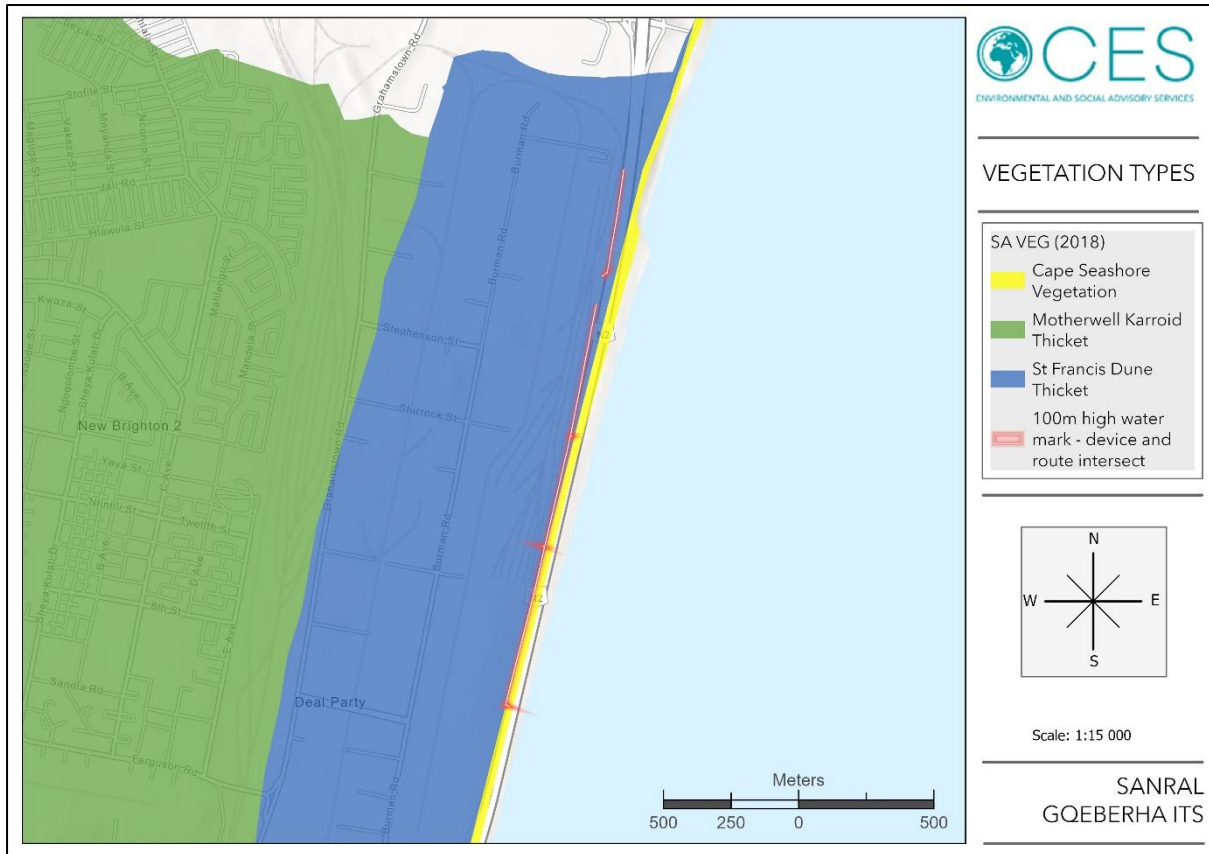


Figure 3-1: Vegetation types for the project area (SA Vegetation Map 2018)



Table 3-1: Plant SCC potentially occurring within the Project area.

