

Appendix A

DFFE SCREENING TOOL REPORT



**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE
ENVIRONMENTAL SENSITIVITY**

EIA Reference number: TBC

Project name: The proposed Secunda Gas to Power Facility

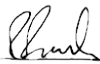
Project title: The proposed Secunda Gas to Power Facility

Date screening report generated: 31/03/2026 10:06:50

Applicant: Sasol South Africa Limited

Compiler: WSP Group Africa (Pty) Ltd

Compiler signature:



Rowles, Rob
(ZARR05387)
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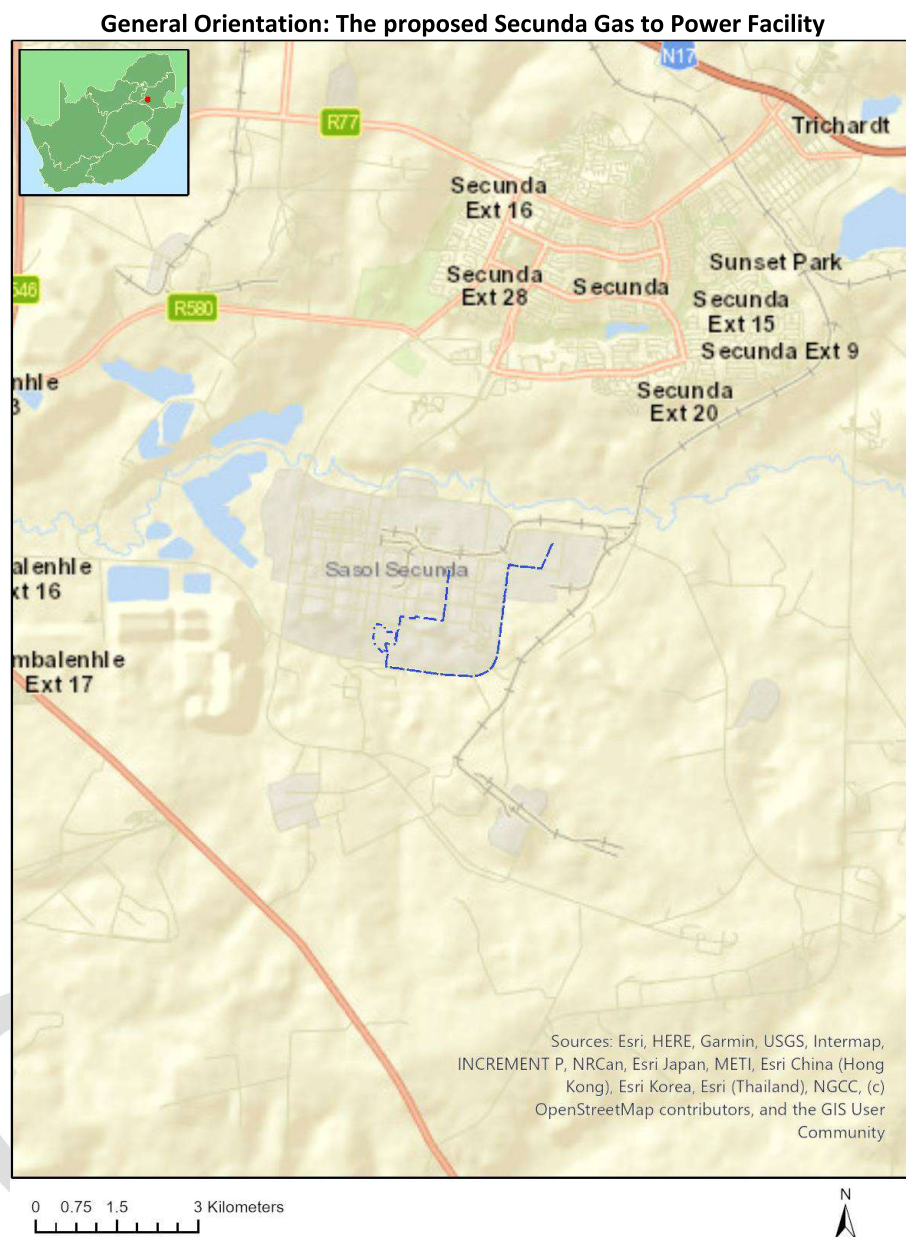
Application Category: Utilities Infrastructure | Electricity | Generation | Non
Renewable | Hydrocarbon | Petroleum

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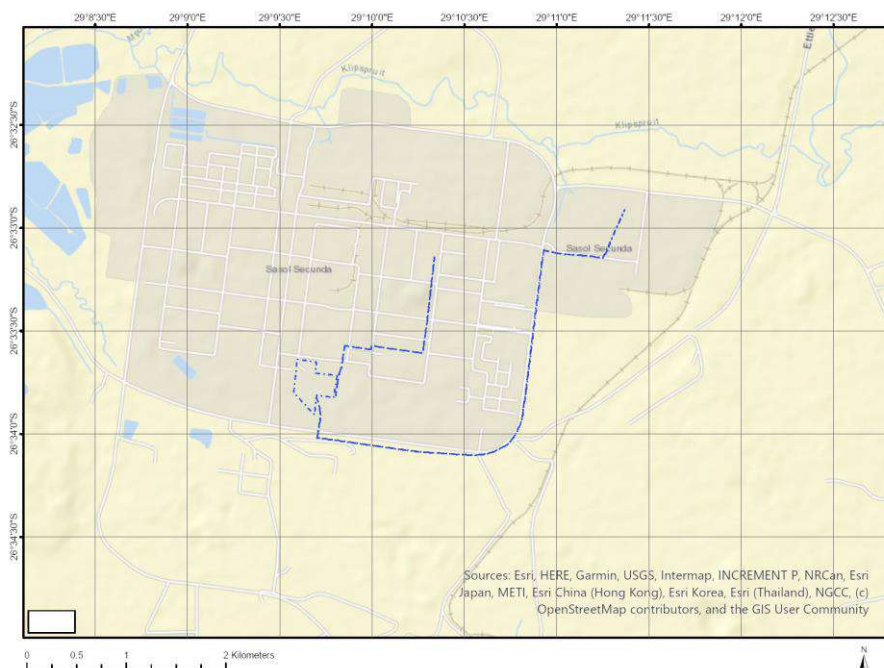
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Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	SECUNDA	8341	0	26°33'6.18S	29°11'22.96E	Erven
2	SECUNDA	8342	0	26°33'14.07S	29°11'21.81E	Erven
3	SECUNDA	8488	0	26°33'3.81S	29°9'51.21E	Erven
4	GOEDEHOOP	290	0	26°33'10.5S	29°13'11.12E	Farm
5	FABRIEK	601	0	26°32'52.02S	29°9'23.21E	Farm
6	FABRIEK	601	0	26°33'1.71S	29°9'24.31E	Farm Portion
7	GOEDEHOOP	290	8	26°33'58.01S	29°11'14.27E	Farm Portion
8	GOEDEHOOP	290	45	26°33'11.11S	29°11'23.57E	Farm Portion

Development footprint¹ vertices:

No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
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¹ "development footprint", means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

1	1/3/1/16/1G-272	Solar PV	Approved	4.5
2	1/3/1/16/1 G-236	Solar PV	Approved	1.2
3	1/3/1/16/1G-253	Solar PV	Approved	4.5
4	14/12/16/3/3/2/2392	Solar PV	Approved	7.6
5	14/12/16/3/3/2/2447	Solar PV	Approved	12.9

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

Utilities Infrastructure | Electricity | Generation | Non Renewable | Hydrocarbon | Petroleum.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Air Quality-Highveld Priority Area	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/HIGHVELD_PRIORITY_AREA_AQMP.pdf
Strategic Gas Pipeline Corridors-Phase 8: Rompco Pipeline Corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf
Main Electricity Transmission Substation	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Distribution_Transmission.pdf
Main Electricity Distribution Substation	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Distribution_Transmission.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X

Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

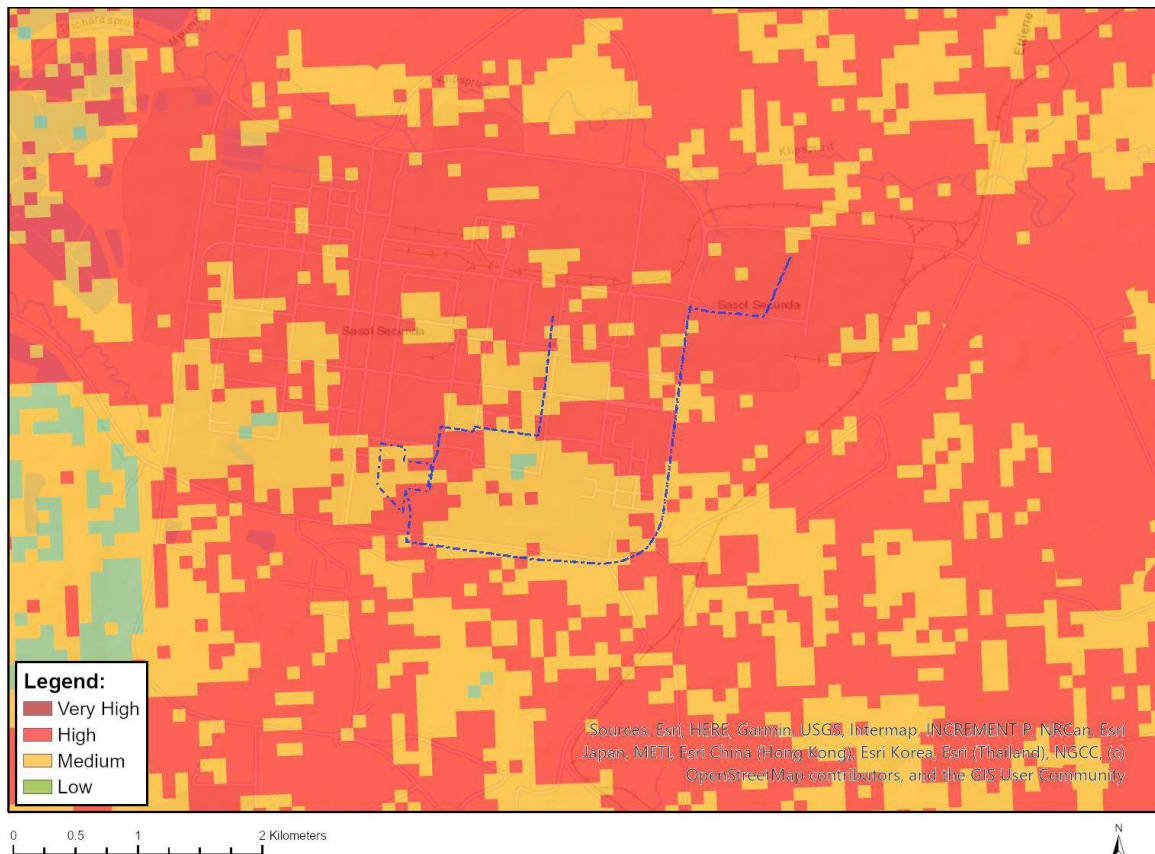
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Agriculture Assessment Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/GuidanceforHIA.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/GuidanceforPIA.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Terrestrial Biodiversity Assessment Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Aquatic Biodiversity Assessment Protocols.pdf
7	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
8	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Noise Impacts Assessment Protocol.pdf
9	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
11	Climate Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
12	Health Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
13	Socio-Economic	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf

	Assessment	ssmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
14	Ambient Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
15	Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
16	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Plant Species Assessment Protocols.pdf
17	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Animal Species Assessment Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

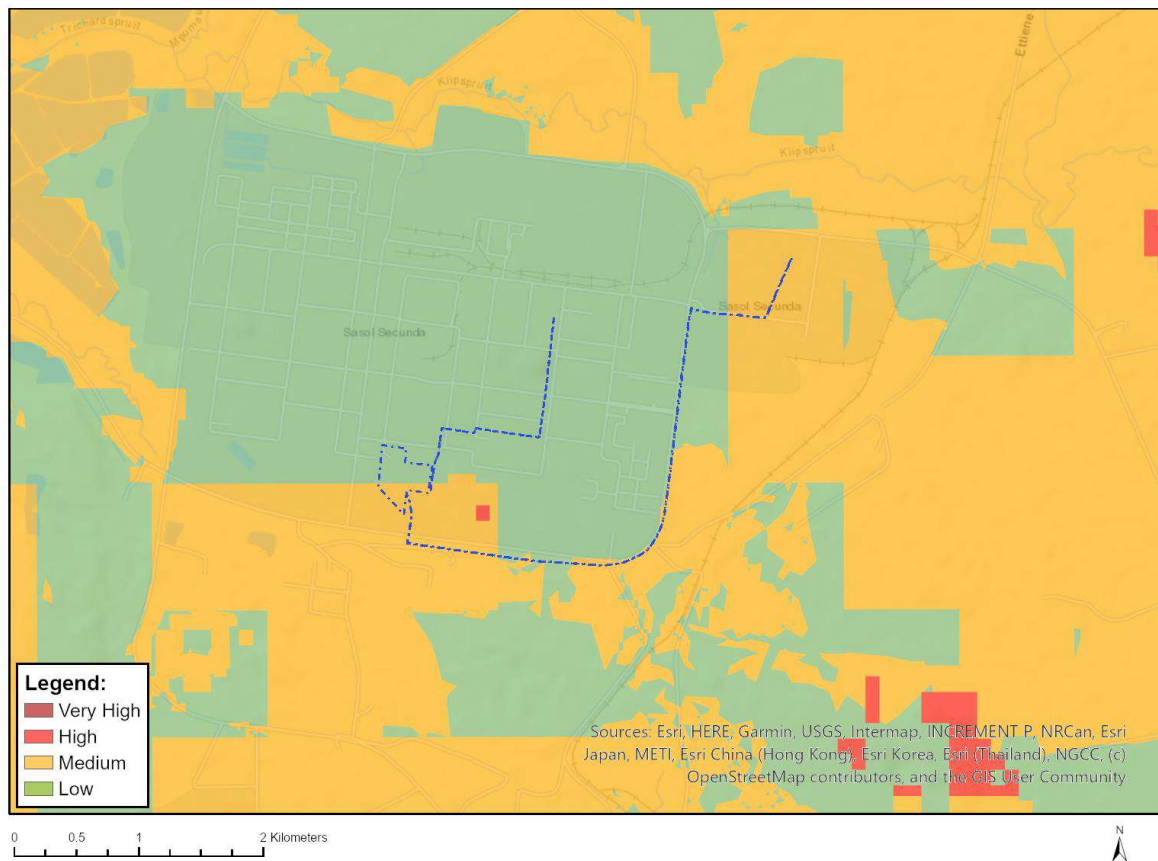


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	09. Moderate-High
High	08. Moderate
Medium	07. Low-Moderate
Medium	06. Low-Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