Family	Species	SA Red List	ENCO	Protected Tree	NEMBA	Habitat, distribution and population trend (SANBI Red List)	Distribution Map	Probability of occurrence	Confirmed during site visit (Yes/No)
Ericaceae	<i>Erica chloroloma</i>	VU B1ab(ii,iii,iv,v)+ 2ab(ii,iii,iv,v)	Schedule 4	-	-	<p>South African Endemic. EOO <9225 km², AOO <800 km² between 10 and 15 severely fragmented subpopulations continue to decline due to ongoing habitat loss and fragmentation, as well as competition from unmanaged alien invasive plants.</p> <p>Historical distribution between Wilderness to the Fish River Mouth.</p> <p>Around Gqeberha, most subpopulations are now locally extinct due to habitat loss to urban expansion, although a few subpopulations survive on limestone formations along the N2 to the north-east of Gqeberha.</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO
Ericaceae	<i>Erica glumiflora</i>	VU B1ab(i,ii,iii,iv,v)	Schedule 4	-	-	<p>EOO <6740 km², known from six locations. Although it is conserved in four nature reserves, these are all within the western portion of the range. In the eastern part of the range, coastal development and alien plant invasion are causing continuing declines to subpopulations.</p> <p>Occurs from Wilderness to East London, and extending inland around Grahamstown on sandy coastal flats and dunes and low coastal hills.</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO
Ericaceae	<i>Erica zeyheriana</i>	VU A4bc; B1ab(i,ii,iii,iv,v) +2ab(i,ii,iii,iv,v)	Schedule 4	-	-	<p>Eastern Cape endemic. EOO and AOO < 900 km², with approximately 10 remaining locations.</p> <p>Historical distribution between Oyster Bay and Gqeberha on Remnant lowland grassy fynbos on sand. Major habitats include Algoa Sandstone Fynbos, Kouga Sandstone Fynbos, St Francis Dune Thicket (and other southern cape dune fynbos habitats).</p> <p>Population trend is decreasing. Threats include invasive alien species (direct effects), habitat loss, habitat degradation, pollution (affecting habitat and/or species).</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO



Family	Species	SA Red List	ENCO	Protected Tree	NEMBA	Habitat, distribution and population trend (SANBI Red List)	Distribution Map	Probability of occurrence	Confirmed during site visit (Yes/No)
Asteraceae	<i>Acyranthemum sordescens</i>	VU B1ab(ii,iii,iv,v)	-	-	-	<p>Eastern Cape endemic. Known from less than 10 locations, from a restricted range (EOO 730 km²). Declining due to coastal development and invasive alien plants</p> <p>Historical distribution between Cape St Francis and Alexandria on dunes and sandy slopes. Major habitats include Cape Seashore Vegetation, St Francis Dune Thicket and Kasouga Dune Thicket.</p> <p>Population trend is decreasing. Threats include invasive alien species (direct effects), habitat loss, habitat degradation, harvesting [gathering].</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO
Aizoaceae	<i>Mesembryanthemum vanrensburgii</i> (syn. <i>Prenia vanrensburgii</i>)	NT B1ab(ii,iii,v)+2a b(ii,iii,v)	Schedule 4	-	-	<p>Historically known only from the Coast between Hawston and Agulhas in the Western Cape, however recent records have been confirmed at Schoenmakerskop along the western coastline of Gqeberha (Port Elizabeth).</p> <p>Occurs in coastal sands associated with limestone and sandstones.</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO
Celastraceae	<i>Gymnosporia elliptica</i>	VU B1ab(ii,iii,iv,v)	-	-	-	<p>EOO 2300 km², known from less than 10 locations. Declining due to agriculture, commercial forestry plantations and urban expansion.</p> <p>Occurs in coastal plains in grassy fynbos, shale renosterveld and dune thicket from Humansdorp to Gqeberha (Port Elizabeth).</p> <p>Declining due to agriculture, commercial forestry plantations and urban expansion.</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO