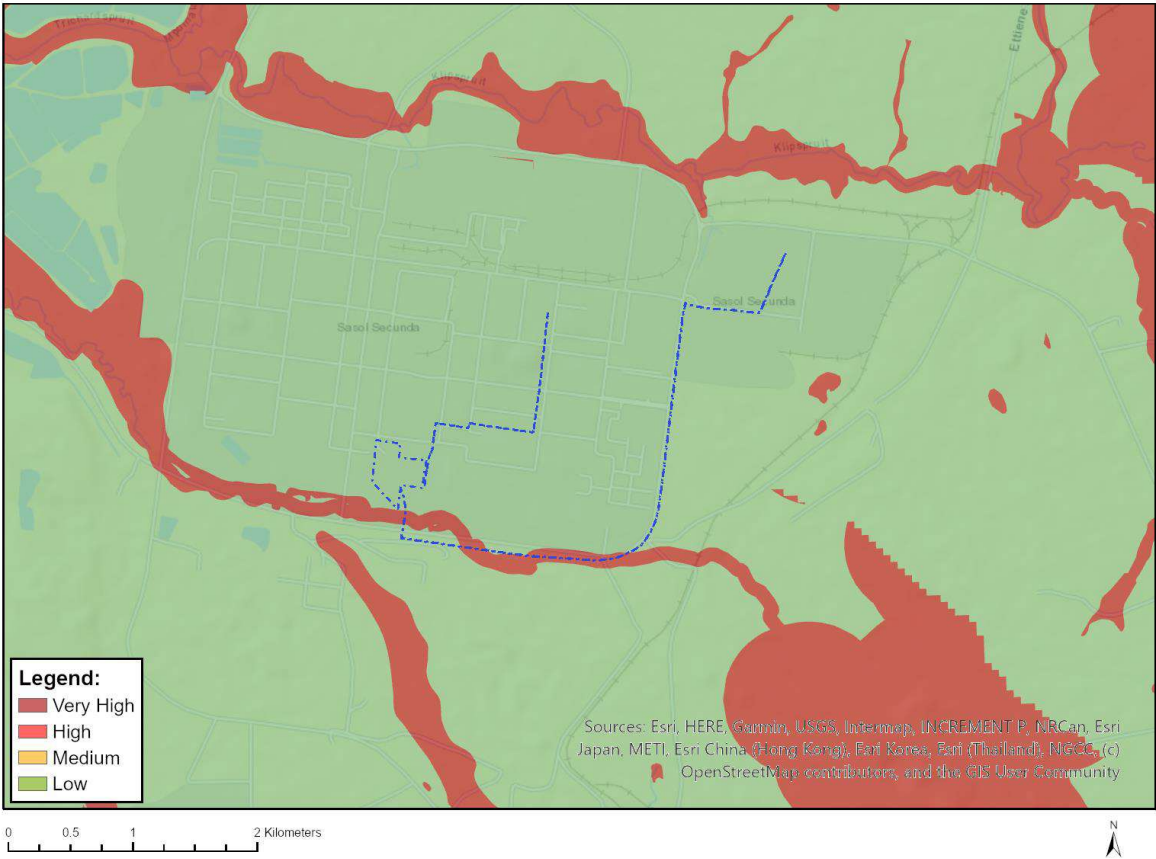
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Subject to confirmation
Medium	Aves-Hydroprogne caspia
Medium	Insecta-Lepidochrysops procera
Medium	Mammalia-Crocidura maquassiensis

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

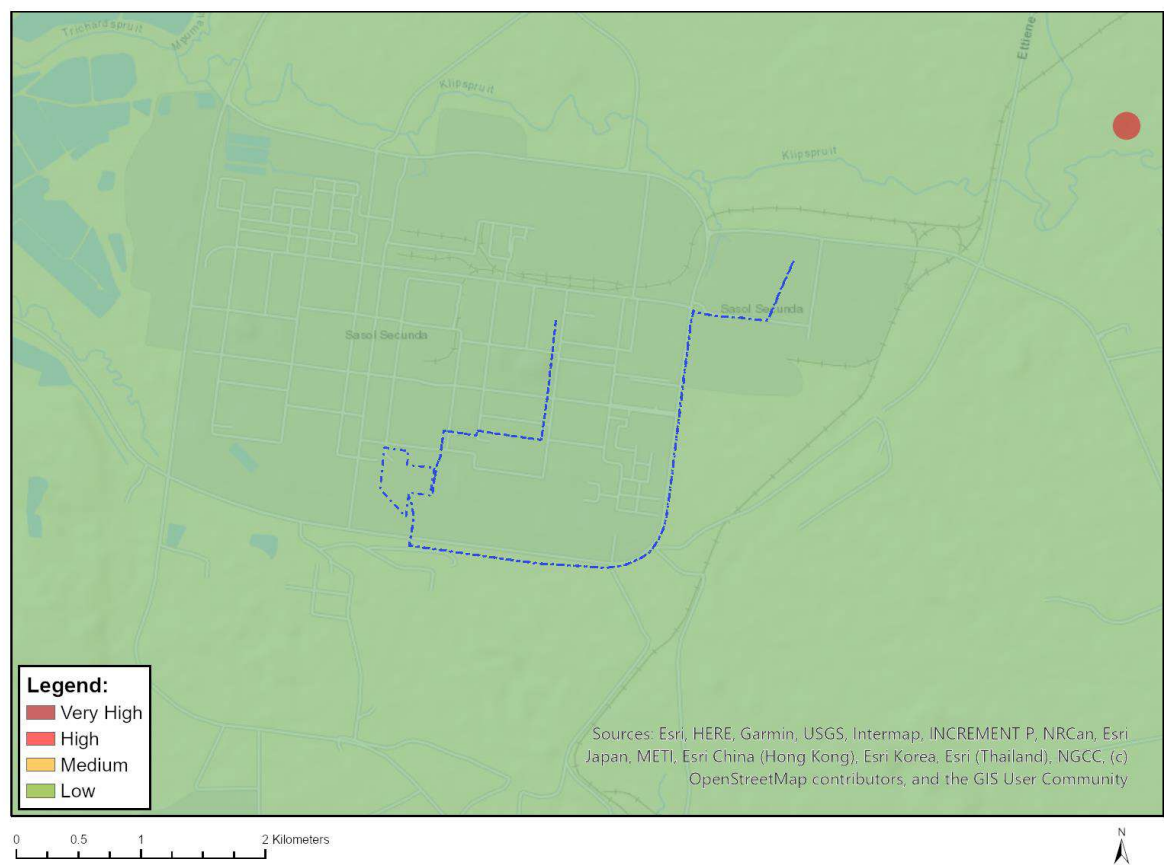


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA: Wetlands
Very High	Wetlands_Seep
Very High	Rivers

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

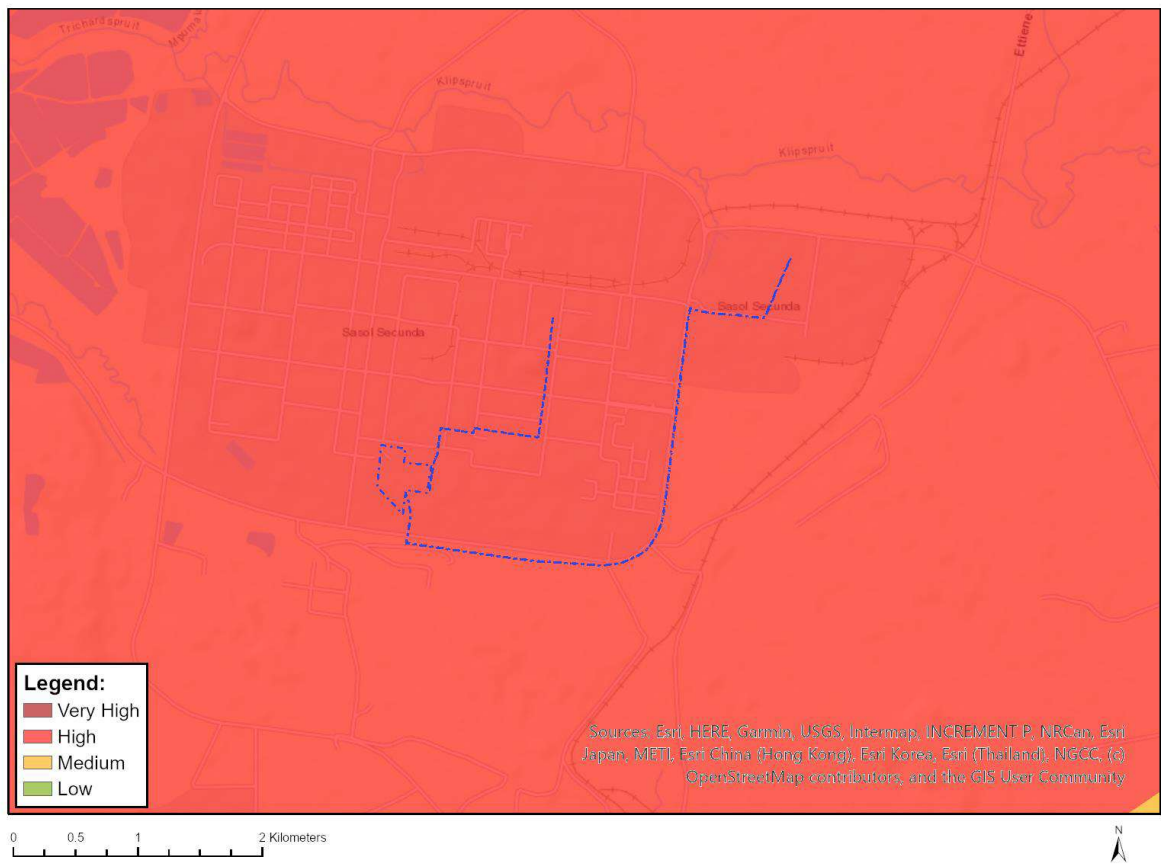


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

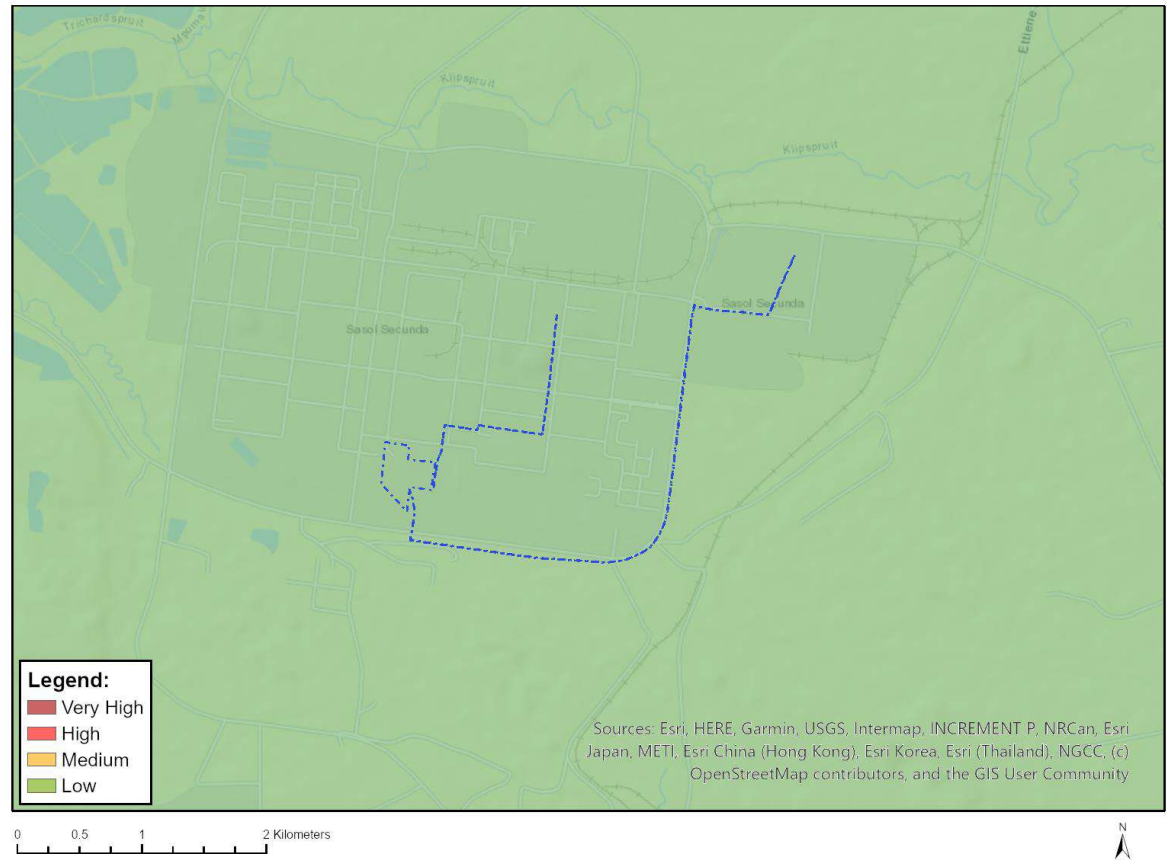


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome
High	Dangerous and restricted airspace as demarcated

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

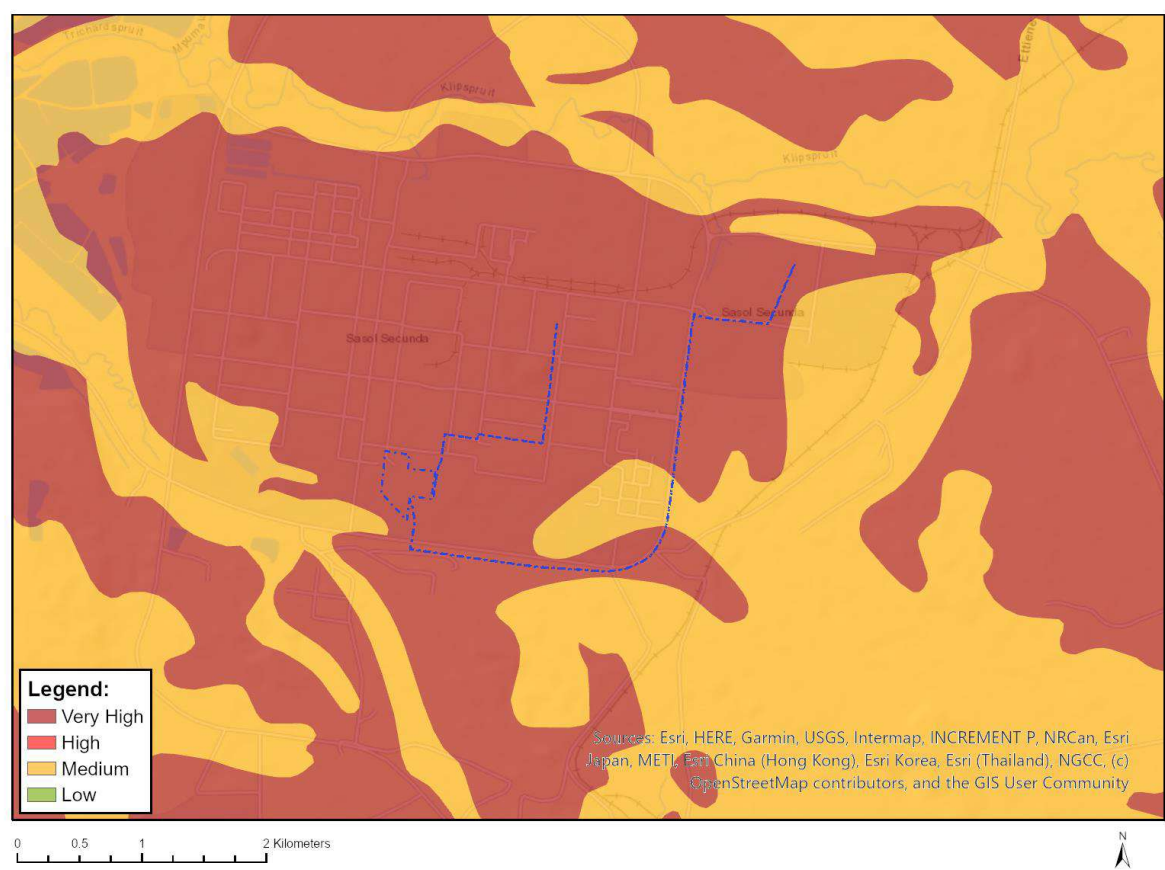


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

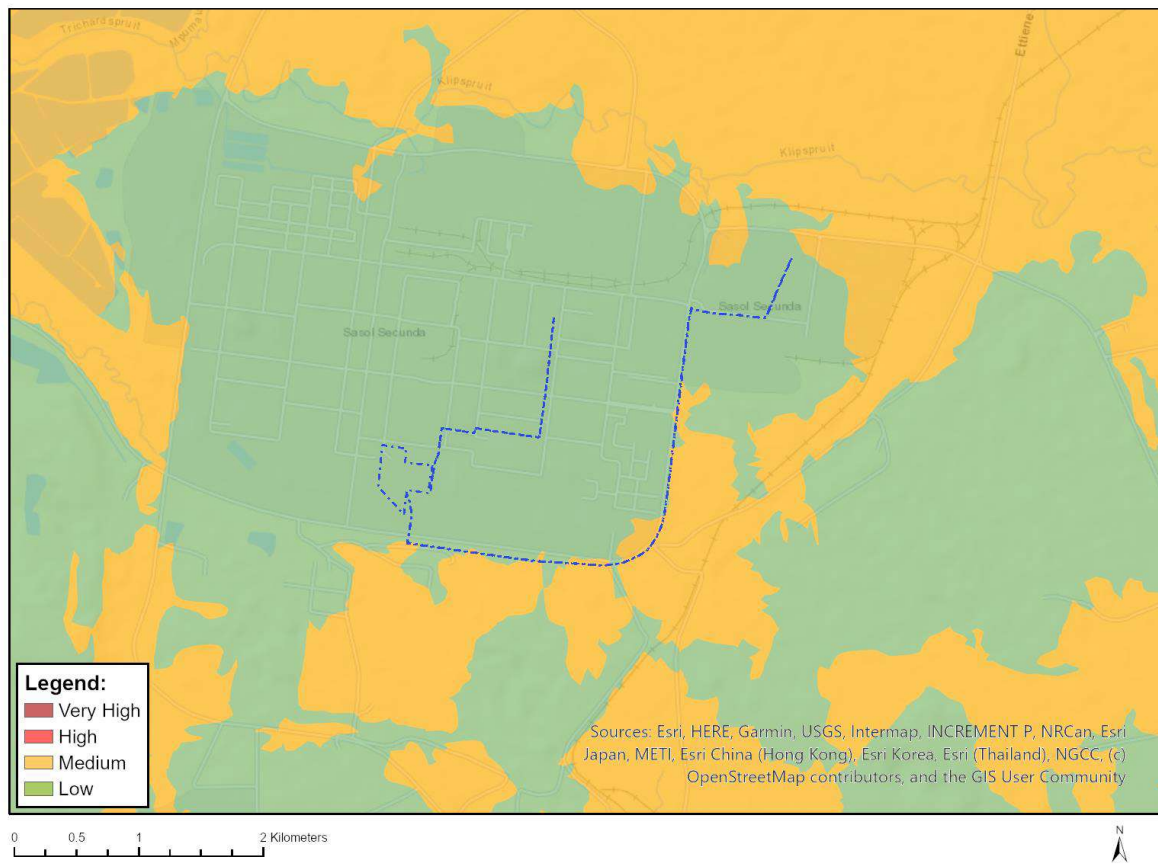


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity
Very High	Features with a Very High paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



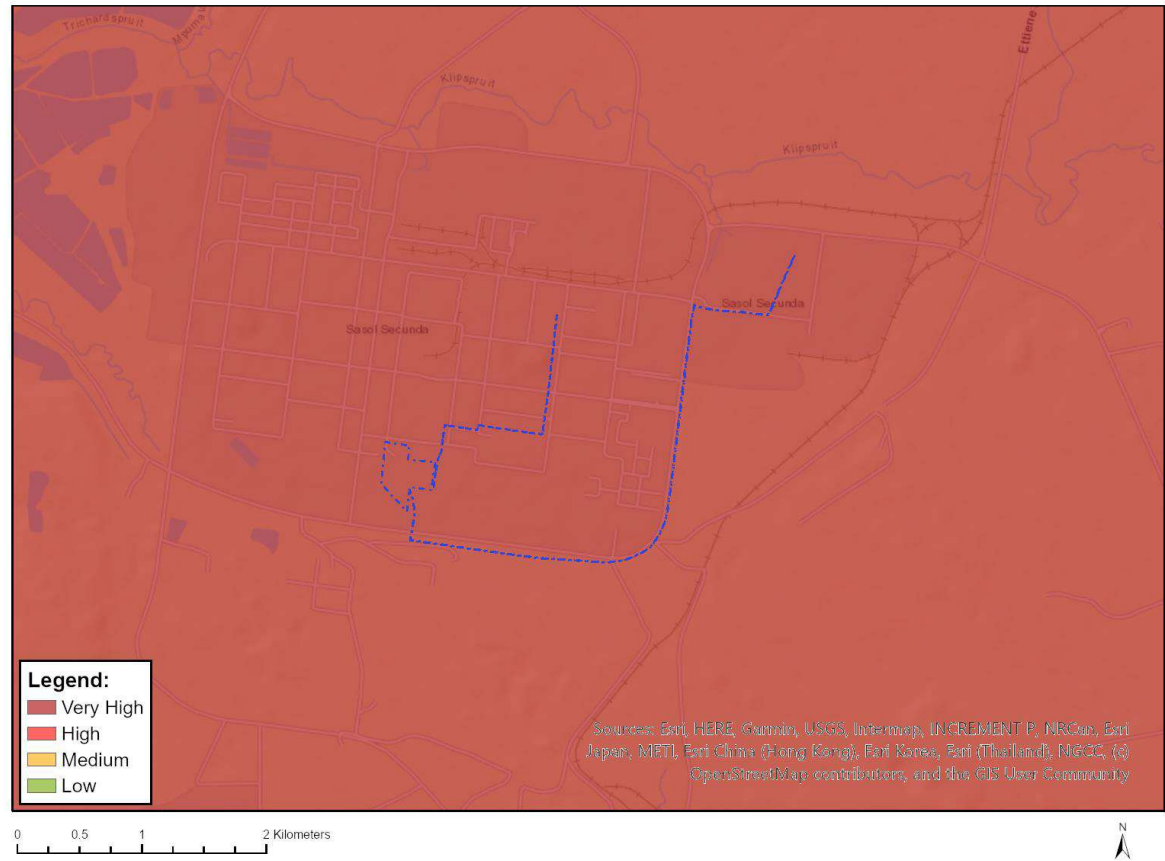
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Sensitive species 1252
Medium	Sensitive species 691
Medium	Pachycarpus suaveolens

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	VU_Soweto Highveld Grassland

Appendix B

EAP CV



Rob Rowles

Principal Consultant, Earth & Environment



CAREER SUMMARY

Rob has been in the Environmental Consulting space for fourteen years and has been exposed to a wide range of roles and responsibilities within the Environmental Management sector. He is currently a Principal Consultant within WSP's Earth & Environment Division, in their Environment & Advisory team.

Rob has a Masters degree in Environmental Management and is a registered Environmental Assessment Practitioner with EAPASA. Rob has 14 years of on-the-job management experience having completed numerous ESIA, EIA, EMP, WULA, Mine Closure, 24G, Part 1 and 2 Amendments, Stakeholder Engagement Processes, ECO Auditing and Due Diligence projects within South Africa. Rob has project experience with projects ranging from mining (ESIA, Mine Closure and Operational Compliance), Port Developments, Asphalt Plants, Pipeline and Water Supply Schemes, Road Infrastructure (National and Provincial), Industrial Developments, Residential Developments, and public and private infrastructure projects.

2 years with WSP

14 years of experience

Area of expertise

Extensive experience in Environmental Impact Assessment (Full Scoping EIA & Basic Assessment)

Extensive Environmental Control Officer (ECO) experience against the requirements of EMPs and EAs.

Water Use Authorizations (Full WULAs and GA's)

Mining Permits, Mining Rights, and Mine Closure

Extensive experience in the compilation of site specific EMPs, Environmental Due Diligence and Feasibility Assessments and reports

Experience in leading Public Participation processes, presenting and reporting.

Language

English



EDUCATION

Masters in Environmental Management (MSc Environmental Management through The University of Johannesburg)	2012
Honours Degree in Geography and Environmental Science, University of KwaZulu-Natal	2008
B Social Science Degree in Geography and Environmental Science, University of KwaZulu-Natal	2007

PROFESSIONAL MEMBERSHIPS

Registered Environmental Assessment Practitioner (2022/5395)	EAPASA
International Association for Impact Assessment (7287)	IAIASa

PROFESSIONAL HISTORY

WSP Group Africa, Principle Consultant (Earth & Environment)	2023 - present
EnviroPro, Senior Environmental Consultant	2014 – 2023
Golder Associates, Environmental Consultant	2010 - 2013

PROJECT EXPERIENCE

RECENT EIA & WULA PROJECTS

(Current) Tronox's Port Durnford ESIR. Scoping ESIR Process in support of a Mining Rights Application for a heavy metal sand mining operation in uMhlatuze Local Municipality, Kwazulu-Natal. 2023 – present. EAP and Project Manager.

(Current) Transnet Ports Authority – BA Process, AMAFA Section 34 Process, and Dredge Disposal Application. Expansion and dredging works associated with the upgrade of the Maydon Wharf Berths 5-11 and 15. 2023 - present. EAP and project manager.

(Current) Glencore – BA Process. The Lakenvlei Wetland Rehabilitation Project in Mpumalanga. 2024-present. EAP and project manager.

(Current) Mondi – ECO Auditing. Compliance monitoring/ auditing for the construction of a new boiler project at Mondi Richardsbay, Kwa-Zulu Natal. 2024- present. Lead ECO and Project Manager.

(Current) Lanxess – EMP and ECO Auditing). On-site ECO for the decommissioning of Lanxess's factory and warehouse, Merebank, Kwa-Zulu Natal. 2024-present. EAP, ECO and Project Manager.

Palabora Copper – Section 34 Operational EMP Audit. Audit and reporting on compliance performance for 5 of PMC's operational EMPs. 2023 and 2024. EAP and Project Manager.

Richbay Chemicals, Richardsbay – 24G and Compliance auditing. Compliance auditing and 24G Process for Richbay Chemicals, Richardsbay, Kwa-Zulu Natal. 2024. EAP and Project Manager.

Richbay Chemicals PMB – Compliance auditing for Richbay Chemicals PMB. 2023. ECO and Project Manager.

Sappi – ECO Auditing. Compliance monitoring for an emergency construction project for a temporary weir on the uMkomaas River. 2024. ECO and Project Manager.

FFS Refiners – Part 1 Amendment for the conversion of used oil to diesel storage, Qhebega. 2023 and 2025. EAP and Project Manager.

KZN Department of Transport – HN Engineering, Nkwalinge Bridges. EIA x 4 and WUA. KZN, South Africa. 2022-2023. Lead Consultant. The assessment of 4 independent structures over four rivers and wetland near Melmoth, KZN.

Driftwood Estates – 24G Application. 2022. Lead consultant. A 24G process for an embankment that was constructed without authorisation within 100m of the high water mark of the sea and within an estuarine functional zone.

Shisalanga Construction – Part 2 Amendment for an additional stockpile area and extended footprint. 2022. Lead Consultant. The expanded project footprint (1ha) was within a highly sensitive vegetation type and area with endangered millepedes.

Ezemvelo KZN Wildlife – Mpila Staff Accommodation EIA. 2022-2023. Lead Consultant. An upgrade of staff housing and sewage infrastructure within the Mpila Camp.

KZN Department of Transport- HN Engineering, Mbojane Bridge EIA and WUA, South Africa 2019 – 2022. An assessment for a new bridge within a watercourse, adjacent to a nationally protected area.

The City of Umhlatuze Municipality, Civtech Engineering - Ntambanana Water Supply Scheme EIA and WUA, South Africa. 2019 – 2022. Lead Consultant. This water supply scheme consisted of 8 new reservoirs, over 400km of bulk and reticulation pipeline network, over four different municipal wards.

Melting Ice Investments (Pty) Ltd, Riverview Restaurant EIA and WUA, South Africa. 2019 – 2022 Lead Consultant. This was a private mixed-use development within 100m of the high water mark of the sea in Mdloti Town, KZN.

eThekweni Municipality, Magcakeni Water Supply Scheme, South Africa. 2019 – 2022. Lead Consultant

Shisalanga, SEIA for the Shisalanga Asphalt Plant Ulundi, South Africa. 2019 – 2022. Lead Consultant. The licensing of a permanent asphalt plant on a neighbouring protected reserve.

Shisalanga, SEIA for the Shisalanga Asphalt Plant, Hluhluwe, South Africa. 2019 -2022. Lead Consultant. The licensing of a permanent asphalt plant within an agricultural and private game reserve area.

Naidu Consulting / Department of Transport, Basic Assessment, WUA and ECO for The Little Mooi River Bridge, South Africa. 2019 – 2022. Lead Consultant and ECO. A new 3-span bridge within the Little Mooi river, at the foothills of the Highmoor National Reserve.

Neeran Mining, Sand Mine Closure. 2022 - 2023. Rob was the lead consultant for the closure submission for a privately owned sand mine in Winterton, KZN.

Naidu Consulting / Department of Transport, Basic Assessment, WUA and ECO for the D883 Road, South Africa. 2019 – 2022. Lead Consultant. A 10km provincial road upgrade, involving road realignment within a protected vegetation type.

HJK, Mine Closure. 2022. Rob was the lead consultant for the HJK Sand mine close submission to DMRE.

Harry Gwala District Municipality, District Roads Basic Assessment and WUA, South Africa. 2019-2022. Lead Consultant. Basic Assessment, WUA for 8 new District roads within the Harry Gwala District Municipality

eThekweni Municipality, Maintenance Management Plan for Waste Water Infrastructure in Sensitive Environments, South Africa. 2019 – 2021. Lead Consultant. Helped authorise and develop a MMP template for eThekweni's MMP projects that involve pipelines through sensitive areas.

KZN Department of Transport, Basic Assessment and WUA for the D59 Bridge, South Africa. 2019 – 2022. Lead Consultant. A new culvert along the D59 road within an endangered vegetation type.

eThekweni Municipality, Basic Assessment for the Hammarsdale Low Level Bridge, South Africa



2019 -2020. Lead Consultant. A provincial road upgrade that involved offsetting for the clearance of endangered grassland.

eThekwini Municipality, Basic Assessment for the Mafume Low Level Bridge, South Africa

2019 -2020. Lead Consultant. A new bridge in a green fields rural area, involving wetland loss and new road access in and out the valley.

eThekwini Municipality/Bosch Munitech, Basic Assessment for the Dudu Shangase and Nyatela Pedestrian Bridges, South Africa. 2019 -2020. Lead Consultant. Four individually assessed pedestrian bridges within the densely populated uMlalazi area.