Family	Species	SA Red List	ENCO	Protected Tree	NEMBA	Habitat, distribution and population trend (SANBI Red List)	Distribution Map	Probability of occurrence	Confirmed during site visit (Yes/No)
Fabaceae	<i>Psoralea repens</i>	NT A4bc	-	-	-	<p>A population reduction of 20% is estimated based on a decline in the number of known locations due to coastal development since 1970 (generation length ± 15 years). Population decline as a result of coastal development is highly likely to continue into the future.</p> <p>Occurs in coastal fynbos from the Cape Peninsula to Kanton-on-Sea</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO
Myrsinaceae	<i>Rapanea gilliana</i>	EN B1ab(ii,iii,iv,v)	-	-	-	<p>Eastern Cape endemic. Known from 15 small, severely fragmented subpopulations between St Francis Bay and Port Alfred along the coast. The populations continue to decline due to coastal development, alien plant invasion, and industrial development at Coega.</p> <p>Historical distribution between St Francis Bay and Port Alfred on coastal sand dunes. Major habitats include Algoa Sandstone Fynbos, St Francis Dune Thicket, Hamburg Dune Thicket, Sundays Mesic Thicket, Kasouga Dune Thicket, Grass Ridge Bontveld.</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO
Amaryllidaceae	<i>Sensitive species 657</i>	EN B2ab(iii,v)	-	-	-	<p>South African endemic. Occurs as small, severely fragmented subpopulations and is restricted to coastal flats. The total area of available habitat is <250 km². Continuing decline due to habitat loss for coastal development.</p> <p>Historical distribution between Great Brak and Gqeberha on coastal sands. Major habitats include Humansdorp Shale Renosterveld, Algoa Sandstone Fynbos, Cape Seashore Vegetation, St Francis Dune Thicket, Sundays Mesic Thicket, and Goukamma Dune Thicket.</p> <p>Coastal development is a moderate to severe ongoing threat throughout this species' range. Invasive alien plant species are a slight to moderate ongoing threat throughout this species range.</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, as well as considering the level of historical disturbance within the area	NO



Family	Species	SA Red List	ENCO	Protected Tree	NEMBA	Habitat, distribution and population trend (SANBI Red List)	Distribution Map	Probability of occurrence	Confirmed during site visit (Yes/No)
Geraniaceae	<i>Sensitive species 588</i>	VU B1ab(ii,iii,v)	-	-	-	Eastern Cape endemic. Known from less than 10 populations. Historical distribution between Humansdorp and Gqeberha between low scrub and sand dunes on lowland flats. Major habitats include Algoa Sandstone Fynbos, Kouga Grassy Sandstone Fynbos, Tsitsikamma Sandstone Fynbos, Southern Cape Dune Fynbos, St Francis Dune Thicket, and Kasouga Dune Thicket.		The probability of occurrence on the site is classified as Low based on the known distribution (no recorded populations east of Cape Recife) as well as the level of historical disturbance within the area.	NO
Crassulaceae	<i>Cotyledon adscendens</i>	EN B1ab(ii,iii,iv,v)+ 2ab(ii,iii,iv,v)	-	-	-	<p>EOO and AOO<35 km², three remaining locations continue to decline due to ongoing habitat loss and degradation as a result of coastal development and alien plant invasion. The majority of its remaining habitat has been zoned for housing development and is likely to be lost in the next 10 years.</p> <p>It is a highly localised endemic of Algoa Bay occurring in thicket vegetation behind coastal dunes within 1 km of the sea between Gqeberha (Port Elizabeth) and Sundays River Mouth.</p> <p>Threats include habitat loss, invasive alien species (direct effects), and habitat degradation.</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, considering as well as the level of historical disturbance within the area	NO
Asteraceae	<i>Sensitive species 78</i>	VU B1ab(ii,iii,iv,v)+ 2ab(ii,iii,iv,v)	-	-	-	<p>A poorly known Eastern Cape endemic species, EOO 1 496 km², and historically recorded from four locations, two of which have gone extinct due to the development of the city of Gqeberha (Port Elizabeth). Recently recorded from three new locations in the vicinity of Cape St. Francis, it is estimated that between five and 10 locations exist for this species.</p> <p>Occurs on tertiary sands in coastal habitats and in transition soils between tertiary sands and shale from Oyster Bay to Addo</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, considering as well as the level of historical disturbance within the area	NO