DEC, Department of Transport, Basic Assessment for the Mkomazi Bridge, South Africa

2019 – 2020. Lead Consultant. An assessment for a road realignment and new 4-span bridge over the Mkomazi River.

RECENT ECO AUDITING/ DUE DILIGENCE PROJECT EXPERIENCE

Regulation 34 Audit for Palabora Copper, 2024. Lead auditor. An operational audit on five or PC's authorised EMPRs.

Lanxcess,2024-2025. ECO for the dismantling and decommissioning of the Lanxcess Merebank warehouse.

Mondi Group ECO, 2023-2025. ECO for the construction phase of Mondi Richards Bay new Boiler Project.

Regulation 34 Audit for Palabora Copper, 2023. Lead auditor. An operational audit on five or PC's authorised EMPRs.

PNGCON, Njabulu Eco Estate, South Africa. 2022 – 2023. Independent ECO Auditor for the greenfields Njabulo Eco Estate residential development.

KZN Transport, D59 Bridge Construction. 2022-2023. Rob was the lead consultant for the EIA, WUA and ECO for the construction phase of the D59 Bridge outside of Richmond KZN. Construction was not complete at the time that Rob joined WSP.

FWJK, TYNE Residential Development. 2022-2023. The independent ECO Auditor for Phase 1 of the Tyne Residential Development in uMhlanga, KZN. This project required EMP and SWMP development and implementation.

Transnet / Channel Construction, PE Port Slipway cradle upgrade, South Africa. 2021 -2022. Rob was appointed as the independent ECO for the slipway cradle upgrade. This entailed EMP development and monthly auditing within the Gqeberha Port.

eThekwini, Solomon Mhlangu M7 Upgrade, South Africa. 2022 – 2023. Rob was the independent ECO for the construction phase of eThekwini Municipality's M7 road upgrade.

BJFC/eThekwini Municipality, Adams Mission Water Supply Scheme, South Africa. 2019 – 2021. Rob was appointed as the independent ECO for the construction phase of the Adams Mission pipeline network. This pipeline crossed a number of very sensitive, critically endangered ecosystem types.

Bongaumausa Ngubo, Lethi'Ngubo Quarry, South Africa. 2021. Rob conducted Due Diligence audits for DMRE compliance on the Lethi'Ngubo stone quarry/

FWJK, Bridge City Development, South Africa. 2022. Rob was appointed as the independent ECO for the Bridge City IMPACT recycling industrial warehouse build.

E-Waste, PMB and Boxburg, South Africa. 2020-2023. Rob was appointed as the independent ECO responsible for the due diligence ECO auditing and reporting for E-Waste's electronical recycling plants in KZN and Gauteng.

The Rowles Group, The Woods Private Estate Developments, South Africa. 2021 – 2022. Rob was appointed as the independent ECO and ECO manager for the Rowles Group's The Woods residential development. This involved some careful management and rehabilitation of a critically endangered grassland and wetland.

HNE, Greater Kokstad Municipality's "Kokstad Housing" and the Harry Gwala District municipality's "Ixopo Public Housing" Projects. 2020-2023. Rob was the appointed ECO responsible for the environmental compliance for both the Kokstad and Ixopo housing projects.

SH Group, 57 North Beach Roach Private Development, South Africa. 2021 – 2022. Rob was appointed as the independent ECO for the entire 57 North Beach Road construction in uMdloti.

Ilmebe District Municipality, Darnall Sewer Network Upgrade, South Africa. 2019 – 2021. Rob was appointed as the independent ECO for the entire construction phase of this sewer network upgrade. This project entailed wetland management and stringent alien vegetation management.

National Asphalt, National Asphalt's Independent ECO for their Bon Accord, Middelburg, Rustenburg, Laezonia, Vanderbijl Park, Nelspruit, Musina, Roadside, Tzaneen and Pienaar's Rivier asphalt plants, South Africa. 2021 – 2023. Rob was responsible for Nation Asphalts' environmental compliance and reporting. These asphalt plants were audited bi-annually.

Shisalanga Construction, Shisalanga's Independent ECO for their Hluhluwe, Umlaas Rd, Ulundi, Escourt, Dundee, Cliffdale and Shakaskraal Plants, South Africa. 2019 – 2023. Rob undertook compliance audits for Shisalanga's asphalt plant operations in KZN, both in the construction and operational phases.

Naidu Consulting/ eThekweni Municipality, ECO for the Go Durban BRT Transport System, South Africa 2019 – 2022. Consultant and Auditor for the construction of the Go Durban BRT road network upgrade.

BTMN Engineering, Singisi Sub-Station (Greater Kokstad Municipality). 2020-2022. Rob was the independent ECO for the construction phase of the District Municipality's new sub station in Kokstad, KZN.

Naidu Consulting, Basic Assessment, WUA & ECO for Ezimbokodweni Pedestrian Bridge & Sewer Pipeline, South Africa. 2019 – 2022. Consultant and ECO Auditor for the construction phase of the pedestrian bridge and pipeline construction.

Naidu Consulting, Basic Assessment, WUA & ECO for uMshwathi Bridges, South Africa. 2019 – 2022. Consultant and ECO Auditor for the construction phases of the uMshwathi Bridges construction phases.

DEC, Basic Assessment, WUA & ECO for L207 Bridge, South Africa. 2019 – 2020. Consultant and ECO lead for the construction phase of the L207 Bridge.

Naidu Consulting, Basic Assessment, WUA & ECO for Msunduzi River Road Bridge, South Africa. 2019 – 2020. Consultant & independent ECO for the construction phase of the Msunduzi River Road Bridge.

Emzansi Engineers, Basic Assessment, WUA & ECO for uMzimkhulu Pedestrian Bridge, South Africa. 2019 – 2020. Consultant and ECO lead for the construction phase of the uMzimkhulu Pedestrian Bridge.

DEC, Basic Assessment, WUA & ECO for uMkomaas Steel Bridge Rehabilitation, South Africa. 2019 – 2020. Consultant and ECO for the construction phase of the uMkomaas Steel Bridge Rehabilitation phase.

Naidu Consulting, Basic Assessment Upgrade and construction of 8 roads in DC22, WULAs ECO, South Africa. 2019 – 2020. Consultant and Auditor for 8 x district roads in DC22 within the PMB, KZN.

BVI, Basic Assessment for Douglas Water Supply Scheme, South Africa. 2019 – 2022. Consultant and Auditor responsible for environmental compliance and monthly auditing for the construction phase of the Douglas Water Supply scheme.



UNIVERSITY
OF
JOHANNESBURG

The Council and the Senate of the
UNIVERSITY OF JOHANNESBURG
hereby certify that the degree

MAGISTER SCIENTIAE

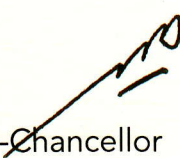
with field of study

Environmental Management

with all its associated rights and privileges
in accordance with the Statute of the
University has been conferred upon

ROBERT ARTHUR ROWLES

at a congregation of the University


Vice-Chancellor



Registrar

04 OCTOBER 2012
Johannesburg
ID 8409275061088



195095

**Environmental Assessment
Practitioners Association
of South Africa**



Registration No. 2022/5395

Herewith certifies that
ROBERT ARTHUR ROWLES
is registered as an
Environmental Assessment Practitioner

**Registered in accordance with the prescribed criteria of Regulation 15. (1)
of the Section 24H Registration Authority Regulations
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the
National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).**

Effective: 01 April 2026

Expires: 31 March 2027

Chairperson

Registrar



Appendix C

SPECIALIST SSVRS



Appendix C.1

AGRICULTURE SSVR





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Private Bag X16
CONSTANTIA, 7848

**SITE SENSITIVITY VERIFICATION
AND
AGRICULTURAL COMPLIANCE STATEMENT
FOR PROPOSED SASOL GAS TO POWER DEVELOPMENT
NEAR SECUNDA, MPUMALANGA.**

**Report by
Johann Lanz & David Lakey**

6 May 2026

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EXECUTIVE SUMMARY

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of future agricultural production potential.

Although there are soil (drainage) constraints on the site's agricultural production potential, its potential to practically deliver agricultural produce is primarily constrained by other factors. This is primarily because the site is located in an already built-up industrial area. The site, therefore, has absolutely no agricultural potential.

For these reasons, the site will never be viably utilised for agricultural production, and its potential is therefore assessed here as non-existent.

The screening tool classifies the assessed site as ranging from medium to high agricultural sensitivity and therefore classifies the overall site sensitivity, which is the highest sensitivity encountered across the site, as high. However, the site is not suitable for viable crop production and its true sensitivity, as assessed on the ground, is therefore low. This assessment therefore disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because of its assessed cropping potential.

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. Because the site has no current agricultural production potential due to the limitations of its location, the occupation of the site by the development cannot change its agricultural production potential. The development will therefore have zero agricultural impact and is therefore, assessed as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved.

1 INTRODUCTION

Environmental authorisation is being sought for the proposed Sasol Gas to Power facility near Secunda, Mpumalanga Province (see location in Figure 1). In terms of the National Environmental Management Act, 1998 (Act No 107 of 1998 - NEMA) (as amended), an application for environmental authorisation requires an agricultural assessment. In this situation, since the site has been confirmed to have low agricultural sensitivity (refer to Section 8), NEMA's agricultural protocol requires only an Agricultural Compliance Statement for assessment.

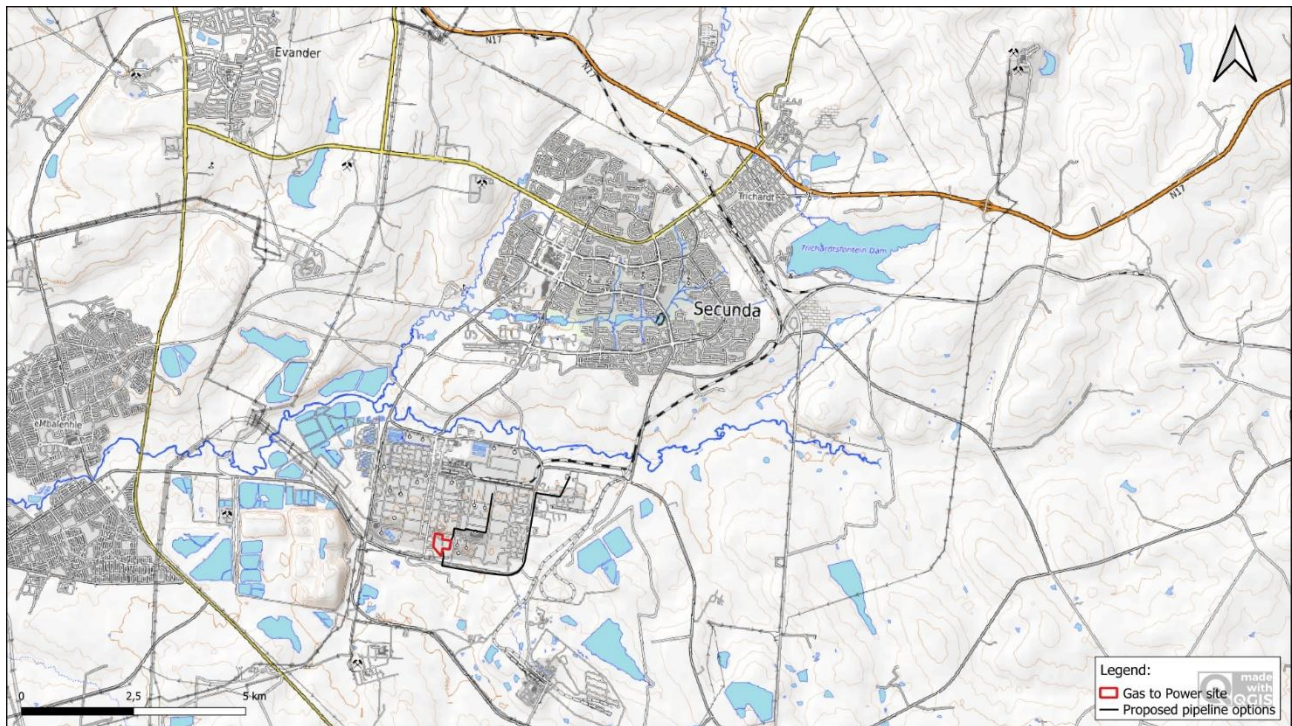


Figure 1. Locality map of the development boundary and pipeline options, southwest of Secunda

The purpose of an agricultural assessment is to answer the question:

Will the proposed development cause a significant reduction in future agricultural production potential and most importantly, will it result in a loss of arable land?

Section 9 of this report unpacks this question, particularly with respect to what constitutes a significant reduction. To answer the above question, it is necessary to determine the existing agricultural production potential of the land that will be impacted and specifically whether it is viable arable land or not. This is done in Section 7 of this report. Sections 7 and 9 of this report directly address the above question and therefore, contains the essence and most important part of the agricultural impact assessment.

2 PROJECT DESCRIPTION

The Secunda Gas to Power (GtP) project aims to generate electricity through LNG (methane rich gas being considered as back-up feed), with the objective to provide power to the national grid, supporting South Africa's growing energy needs.

The Inside Battery Limit (IBL) scope includes the main equipment for generating electricity, which will be proposed by the vendor.

The Outside Battery Limit (OBL) scope will focus on the external infrastructure and utilities required to support the Secunda Gas to Power project (integration into the Secunda facility). The electrical scope will cover the reconfiguration of the electrical network. The installation of transmission lines, along with the routing of high-voltage cables through existing servitudes, will also be considered.

In addition to the electrical work, the OBL scope will involve the installation and routing of various pipelines. These will include pipelines for LNG, Methane Rich Gas (MRG) and any required utilities such as cooling water, raw water, firewater, instrument air, and any effluent. Depending on the IBL requirements, raw water treatment will also be included to achieve the necessary water quality specifications.

The proposed project is within a built-up industrial area and therefore, has no agricultural potential.

3 TERMS OF REFERENCE

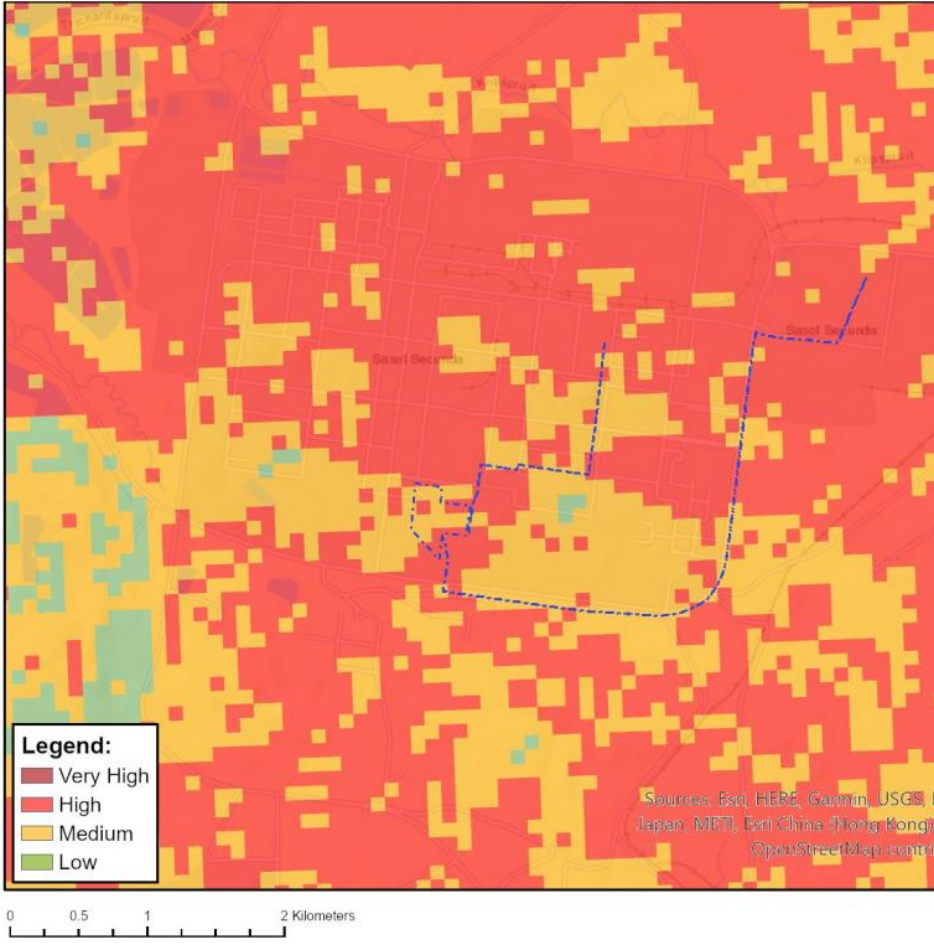
The terms of reference for this study are to fulfill the requirements of the *Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources*, gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) and (H) and 44 of NEMA, 1998).

The terms of reference for an Agricultural Compliance Statement, as copied exactly from the protocol, are listed in the table below, and included, is the place in this report where each is addressed.

Table 1: Reporting requirements as per NEMA's Agricultural Protocol

Numb er	Requirement	Where it is addressed
3.	Agricultural Compliance Statement	
3.1.	The compliance statement must be prepared by a soil scientist or agricultural	Appendix 3

	specialist registered with the SACNASP.	
3.2.	The compliance statement must:	
3.2.1.	be applicable to the preferred site and proposed development footprint;	Figure 2
3.2.2.	confirm that the site is of “low” or “medium” sensitivity for agriculture; and	Section 8
3.2.3.	indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site.	Section 9.1
3.3.	The compliance statement must contain, as a minimum, the following information:	
3.3.1.	contact details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the assessment including a curriculum vitae;	Appendix 1
3.3.2.	a signed statement of independence;	Appendix 2

3.3.3.	a map showing the proposed development footprint (including supporting infrastructure) with a 50m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool;	 <p>Figure 3</p>
3.3.4.	confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities;	Section 11.1
3.3.5.	a substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development and a	Section 12

	recommendation on the approval, or not, of the proposed development;	
3.3.6.	any conditions to which the statement is subjected;	Section 12
3.3.7.	in the case of a linear activity, confirmation from the agricultural specialist or soil scientist, that in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase;	Section 11.2
3.3.8.	where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr; and	None required
3.3.9.	a description of the assumptions made as well as any uncertainties or gaps in knowledge or data.	Section 5
3.4.	A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental	

	Impact Assessment Report.	
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4 METHODOLOGY OF STUDY

The assessment was based on a verification of the lack of current agricultural land use on the site and the location of the site within a non-agricultural area. No other information is relevant to assessing the agricultural production potential of the site because the location precludes viable agricultural production regardless of climate, soil, and terrain.

5 ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE OR DATA

There are no specific assumptions, uncertainties or gaps in knowledge or data that affect the findings of this study.

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

This section identifies all applicable agricultural legislation and permit requirements over and above what is required in terms of NEMA. The project should not require any agricultural approval because the property is not zoned for agricultural use.

7 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

The purpose of this section is firstly to present the baseline information that controls the agricultural production potential of the site and then, most importantly, to assess that potential. Agricultural production potential, and particularly cropping potential, is one of the four factors that determines the significance of an agricultural impact. The other three factors are magnitude of impact, size of footprint, and duration of impact. Cropping potential also directly determines the true agricultural sensitivity of the land and therefore informs the site sensitivity verification.

All the important parameters that control the agricultural production potential of the site are presented in Table 2. Soil data are provided in Appendix 4. A map of the development site is shown in Figure 2.

Table 2: Parameters that control and/or describe the agricultural production potential of the site.

	Parameter	Value
Clim	Köppen-Geiger climate description (Beck <i>et al</i> , 2018)	Temperate, dry winter, warm summer

	Parameter	Value
	Mean Annual Rainfall (mm) (Schulze, 2009)	650
	Reference Crop Evaporation Annual Total (mm) (Schulze, 2009)	1298
	Climate capability classification (out of 9) (DAFF, 2017)	5 (moderate)
Terrain	Terrain type	Flat plain
	Terrain morphological unit	Valley bottom
	Slope gradients (%)	0 to 10
	Altitude (m)	1600
	Terrain capability classification (out of 9) (DAFF, 2017)	6 (moderate-high) to 7 (high)
Soil	Geology (DAFF, 2002)	Dolerite; sandstone, grit and shale of the Eccca Group, Karoo Sequence.
	Land type (DAFF, 2002)	Ea17
	Description of the soils	Very shallow to deep, very heavy soils with underlying rock.
	Dominant soil forms	Arcadia, Rensburg
	Soil capability classification (out of 9) (DAFF, 2017)	4 (low-moderate) to 5 (moderate)
	Soil limitations	Drainage
Land use	Agricultural land use in the surrounding area	None
	Agricultural land use on the site	None
General	Long-term grazing capacity (ha/LSU) (DAFF, 2018)	5
	Land capability classification (out of 15) (DAFF, 2017)	7 (low-moderate) to 8 (moderate)
	Within Protected Agricultural Area (DALRRD, 2020)	No
	Within Renewable Energy Development Zone (REDZ)	No



Figure 2. Satellite image map of the development boundary and pipeline options.

7.1 Assessment of the agricultural production potential

This assessment of the agricultural production potential of the site is based on an integration of the information in the site parameters table above.

Although there are soil (drainage) constraints on the site's agricultural production potential, its potential to practically deliver agricultural produce is primarily constrained by other factors. This is primarily because the site is located in an already built-up industrial area. The site, therefore, has absolutely no agricultural potential.

For these reasons, the site will never be viably utilised for agricultural production, and its potential is therefore assessed here as non-existent.

8 SITE SENSITIVITY VERIFICATION

A specialist agricultural assessment is required to include a verification of the agricultural sensitivity of the development site as per the sensitivity categories used by the web-based environmental screening tool of the Department of Forestry, Fisheries and the Environment (DFFE). The screening tool's classification of sensitivity is merely an initial indication of what the sensitivity of a piece of land might be, as indicated by the only data that is available. What the screening tool attempts to

indicate is whether the land is suitable for crop production (high and very high sensitivity) or unsuitable for crop production (low and medium sensitivity). To do this, the screening tool uses three independent criteria, from three independent data sets, which are all indicators of suitability for crop production but are limited and were not designed for this purpose. The three criteria are:

1. Whether the land is classified as cropland or not on the field crop boundary data set (Crop Estimates Consortium, 2019). All classified cropland is, by definition, either high or very high sensitivity.
2. Its land capability rating as per the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). Land capability is defined as the combination of soil, climate and terrain suitability factors for supporting rain-fed agricultural production. The direct relationship between land capability rating, agricultural sensitivity and rain-fed cropping suitability is summarised by this author in Table 3 .
3. Whether the land is classified as a protected agricultural area (PAA)¹ or not (DALRRD, 2020). All classified PAAs are, by definition, either high or very high sensitivity.

The limitations for determining cropping suitability based on these data are as follows:

1. The field crop boundary data set used by the screening tool is very outdated.
2. Land capability mapping is fairly coarse, modelled data which is not accurate at site scale.
3. PAAs are demarcated broadly, not at a fine scale and there is therefore much variation of cropping suitability within a PAA. All land within these demarcated areas is not necessarily of sufficient agricultural potential to be suitable for crop production, due to finer scale terrain,

A PAA is a demarcated area in which the climate, terrain, and soil are generally conducive for agricultural production and which, historically, or in a regional context, has made important contributions to the production of the various crops that are grown across South Africa. Within PAAs, the protection of viable, arable land is considered a priority for the protection of food security in South Africa.

These three inputs operate independently and the screening tool's agricultural sensitivity is simply determined by whichever of these gives the highest sensitivity rating. The agricultural sensitivity of

the site, as classified by the screening tool, is shown in

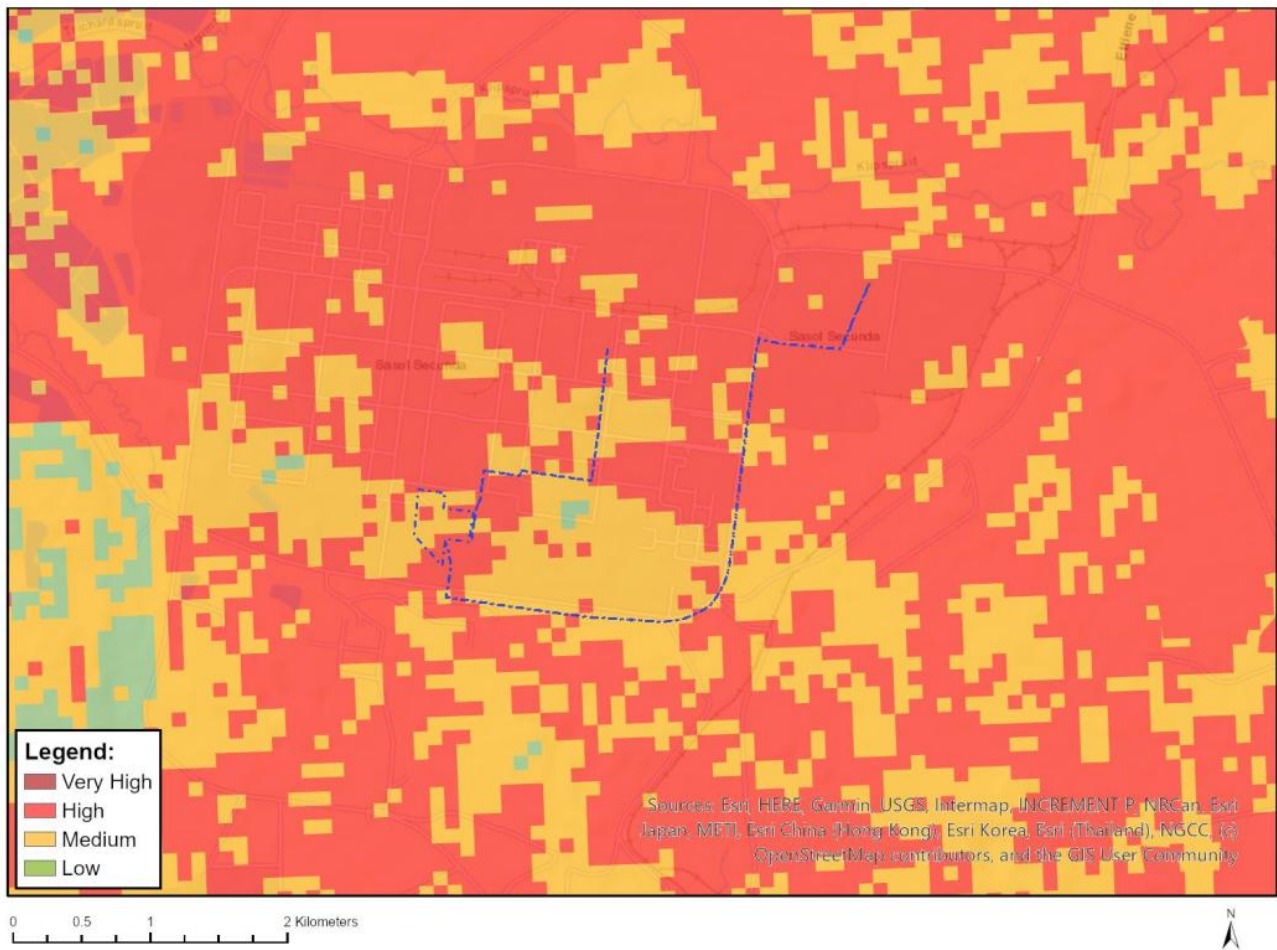


Figure 3. The site boundary and pipeline options overlaid on agricultural sensitivity, as given by the screening tool.

The true agricultural sensitivity of any land is equivalent to its actual suitability for crop production on the ground, rather than being determined by a parameter that serves as a proxy for crop suitability in a dataset. The land's suitability for cropping directly determines how important it is to conserve that land as agricultural production land. To determine suitability for crop production and hence sensitivity, requires a site-specific assessment, as has been conducted in this assessment, rather than a reliance on data sets that have significant limitations.

Table 3: Relationship between land capability, agricultural sensitivity, and rain-fed cropping suitability.

Land capability value	Agricultural sensitivity	Rain-fed cropping suitability	
		Summer rainfall areas	Winter rainfall areas
1 - 5	Low	Unsuitable	Unsuitable

6	Medium	Suitable	Suitable
7			
8	High		
9 - 10			
11 - 15	Very High		

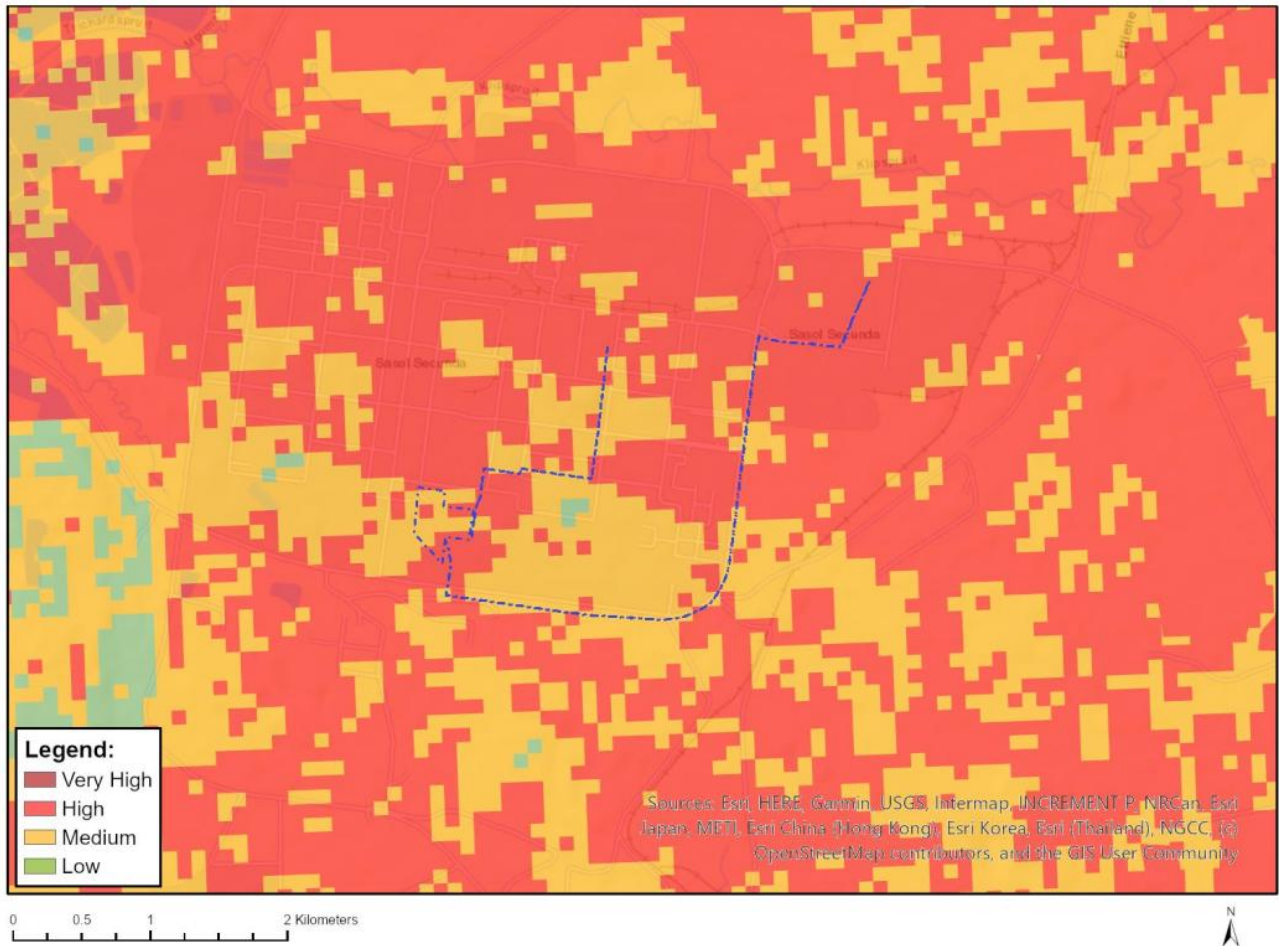


Figure 3. The site boundary and pipeline options overlaid on agricultural sensitivity, as given by the screening tool.