Family	Species	SA Red List	ENCO	Protected Tree	NEMBA	Habitat, distribution and population trend (SANBI Red List)	Distribution Map	Probability of occurrence	Confirmed during site visit (Yes/No)
Orchidaceae	<i>Sensitive species 1032</i>	VU C2a(i)	Schedule 4	-	-	<p>EOO 11 072 km², at least 50% of this formerly common species' habitat has been lost to coastal development, agriculture and alien invasive plants, however, the decline has happened over a period longer than 10 years or three generations (generation length is probably ± five years).</p> <p>Occurs among bushes in open places on fixed dunes close to the shoreline, 0-150 m from Wilderness to Port Alfred.</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, considering as well as the level of historical disturbance within the area	NO
Orchidaceae	<i>Sensitive species 1192</i>	EN A2c; B2ab(i,ii,iii,iv,v)	Schedule 4	-	-	<p>EOO 14 000 km², AOO<50 km², confined to coastal flats, with a disjunct distribution in the Western and Eastern Cape as far as Kei mouth/Kentani district. A 600 km distance separates the Western and Eastern Cape subpopulations. The subspecies is extinct or endangered throughout its range due to coastal and urban development. In the Western Cape, subpopulations at Hout Bay, Zeekoevlei, Muizenberg and the Cape Flats are now extinct.</p> <p>Occurs in moist, sometimes brackish soils, in dune slacks immediately inland from the shoreline.</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, considering as well as the level of historical disturbance within the area	NO
Orchidaceae	<i>Sensitive species 500</i>	EN C2a(i)	Schedule 4	-	-	<p>A coastal lowland species that has lost most historical locations to urban expansion and crop cultivation. Known from between eight and 11 remaining subpopulations, the total population is estimated to number fewer than 1000 mature individuals and no subpopulation has more than 150 individuals. Declining due to ongoing habitat loss and degradation as a result of coastal development, alien plant invasion, grazing and road verge clearing.</p> <p>It occurs in lowland sandy flats, stabilised dunes and coastal rock promontories from the Cape Flats to Gqeberha (Port Elizabeth).</p>		The probability of occurrence on the site is classified as Medium based on the known distribution and habitat requirements of this species, considering as well as the level of historical disturbance within the area	NO



Family	Species	SA Red List	ENCO	Protected Tree	NEMBA	Habitat, distribution and population trend (SANBI Red List)	Distribution Map	Probability of occurrence	Confirmed during site visit (Yes/No)
Orchidaceae	<i>Sensitive species 763</i>	VU A2c	Schedule 4	-	-	<p>A long-lived species (generation length 50 years), at least 30% of sites have been lost due to orchard and pasture cultivation, and severe infestations of invasive alien plants over the past 100 years. Loss has been particularly severe in the southern Cape.</p> <p>Occurs in dry coastal renosterveld and grassy places in coastal forest from Riversdale to Port St Johns.</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, considering as well as the level of historical disturbance within the area	NO
Iridaceae	<i>Sensitive species 448</i>	VU B1ab(i,ii,iii,iv,v)	Schedule 4	-	-	<p>EOO 8458 km², known from 17 historical locations, more than half occur between Storms River Mouth and Port Elizabeth. This area has been significantly transformed due to coastal development, agriculture and afforestation over the past 40 years. Most collections were made before 1970, so it is likely to be extinct at many of these.</p> <p>Occurs in sandy loam, clay or moderately fertile soils derived from the Witteberg slopes, mostly confined to the coastal plain from East London to Makhanda (Grahamstown) to Plettenberg Bay.</p>		The probability of occurrence on the site is classified as Low based on the known distribution and habitat requirements of this species, considering as well as the level of historical disturbance within the area	NO



4 RESULTS

4.1 DESCRIPTION OF THE SITE

The site is located on the eastern coast of Gqeberha, in the Nelson Mandela Bay Municipality. The N2 national road traverses the site in a roughly north-south direction. The industrial area of Deal Party occurs to the west of the site and the coast to the east.

West of the site is road reserve and a vegetated area (which varies from 10 m at the narrowest point and approximately 60 m at the widest point). This vegetated area is flanked on the west by warehouses, industry, and a railway yard. There is a vehicle track running a roughly south-north direction in this vegetated area. East of the site is an approximately 8 m wide vegetated strip and the coastline, which has been reinforced with rocks to prevent coastal erosion. The N2 national road is has two lanes going in each direction separated by a vegetated area of approximately 10 m in width. The N2 is fenced by palisade, but the fences have been removed in places. The vegetated areas are mowed periodically. The total extent of the site, as indicated in Figure 1-1 is approximately 22 ha and the vegetated area is approximately 9.5 ha.

The site experiences high volumes of traffic along the N2 national road.