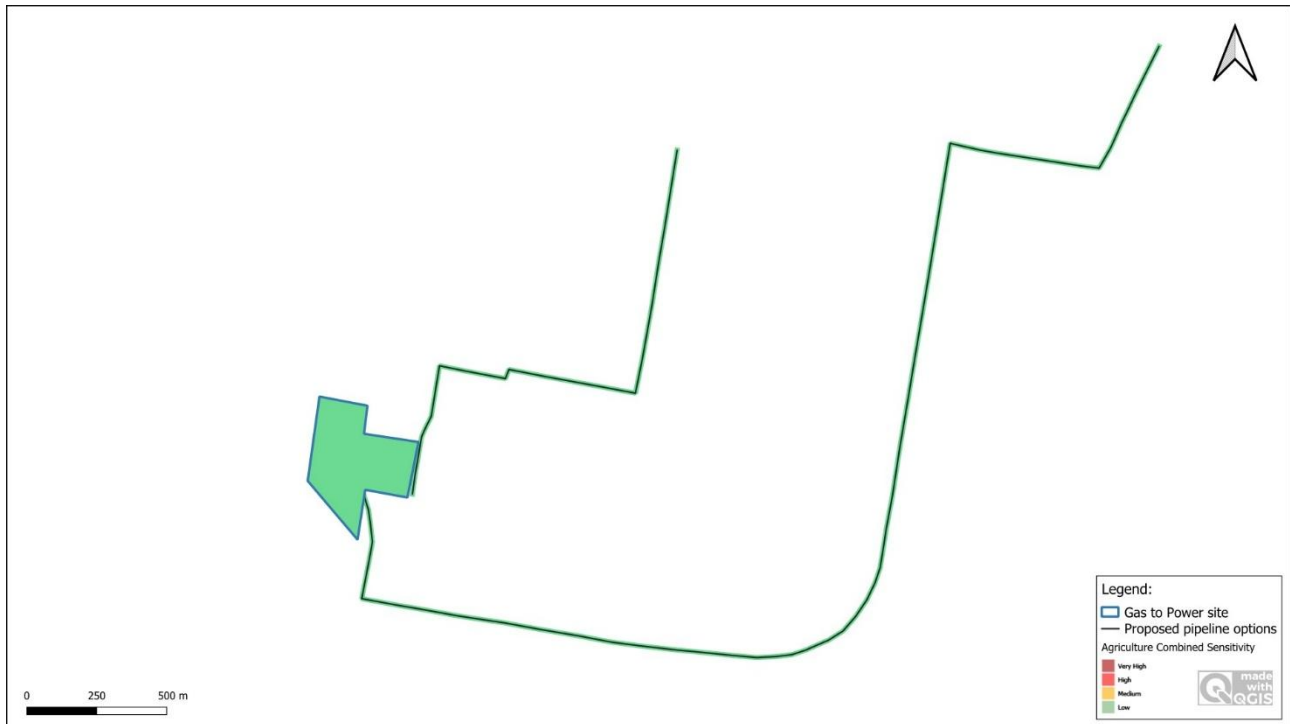


Figure 4. Agricultural sensitivity as verified by this assessment.

The screening tool classifies the assessed site as ranging from medium to high agricultural sensitivity and therefore classifies the overall site sensitivity, which is the highest sensitivity encountered across the site, as high. The high sensitivity classification by the screening tool is due to some land being classified as high sensitivity because of a classified land capability rating of 8 as per the table above. However, as shown in the previous section, the site is not suitable for viable crop production and its true sensitivity, as assessed on the ground, is therefore low. This assessment therefore disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because of its assessed cropping potential.

9 ASSESSMENT OF THE AGRICULTURAL IMPACT

9.1 Impact identification and assessment

It should be noted that an Agricultural Compliance Statement is not required to formally rate agricultural impacts by way of impact assessment tables.

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. Because the site has no current agricultural production potential due to the limitations of its location, the occupation of the

site by the development cannot change its agricultural production potential. The development will therefore have zero agricultural impact and is therefore assessed as acceptable.

9.2 Cumulative impact assessment

Specialist assessments for environmental authorisation are required to include an assessment of cumulative impacts. The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present, or reasonably foreseeable future activities that will affect the same environment. The potential cumulative agricultural impact of importance is a regional loss of future agricultural production potential.

Due to its lack of agricultural impact, the assessed development will not contribute to the cumulative impact. The cumulative agricultural impact of the proposed development is therefore assessed here as being of low significance and therefore as acceptable. The development will not have an unacceptable negative impact on the agricultural production capability of the area, and it is therefore recommended, from a cumulative agricultural impact perspective, that the development be approved.

9.3 Assessment of alternatives

Specialist assessments for environmental authorisation are required to include a comparative assessment of alternatives, including the no-go alternative. Because there is no agricultural potential within the assessed site, the exact positions of all proposed infrastructure within it will make absolutely no difference to agricultural impacts. Any alternative layouts within the same assessed site will have equal agricultural impact and are assessed as equally acceptable. Because of the insignificant agricultural impact of the proposed pipelines, there can be no material difference between the agricultural impacts of the proposed route alternatives. All have insignificant agricultural impact and are considered equally acceptable in terms of agricultural impact.

The no-go alternative considers impacts that will occur to the agricultural environment in the absence of the proposed development. There are no agricultural impacts of the no-go alternative. Even though the impacted land has insufficient agricultural production potential for cropping, and the impact of the development is low, its negative agricultural impact is marginally more significant than that of the no-go alternative, and so if assessed purely from an agricultural impact perspective, the no-go alternative is the preferred alternative. However, the no-go option would prevent the proposed development from contributing to the environmental, social, and economic benefits associated with the development of renewable energy in South Africa.

10 MITIGATION

The most important and effective mitigation of agricultural impacts for any development is avoidance of viable, potential cropland. This development has already applied this mitigation by selecting a site on which there is no viable, potential cropland.

No mitigation measures are required for the protection of agricultural production potential within the development because the entire site will be permanently excluded from agricultural land use.

11 ADDITIONAL ASPECTS REQUIRED IN AN AGRICULTURAL ASSESSMENT

11.1 Micro-siting

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. Because the site is not used for agriculture, micro-siting will make no material difference to agricultural impacts and disturbance.

11.2 Confirmation of linear activity exclusion

If linear infrastructure has been given exclusion from complying with certain requirements of the agricultural protocol because of its linear nature, the protocol requires confirmation that the land impacted by that linear infrastructure can be returned to the current state within two years of completion of the construction phase. No such exclusion applies to this project.

12 CONCLUSION: AGRICULTURAL COMPLIANCE STATEMENT

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of future agricultural production potential.

Although there are soil (drainage) constraints on the site's agricultural production potential, its potential to practically deliver agricultural produce is primarily constrained by other factors. This is primarily because the site is located in an already built-up industrial area. The site, therefore, has absolutely no agricultural potential.

For these reasons, the site will never be viably utilised for agricultural production, and its potential is therefore assessed here as non-existent.

The screening tool classifies the assessed site as ranging from medium to high agricultural sensitivity and therefore classifies the overall site sensitivity, which is the highest sensitivity encountered across

the site, as high. However, the site is not suitable for viable crop production and its true sensitivity, as assessed on the ground, is therefore low. This assessment therefore disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because of its assessed cropping potential.

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. Because the site has no current agricultural production potential due to the limitations of its location, the occupation of the site by the development cannot change its agricultural production potential. The development will therefore have zero agricultural impact and is therefore, assessed as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved. The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.

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APPENDIX 1: SPECIALIST CURRICULUM VITAE

Johann Lanz Curriculum Vitae

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting Self employed 2002 - present

Within the past 5 years of running my soil and agricultural consulting business, I have completed more than 170 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, electrical grid infrastructure, urban, and agricultural developments. I was the appointed agricultural specialist for the nation-wide SEAs for wind and solar PV developments, electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; Arcus; SRK; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Recent agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives. In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant Agricultural Consultants International (Tinie du Preez) 1998 - 2001

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist De Beers Namaqualand Mines July 1997 - Jan 1998

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine*.

I am a reviewing scientist for the *South African Journal of Plant and Soil*.



forestry, fisheries & the environment

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APPENDIX 2: SPECIALIST DECLARATION FORM AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE: AGRICULTURAL COMPLIANCE STATEMENT FOR PROPOSED SASOL GAS TO POWER DEVELOPMENT NEAR SECUNDA, MPUMALANGA.

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.dffe.gov.za/documents/forms>.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with '*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020*', where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Agricultural Assessment
Specialist Company Name	SoilZA (sole proprietor)
Specialist Name	Johann Lanz
Specialist Identity Number	6607045174089
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)
Professional affiliation/registration:	Registered Professional Natural Scientist (Pr.Sci.Nat.) Reg. no. 400268/12 Member of the Soil Science Society of South Africa
Physical address:	2 Roeland Terrace, CAPE TOWN, 8001
Postal address:	Postnet Suite #500, Private Bag X16, CONSTANTIA, 7848
Telephone	Not applicable
Cell phone	+27 82 927 9018
E-mail	johann@soilza.co.za

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz** declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”) and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing –
 - any decision to be taken with respect to the application by the competent authority; and;
 - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.



Signature of the Specialist

SoilZA (sole proprietor)

Name of Company:

28 March 2026

Date

SPECIALIST DECLARATION FORM – AUGUST 2023

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Johann Lanz**, swear under oath that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

SoilZA – sole proprietor

Name of Company

Date

Signature of the Commissioner of Oaths

Date

SUID-AFRIKAANSE POLISIEDIENS
HOUT BAY
28 MAR 2026
COMMUNITY SERVICE
SOUTH AFRICAN POLICE DEPARTMENT



herewith certifies that

Johan Lanz

Registration Number: 400268/12

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)

in the following field(s) of practice (Schedule 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective **15 August 2012**

Expires **31 March 2027**



President of Council

Chief Executive Officer



APPENDIX 4: Land type soil data

Table 4: Land type soil data

Land type	Soil series (forms)	Depth (mm)	Clay % A horizon	Clay % B horizon	Depth limiting layer	% of land type
Ea17	Ar	300 - 900	45 - 70		so	57,3
Ea17	Rg	600 - 1000	45 - 70		gc	15,5
Ea17	Va	300 - 450	25 - 35	40 - 60	gc,vp	7,0
Ea17	Sw	200 - 450	25 - 35	40 - 60	lc	5,5
Ea17	Mw, My	150 - 500	30 - 50	20 - 30	so,R	4,5
Ea17	Bo	900 > 1200	35 - 50	35 - 50	gc,so	3,3
Ea17	R					1,5
Ea17	Ms, Gs	100 - 250	20 - 30		R,so	1,5
Ea17	We	300 - 450	25 - 30	40 - 50	sp	1,5
Ea17	Av	500 - 900	25 - 30	30 - 40	sp	1,5
Ea17	S					1,0

Appendix C.2

**TERRESTRIAL BIODIVERSITY SSVR
(INCLUDING PLANT AND ANIMAL
SPECIES THEMES)**





Sasol South Africa Pty Ltd

TERRESTRIAL BIODIVERSITY (INCL. ANIMAL AND PLANT SPECIES THEMES) SCOPING REPORT

Sasol Gas-to-Power Facility





Sasol South Africa Pty Ltd

TERRESTRIAL BIODIVERSITY (INCL. ANIMAL AND PLANT SPECIES THEMES) SCOPING REPORT

Sasol Gas-to-Power Facility

DRAFT SCOPING REPORT: CONFIDENTIAL

PROJECT NO. WSP-ZA0068671.2768

DATE: JULY 2026

WSP

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LIST OF ABBREVIATION

Abbreviation	Full name
CBA	Critical Biodiversity Area
DFFE	Department of Forestry, Fisheries and the Environment
DWS	Department of Water and Sanitation
EMPr	Environmental Management Programme
ESA	Ecological Support Area
IBL	Inside Battery Limit
IBA	Important Bird Areas
IHI	Index for Habitat Integrity
IUCN	International Union for Conservation of Nature
LNG	Liquefied Natural Gas
KBA	Key Biodiversity Areas
MBSP	Mpumalanga Biodiversity Sector Plan
MRG	Methane Rich Gas
NEM:BA	National Environmental Management: Biodiversity Act
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecological Priority Areas
OBL	Outside Battery Limit
ONA	Other Natural Areas
PA	Protected Areas
SABAP	Southern African Bird Atlas Project
SANBI	South African National Biodiversity Institute
SASS5	South African Scoring System version 5
SCC	Species of Conservation Concern
SSV	Site Sensitivity Verification
ToPS	Threatened or Protected Species
VU	Vulnerable
WSP	WSP Group Africa

DETAILS OF SPECIALISTS

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SPECIALIST DECLARATION

DECLARATION OF INDEPENDENCE BY SPECIALIST

I, Mandlenkosi Nkala, declare that I –

- Act as the independent specialist in this application;
- Do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed;
- Do not have nor will have a vested interest in the proposed activity proceeding;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity; and undertake to disclose, to the competent authority, any information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document.

DECLARATION OF INDEPENDENCE BY SPECIALIST

I, Sandhya Moodley, declare that I –

- Act as the independent specialist in this application;
- Do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed;
- Do not have nor will have a vested interest in the proposed activity proceeding;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity; and undertake to disclose, to the competent authority, any information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document.

DECLARATION OF INDEPENDENCE BY SPECIALIST

I, Rudolph Greffrath, declare that I –

- Act as the independent specialist in this application;
- Do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed;
- Do not have nor will have a vested interest in the proposed activity proceeding;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity; and undertake to disclose, to the competent authority, any information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document.

1 INTRODUCTION

WSP Group Africa (WSP) has been appointed by Sasol South Africa Pty Ltd to undertake the required specialist assessments in support of the scoping, baseline and impact assessment phases of the environmental regulatory process for the proposed Gas-to-Power Facility. The proposed project is located at the Sasol Secunda Operations in Mpumalanga, South Africa.

1.1 PURPOSE OF THE REPORT

This report presents the baseline terrestrial biodiversity of the study area, with specific consideration of the terrestrial biodiversity, animal species and plant species environmental themes. The report further documents the findings of the Site Sensitivity Verification (SSV) undertaken to verify the environmental sensitivities identified by the National Web-Based Environmental Screening Tool and to assess the potential impacts associated with the proposed development on the receiving terrestrial environment.

The assessment has been undertaken in accordance with the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity (Government Notice No. 320, Government Gazette No. 43110 of 20 March 2020) and the Protocols for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Animal Species and Plant Species (Government Notice No. 1150, Government Gazette No. 43855 of 30 October 2020), promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

The findings of this assessment will inform the Scoping and Environmental Impact Assessment process and will be submitted in support of the application for Environmental Authorisation in accordance with the Environmental Impact Assessment Regulations, 2014 (as amended).

1.2 PROJECT LOCATION AND EXTENT

This proposed project footprint for the Secunda Gas to Power facility is located at the Sasol Secunda Operations in the Govan Mbeki Municipality, within the Gert Sibande District Municipality, in the Mpumalanga province, South Africa (Figure 1-1).

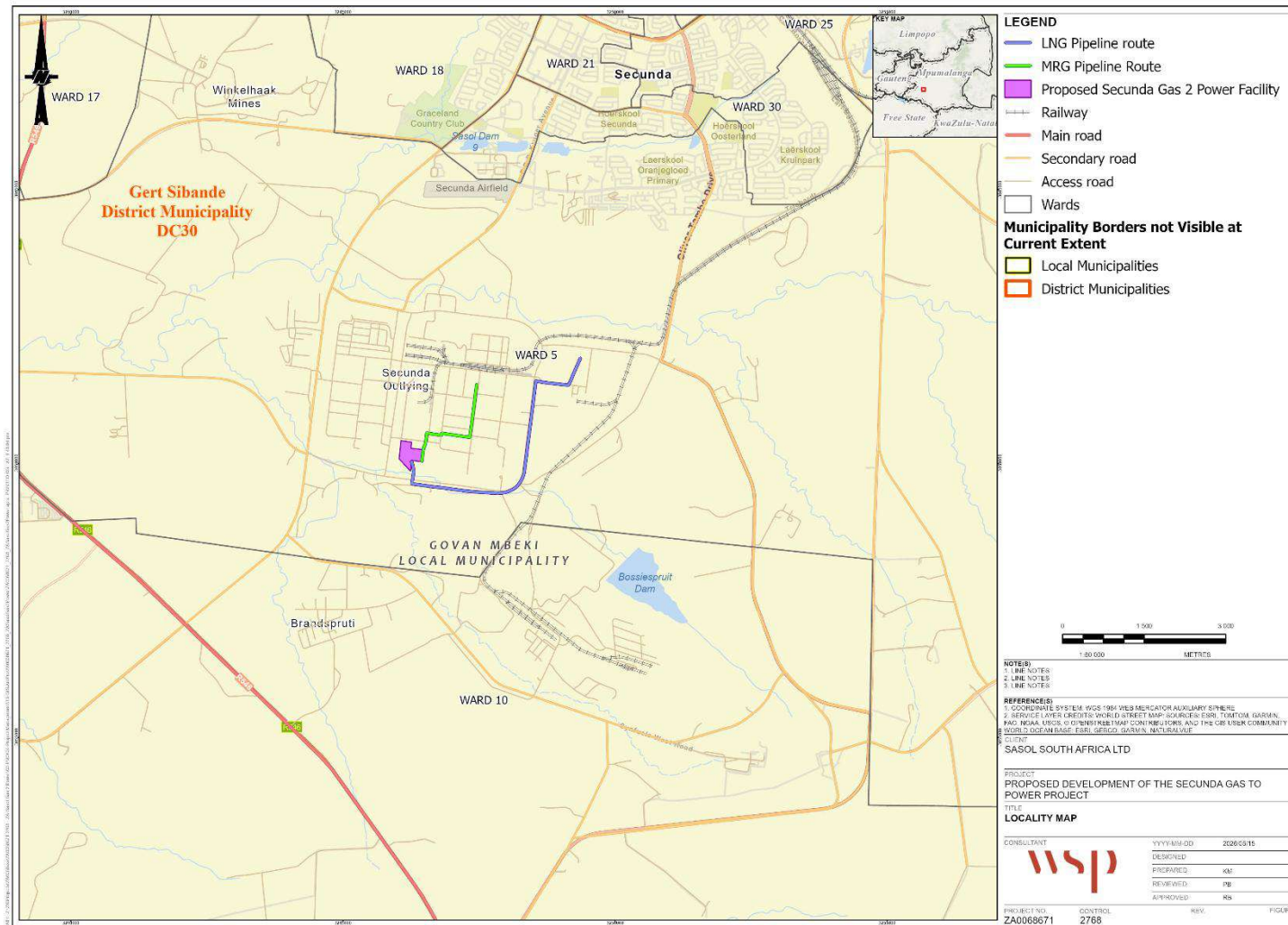


Figure 1-1 - Project locality and layout

1.3 PROJECT DESCRIPTION

The Secunda Gas-to-Power project aims to generate electricity through Liquefied Natural Gas (LNG) (methane rich gas being considered as back-up feed), with the objective to provide power to the national grid, supporting South Africa's growing energy needs.

The Inside Battery Limit (IBL) scope includes the main equipment for generating electricity, which will be proposed by the vendor. The Outside Battery Limit (OBL) scope will focus on the external infrastructure and utilities required to support the Secunda Gas to Power Project (integration into the Secunda facility). The electrical scope will cover the reconfiguration of the electrical network. The installation of transmission lines, along with the routing of high-voltage cables through existing servitudes, will also be considered.

In addition to the electrical work, the OBL scope will involve the installation and routing of various pipelines. These will include pipelines for LNG, Methane Rich Gas (MRG) and any required utilities such as cooling water, raw water, firewater, instrument air, and any effluent. Depending on the IBL requirements, raw water treatment will also be included to achieve the necessary water quality specifications.

An overview of the proposed Gas-to-Power facility configuration is provided in Figure 1-2 below. Currently two configurations are being evaluated, open cycle gas turbines indicated in blue and combined cycle gas turbines indicated in blue, yellow and red.

Figure 1-2 illustrates the possible pipe routings of the LNG from the pressure protection station to the brownfield plot as proposed by the Gas Infrastructure team. There are two routings being considered: one through the primary area and the other in the secondary area around the south eastern side of the factory. The final pipe routing will be selected as the project develops.

The MRG routing for the east and west identified during the screening activities is also shown in Figure 1-2. The pipe routing is from Gas Circuit to the brownfield site and runs through the primary area. This proposed pipe routing might change if an alternate routing is identified. Both east and west MRG pipe routings still need to be confirmed.

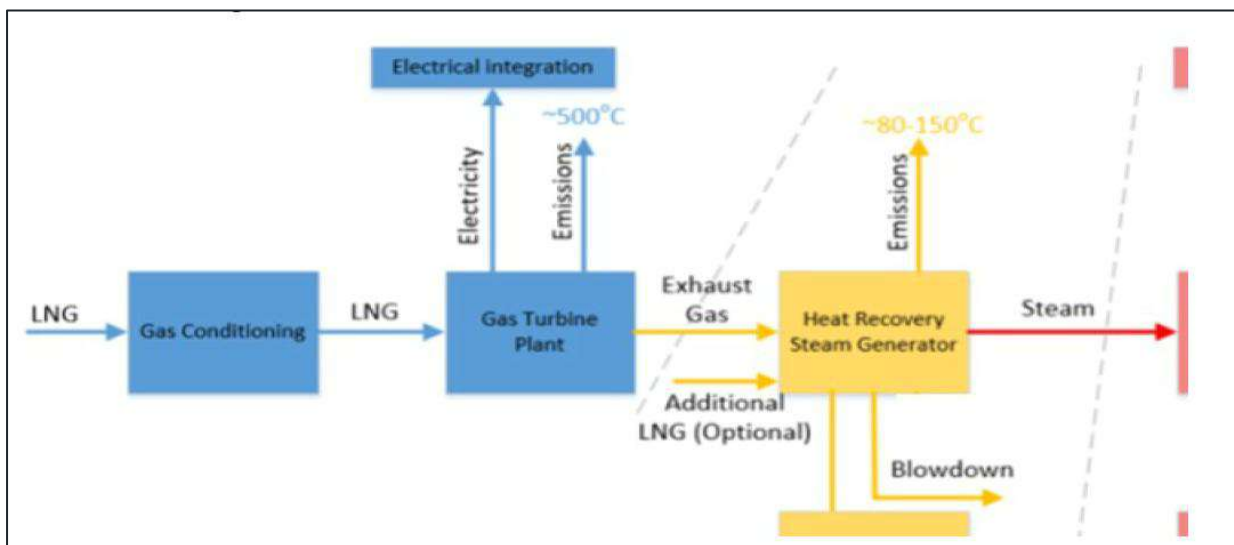


Figure 1-2 - Overview of the Gas to Power facility

2 APPLICABLE LEGISLATION, POLICY AND STANDARDS

This terrestrial biodiversity scoping report, inclusive of animal and plant species themes was undertaken with due consideration of the requirements of applicable national and provincial legislation and associated regulations (see Table 2-1).

Table 2-1 - Relevant environmental and biodiversity legislation and guidelines.

Applicable Legislation and Guideline	Relevance to the Proposed Project
National Environmental Management Act, 1998 (Act No 107 of 1998) – NEMA	<p>Section 24 of the NEMA, headed “Environmental Authorisations” sets out the provisions which are to give effect to the general objectives of Integrated Environmental Management, and laid down in Chapter 5 of the NEMA. In terms of section 24(1), the potential impact on the environment of listed activities must be considered, investigated, assessed and reported on to the competent authority charged by the NEMA with granting of the relevant environmental authorisation. In terms of section 24F (1) of the NEMA no person may commence an activity listed or specified in terms of section 24(2)(a) or (b) unless the competent authority has granted an environmental authorisation for the activity.</p> <p>Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA (1998), when applying for environmental authorisation, the following is relevant to this study:</p> <ul style="list-style-type: none"> ■ Protocol for the specialist assessment and report content requirements for environmental impacts on terrestrial biodiversity. ■ Protocol for the specialist assessment and report content requirements for environmental impacts on terrestrial animal species. and ■ Protocol for the specialist assessment and report content requirements for environmental impacts on terrestrial plant species.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	<p>The NEMBA is administered by the Department of Forestry, Fisheries and the Environment (DFFE) and provides the framework under the NEMA for the:</p> <ul style="list-style-type: none"> ■ Management and conservation of South Africa's biodiversity; ■ The protection of species and ecosystems that warrant protection; ■ The fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; and ■ The establishment and functions of a South African National Biodiversity Institute (SANBI). <p>Amongst other components, the NEMBA includes:</p> <ul style="list-style-type: none"> ■ Lists of Critically Endangered, Endangered, Vulnerable and Protected Species (February 2007), with associated amendments (December 2007 and 3 June 2020) (ToPS), published under Section 56(10 of NEMBA; ■ Threatened or Protected Species Regulations (February 2007); ■ National list of threatened terrestrial ecosystems for South Africa (2011, and 2021 revision), published under Section 51(1)(a) of NEMBA; and ■ National Biodiversity Offset Guideline (2023), which provides guidance on the need to develop biodiversity offsets. <p>The purpose of ToPS lists and regulations are to regulate the permit system concerning restricted activities involving specimens of listed threatened or protected species. The primary purpose of listing threatened ecosystems is to</p>

	<p>reduce the rate of ecosystem and species extinction by identifying ‘witness’ sites’ of exceptionally high conservation value and enabling and facilitating proactive management of these ecosystems.</p> <p>Chapter 5 of NEMBA also provides a list of regulations and guidance concerning alien invasive species, including:</p> <ul style="list-style-type: none"> ■ A guideline for Monitoring, Control and Eradication Plans (September 2015); ■ 2020 Alien and Invasive Species Regulations (September 2020); and ■ 2016 and 2020 Alien and Invasive Species Lists (March 2021).
Mpumalanga Nature Conservation Act (Act No. 10 of 1998)	<p>Amongst other provisions, the Mpumalanga Nature Conservation Act (Act No. 10 of 1998) provides lists of specially protected and protected flora and fauna. Of particular relevance to this specialist study are species of flora that are listed under:</p> <ul style="list-style-type: none"> ■ Schedule 11 and 12: Protected and Specialist Protected Plants.
Other Relevant national and Provincial Policies, Plans and Guidelines	<p>Other relevant policies, plans and guidelines that were considered during this study include:</p> <ul style="list-style-type: none"> ■ Mpumalanga Biodiversity Sector Plan; ■ National Biodiversity Offset Policy (2017); ■ National Protected Area Expansion Strategy (2016); and ■ Species Environmental Assessment Guideline (SANBI, 2020).

3 ENVIRONMENTAL SCREENING TOOL

The study area was assessed at a desktop level using the National Web-based Environmental Screening Tool. According to the Screening Tool, the terrestrial biodiversity sensitivity theme of the study area is classified as 'Very High', while the animal and plant species themes are classified as 'Medium' sensitivity. The features triggering these sensitivities are discussed in the section that follows.

3.1 TERRESTRIAL BIODIVERSITY SCREENING TOOL

According to the screening tool, the terrestrial biodiversity theme for the study area is rated as 'Very High' sensitivity (see Figure 3-1), due to the study area being located within Soweto Highveld Grassland vegetation (Vulnerable - VU).



Figure 3-1 – Terrestrial biodiversity sensitivity theme ascribed by the DFFE screening tool.

3.2 ANIMAL SPECIES THEME

According to the screening tool, the animal species theme for the study area is rated as 'Medium' sensitivity (see Figure 3-2), due to the potential overlap with the following animal SCC: *Hydroprogne caspia* – VU (Caspian tern), *Crocidura maquassiensis* – VU (Makwassie musk shrew) and *Lepidochrysops procera* (Grassveld Nimble Blue), which is a rare habitat specialist.

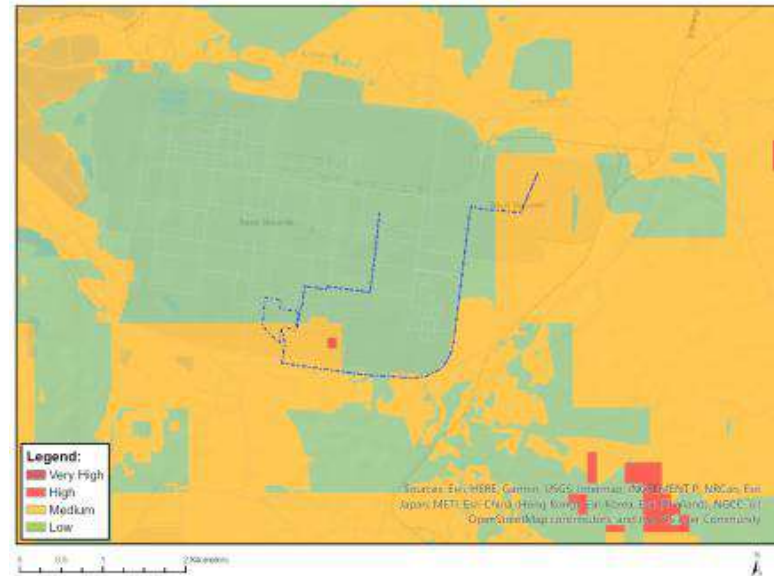


Figure 3-2 – Animal sensitivity theme ascribed by the DFFE screening tool.