The NMBM Bioregional Plan has mapped the natural habitat of the site as being transformed. This was confirmed during the field survey as the site was transformed during the construction of the N2 National Highway and maintained as such by SANRAL since its construction. Regular mowing of the servitude occurs and the species composition is dominated by low, succulent species and geophytic species which are able to avoid the regular vegetation clearance.

The vegetation community observed during the field survey is a mix of low herbaceous shrubs as well as planted and maintained woody shrubs (*Brachylaena discolor*) at scattered intervals. The vegetation resembles a mosaic of pioneer species from St Francis Dune Thicket (*Delosperma littorale*, *Lycium horridum*, *Cynanchum obtusifolium*, *Aizoon rigidum*) Motherwell Karroid Thicket (*Malephora uitenhagensis*, *Delosperma uncinatum*, *Curio radicans* and *Chrysocoma rigidula*) and Cape Seashore Vegetation (*Gazania rigens*, *Cotula discolor*, *Tetragonia decumbens*, *Carpobrotus deliciosus*). It is characterised by low spreading succulent and herbaceous shrubs as well as common grass species. The dominant species include *Cynodon dactylon*, *Stenotaphrum secundatum*, *Sporobolus virginicus*, *Dactyloctenium aegyptium*, and *Panicum maximum*, with the herbaceous species dominated by *Chrysocoma rigidula*, *Lycium tetrandrum*, *Tetragonia fruticosa*, *Delosperma littorale*, *Malephora uitenhagensis*, *Aizoon rigidum* and *Cotula discolor*.



Plate 4-1: View of project site at the southern extent of the proposed development



Plate 4-2: Large areas are carpeted in low spreading succulents and herbaceous species.



Plate 4-3: View of the central section of the project area



Plate 4-4: View of northern-most portion of the project area

A total of 53 species were recorded during the field survey with twenty (20) endemic species and no SCC recorded. Table 4-1 includes a list of species recorded during the field survey.



Table 4-1: List of plant species recorded during the field survey

FAMILY	Species	Native / Non-Native	Red List Status	ENCO	NEMBA
ACANTHACEAE	<i>Blepharis capensis</i>	Endemic	LC	--	--
AIZOACEAE	<i>Aizoon pubescens</i>	Endemic	LC	--	--
AIZOACEAE	<i>Aizoon rigidum</i>	Endemic	LC	--	--
AIZOACEAE	<i>Carpobrotus deliciosus</i>	Indigenous	LC	Schedule 4	--
AIZOACEAE	<i>Delosperma litorale</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Delosperma uncinatum</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Drosantherum candens</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Drosantherum floribunda</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Drosantherum fourcadei</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Dysphima crassifolium</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Glottiphyllum longum</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Malephora uitenhagensis</i>	Endemic	LC	Schedule 4	--
AIZOACEAE	<i>Mesembryanthemum aitonis</i>	Indigenous	LC	Schedule 4	--
AIZOACEAE	<i>Tetragonia decumbens</i>	Indigenous	LC	--	--
AIZOACEAE	<i>Tetragonia fruticosa</i>	Endemic	LC	--	--
AMARANTHACEAE	<i>Atriplex semibaccata</i>	Indigenous	LC	--	--
APOCYNACEAE	<i>Cynanchum obtusifolium</i>	Indigenous	LC	--	--
ASPHODELACEAE	<i>Bulbine erectipilosa</i>	Endemic	LC	--	--
ASTERACEAE	<i>Arctotheca arctotoides</i>	Indigenous	LC	--	--
ASTERACEAE	<i>Brachylaena discolor</i>	Indigenous	LC	--	--
ASTERACEAE	<i>Chrysocoma rigidula</i>	Endemic	LC	--	--
ASTERACEAE	<i>Cotula discolor</i>	Endemic	LC	--	--
ASTERACEAE	<i>Curio radicans</i>	Indigenous	LC	--	--
ASTERACEAE	<i>Gazania rigens</i>	Endemic	LC	--	--
ASTERACEAE	<i>Senecio inaquidens</i>	Indigenous	LC	--	--
BRASSICACEAE	<i>Diplotaxis tenuifolia</i>	Alien	LC	--	--
BRASSICACEAE	<i>Lobularia maritima</i>	Alien	LC	--	--
BRASSICACEAE	<i>Mathiolla incana</i>	Alien	LC	--	--
CRASSULACEAE	<i>Crassula muscosa</i>	Indigenous	LC	--	--
CYPERACEAE	<i>Cyperus brevis</i>	Indigenous	LC	--	--
FABACEAE	<i>Acacia cyclops</i>	Alien	LC	--	Cat 1b
FABACEAE	<i>Trifolium repens</i>	Alien	LC	--	--
GERANIACEAE	<i>Pelargonium alchemilloides</i>	Indigenous	LC	--	--
MALVACEAE	<i>Abutilon sonneratianum</i>	Indigenous	LC	--	--
MALVACEAE	<i>Hermannia althaeoides</i>	Endemic	LC	--	--
MALVACEAE	<i>Hermannia flammea</i>	Endemic	LC	--	--
OXALIDACEAE	<i>Oxalis stellata</i>	Endemic	LC	--	--
PLANTAGOACEAE	<i>Plantago lanceolata</i>	Indigenous	LC	--	--
POACEAE	<i>Cenchrus setaceus</i>	Alien	LC		Cat 3
POACEAE	<i>Chloris giyana</i>	Indigenous	LC	--	--
POACEAE	<i>Cynodon dactylon</i>	Indigenous	LC	--	--
POACEAE	<i>Dactyloctenium aegyptium</i>	Indigenous	LC	--	--



FAMILY	Species	Native / Non-Native	Red List Status	ENCO	NEMBA
POACEAE	<i>Imperata cylindrica</i>	Indigenous	LC	--	--
POACEAE	<i>Panicum maximum</i>	Indigenous	LC	--	--
POACEAE	<i>Sporobolus africanus</i>	Indigenous	LC	--	--
POACEAE	<i>Sporobolus virginicus</i>	Indigenous	LC	--	--
POACEAE	<i>Stenotaphrum secundatum</i>	Indigenous	LC	--	--
SALICACEAE	<i>Scolopia zeyheri</i>	Indigenous	LC	--	--
SOLANACEAE	<i>Lycium tetrandrum</i>	Indigenous	LC	--	--
SOLANACEAE	<i>Solanum africanum</i>	Indigenous	LC	--	--
SOLANACEAE	<i>Solanum linneanum</i>	Indigenous	LC	--	--
ZYGOPHYLLACEAE	<i>Roepera maritima</i>	Endemic	LC	--	--
ZYGOPHYLLACEAE	<i>Roepera morgsana</i>	Indigenous	LC	--	--

5 PLANT SPECIES COMPLIANCE STATEMENT

The project area occurs within a transformed road reserve and as such the vegetation within the comprises largely of low-growing weedy pioneer species which are adapted to enduring regular mowing activities. Although the vegetation type is mapped as *St Francis Dune Thicket and Cape Seashore Vegetation*, the vegetation on site is not consistent with that of typical St Francis Dune Thicket nor with typical Cape Seashore Vegetation and rather presents a mosaic of the common weedy pioneer species from each of these habitats as well as the surrounding *Motherwell Karroid Thicket* habitat.

Given the transformed nature of the site, it is fairly species rich, particularly in *Aizoaceae* species, however they are relatively common species and no SCC were recorded within the project area.

Based on the results of this study, the sensitivity of the site should be regarded as **Low** for plant species.

This conclusion is based on the following:

- Much of the natural habitat of site has been transformed by transportation (N2 national road) and industrial infrastructure or has been modified by human activity;
- The site is regularly mowed as part of SANRAL maintenance procedures;
- The species composition includes pioneer species only and no climax species were observed; and
- No SCC were observed (or have been recorded on iNaturalist) within the project area.

Although no SCC as listed on the SANBI Red List were recorded within the project site, the site does include several species within the *Aizoaceae* family (specifically species previously within the *Mesembryanthemaceae* genus (subfamilies *Mesembryanthemoideae* and *Ruschiodeae*) which will require permits for translocation as per the Cape Provincial Nature and Environment Conservation Ordinance (Ordinance No. 19 of 1974).



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