3.3 PLANT SPECIES THEME

According to the screening tool, the plant species theme for the study area is rated as ‘Medium’ sensitivity (see Figure 3-3), due to the potential occurrence of the following SCC plant species: Sensitive species 691 - VU, Sensitive species 1252 - VU and *Pachycarpus suaveolens* – VU (Sweet-Scented Pachycarpus).

It should be noted that species that are susceptible to overexploitation have been redacted and referred to by their assigned ‘sensitive species’ number per the species assessment guidelines (SANBI, 2020).

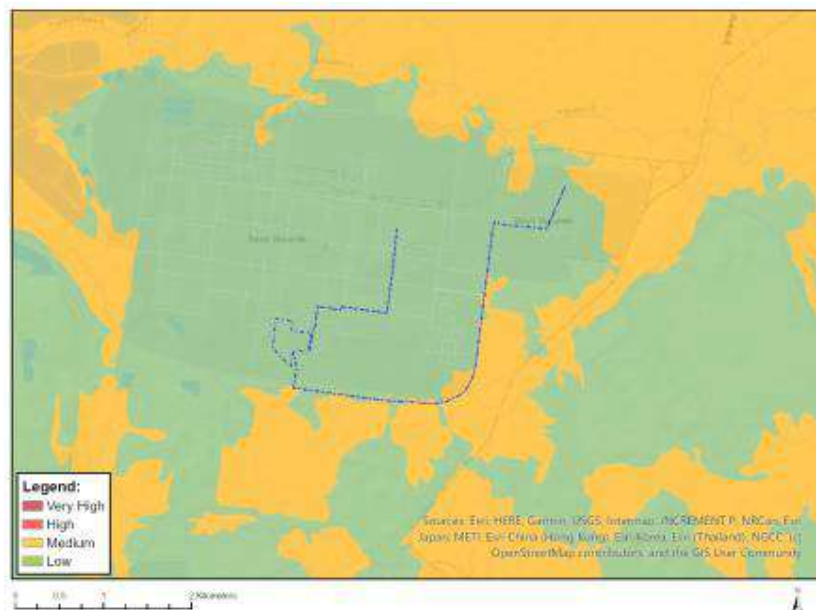


Figure 3-3 - Plant sensitivity theme ascribed by the DFFE screening tool.

4 METHODOLOGY

This assessment was undertaken in accordance with the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity (Government Notice No. 320, Government Gazette No. 43110 of 20 March 2020) and the Protocols for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Animal Species and Plant Species (Government Notice No. 1150, Government Gazette No. 43855 of 30 October 2020). These protocols prescribe the requirements for Site Sensitivity Verification (SSV), specialist assessment methodologies and minimum reporting requirements applicable to the terrestrial biodiversity, animal species and plant species themes.

To establish a robust understanding of the terrestrial biodiversity, animal species and plant species sensitivities associated with the study area, the assessment incorporated a desktop review and field-based site verification. The desktop assessment included a review of available biodiversity datasets, conservation planning information, relevant literature, historical aerial imagery, and previous specialist studies undertaken within the study area and surrounding region. These sources were used to identify potentially sensitive biodiversity features, ecological support areas, habitat types, SCC and other ecological constraints that may be relevant to the proposed project.

The field verification survey was undertaken to confirm the environmental sensitivities identified through the desktop assessment and the National Web-Based Environmental Screening Tool. The survey focused on the assessment of habitat availability and condition, verification of vegetation communities and ecological features present within the study area, identification of faunal habitat and evidence of animal utilisation where observed, evaluation of habitat suitability for SCC and documentation of existing disturbances and land use practices that may influence biodiversity sensitivity.

The findings of the desktop assessment and field verification were integrated to verify the environmental sensitivities associated with the terrestrial biodiversity, animal species and plant species themes, inform the baseline characterisation of the receiving environment, and identify potential biodiversity-related constraints requiring further consideration during the Environmental Impact Assessment (EIA) phase. Where necessary, recommendations are provided regarding additional specialist investigations that may be required during the EIA phase to address identified information gaps and confirm the occurrence of species or habitats of conservation significance.

The specific tasks undertaken as part of the desktop assessment and field verification are described in the sections that follow.

4.1 STUDY AREA

For the purposes of this assessment, the study area comprises the proposed development footprint and the surrounding area of influence within which direct, indirect and cumulative effects associated with the proposed development may occur. While the mapped development footprint formed the primary focus of the assessment (Figure 1-1), the desktop review and field verification also considered the adjacent terrestrial environment and surrounding habitats to provide appropriate ecological context and to identify biodiversity features that may influence or be influenced by the proposed development.

No discrete buffer was applied to the study area mapping during the Scoping Phase. However, the assessment was not restricted solely to the development footprint, and consideration was given to the

broader receiving environment where relevant to the identification and verification of terrestrial biodiversity, animal species and plant species sensitivities, ecological connectivity, habitat availability, and potential impact pathways associated with the proposed development.

This approach is considered appropriate for the Scoping Phase and allows for the identification of biodiversity constraints within both the development footprint and the broader area of ecological influence.

4.2 DESKTOP STUDY

In line with the assessment and reporting requirements prescribed by the relevant biodiversity assessment protocols, this terrestrial biodiversity assessment, including the animal species and plant species themes, incorporated a comprehensive desktop review to support the SSV process and the development of a baseline understanding of the terrestrial receiving environment. The desktop assessment focused on the proposed development footprint and the surrounding area of influence to ensure that biodiversity features, ecological processes, habitat connectivity, and other environmental constraints relevant to the proposed development were adequately considered.

The objective of the desktop review was to collate, analyse, and interpret available ecological information relating to terrestrial ecosystems, vegetation communities, biodiversity priority areas, SCC, and ecological support features that may occur within or adjacent to the study area. Information obtained through the desktop review was subsequently verified, where applicable, during the field-based component of the assessment.

The following datasets and information sources were reviewed and analysed to identify sensitive terrestrial biodiversity features, biodiversity priority areas, vegetation types, ecological corridors, habitat availability, and associated conservation statuses relevant to the study area:

- National vegetation types and their conservation status were obtained from the National Vegetation Map of South Africa, Lesotho and Swaziland (Mucina & Rutherford, 2006; 2018 update).
- The conservation status and distribution of plant Species of Conservation Concern were obtained from the Threatened Species Programme and the Red List of South African Plants Online (SANBI, 2020).
- The conservation status and distribution of fauna Species of Conservation Concern were obtained from the IUCN Red List of Threatened Species, the Red Data Book of the Mammals of South Africa, Swaziland and Lesotho, the South African Reptile Conservation Assessment (SARCA), the Southern African Frog Re-assessment Group (SA-FRoG) database, and relevant avifaunal conservation databases where applicable.
- The Mpumalanga Biodiversity Sector Plan (MBSP) (2024) was reviewed to identify Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), biodiversity priority areas, ecological corridors, and associated land-use planning guidelines applicable to the study area and surrounding landscape.
- Available protected area datasets, Key Biodiversity Areas (KBAs), National Freshwater Ecosystem Priority Area (NFEPA) products, and other relevant biodiversity planning layers were reviewed to provide broader ecological context and identify biodiversity features of conservation importance within the study area and surrounding area of influence.
- Historical aerial photography, satellite imagery, topographical mapping, and available specialist studies relevant to the study area and surrounding region were reviewed to assess current land use, habitat condition, habitat connectivity, and existing sources of disturbance.

4.3 FIELD STUDY

4.3.1 SURVEY PERIOD

A field survey of the study area and area of influence was conducted on 24 April 2026 over an eight-hour period. Both proposed gas pipeline route options (the LNG and MRG pipeline routes), as well as the proposed facility footprint, were assessed. The survey was conducted during the late wet season, when vegetation cover and species detectability were generally favourable, thereby supporting the verification of vegetation communities, habitat characteristics, and the identification of plant species present within the study area.

4.3.2 SURVEY METHODOLOGY

A terrestrial ecologist undertook a systematic field survey of the study area using a combination of pedestrian transects and vehicle-based traverses to ensure representative coverage of the study area and surrounding area of influence. The survey focused on verifying the environmental sensitivities identified during the desktop assessment and by the National Web-Based Environmental Screening Tool, as well as characterising the terrestrial habitats, vegetation communities and ecological features present.

The field assessment included the evaluation of habitat condition and integrity, assessment of habitat suitability for SCC and documentation of ecological features that may influence the sensitivity of the receiving environment. Particular attention was given to natural and semi-natural habitats, areas of elevated biodiversity value, habitat connectivity and other ecological attributes that may represent biodiversity constraints to the proposed development.

Observations of faunal activity, including direct sightings, tracks, scats, burrows, nests and other signs of animal utilisation, were recorded opportunistically where encountered. The assessment further considered the availability and suitability of habitats that may support SCC or provincially protected species known or expected to occur within the broader region based on existing biodiversity records and habitat preferences.

Field observations were integrated with the findings of the desktop assessment to verify environmental sensitivities, characterise the baseline terrestrial environment and identify biodiversity-related constraints and considerations requiring further assessment during the Environmental Impact Assessment (EIA) phase.

4.4 SCREENING OF IMPACTS AND MITIGATION

In accordance with Appendix 2 of the Environmental Impact Assessment Regulations, potential terrestrial biodiversity, animal species and plant species impacts associated with the proposed development were identified and considered during the Scoping Phase. The findings of the SSV informed the identification of potential biodiversity constraints and the development of high-level management recommendations. Detailed impact assessment and significance rating, where required, should be undertaken during the Environmental Impact Assessment phase.

4.5 STUDY LIMITATIONS AND ASSUMPTIONS

The following limitations and assumptions are applicable to this assessment:

- This Scoping Phase assessment is based on a review of available biodiversity datasets, published literature, conservation planning products, available aerial imagery, and previous ecological studies

relevant to the study area and surrounding region, supplemented by a single field survey undertaken on 24 April 2026.

- The assessment was undertaken during a single survey event and therefore provides a temporal snapshot of environmental conditions present within the study area at the time of the survey. Species composition, habitat condition, and ecological processes may vary seasonally and inter-annually in response to climatic conditions and natural ecological dynamics.
- The primary objective of the field survey was to verify environmental sensitivities, characterise habitats and ecological features, and assess habitat suitability for SCC. The survey was not intended to constitute a comprehensive species inventory or dedicated species-specific survey for all faunal and floral taxa that may occur within the study area.
- The absence of a species during the survey should not be interpreted as confirmation that the species is absent from the study area. Certain species may remain undetected due to seasonal variability, life-history characteristics, low population densities, cryptic behaviour, restricted activity periods, or temporary absence from suitable habitat at the time of survey.

5 BASELINE TERRESTRIAL ENVIRONMENT

This section summarises the terrestrial biodiversity sensitivities identified as part of the desktop assessment process.

5.1 REGIONAL SETTING

The study area is situated within the Grassland Biome, which occupies approximately 28% of South Africa's land surface and represents the dominant biome across the central plateau and inland portions of the eastern subcontinent (Mucina & Rutherford, 2006). The biome is associated with summer rainfall conditions and is characterised by vegetation communities dominated by perennial grasses and herbaceous species, with woody vegetation generally confined to drainage lines, rocky outcrops, and other protected habitats.

At a finer bioregional scale, the study area falls within the Mesic Highveld Grassland Bioregion, which is characterised by moderate to high summer rainfall, cold dry winters, and productive grassland systems dominated by sourveld grass species. Historically, these ecosystems supported extensive natural grassland communities maintained through ecological processes such as fire and grazing. Fire remains a key ecological driver within the region, contributing to the maintenance of grassland structure, nutrient cycling, species diversity, and the suppression of woody encroachment (SANBI, 2016).

The broader region surrounding Secunda has undergone substantial landscape transformation as a result of agricultural activities, urban expansion, mining, energy generation, petrochemical industries, transportation infrastructure, and associated support services. Consequently, large portions of the natural grassland landscape have been fragmented and modified, resulting in a mosaic of transformed land interspersed with remnant areas of natural and semi-natural habitat. Despite these historical and ongoing land use pressures, remaining grassland habitats continue to provide important ecological functions, including habitat for SCC, ecological connectivity between biodiversity priority areas, and the maintenance of ecosystem processes at a regional scale.

Within this regional context, biodiversity sensitivities are often associated with remnant natural grassland habitat, drainage features, wetlands, ecological corridors, and other relatively undisturbed habitat patches that persist within the transformed landscape. These features frequently represent important refugia for indigenous flora and fauna and therefore warrant consideration during the planning and assessment of new infrastructure developments.

5.1.1 TERRESTRIAL CRITICAL BIODIVERSITY AREAS (CBAS) AND ECOLOGICAL SUPPORT AREAS (ESAS)

The study area was compared to relevant available spatial biodiversity planning datasets, i.e. the Mpumalanga Biodiversity Sector Plan (MBSP) to assess the local and regional biodiversity context.

The MBSP defines five categories of conservation focus: Protected areas, Critical Biodiversity Areas (CBA), Ecological Support Areas (ESA), Other Natural Areas (ONA), and modified habitats. Definitions for each of these categories are listed below.

- **Protected Areas:** protected areas recognised in terms of the National Environmental Management Protected Areas Act, No. 57 of 2003, that are currently considered to meet biodiversity targets in the MBSP.

- **Critical Biodiversity Area:** areas (outside of Protected Areas) that are required to meet biodiversity targets for biodiversity pattern (species and ecosystems) and ecological processes. They should remain in a natural state that is maintained in good ecological condition.
- **Ecological Support Area:** play an important role in supporting the ecological functioning of critical biodiversity areas or for generating or delivering important ecosystem services. They support landscape connectivity and resilience to climate change adaptation. They need to be maintained in at least an ecologically functional state.
- **Other Natural Areas:** often retain much of their natural character and may contribute significantly to maintenance of viable species populations and natural ecosystem functioning and may provide important ecological infrastructure and ecosystem services. They are not, however, prioritized for immediate conservation action in the MBSP.
- **Modified:** often referred to as transformed, these areas have lost a significant proportion (or all) of their natural biodiversity and in which ecological processes have broken down (in some cases irretrievably), as a result of biodiversity-incompatible land-use practices such as ploughing, hardening of surfaces, mining, cultivation and the construction of houses or other built infrastructure.

At a desktop level, the study area does not intersect with CBAs or ESAs based on the MBSP. However, the LNG Pipeline runs parallel to ONAs (see Figure 5-1).

5.1.2 LAND COVER

According to the National Land Cover (NLC) dataset (GTI, 2020), the study area is situated within a highly modified landscape comprising a mosaic of built-up areas, grassland, cultivated land, wetlands, waterbodies, and areas associated with mining and quarrying activities (Figure 5-2). Built-up land cover forms the dominant land use within the central portion of the study area, reflecting the extensive industrial and associated infrastructure footprint of the existing Sasol operations.

The proposed Gas-to-Power facility footprint is located entirely within an area classified as built-up land cover. Similarly, the majority of the MRG Pipeline route traverses built-up and transformed areas associated with existing industrial infrastructure, with only limited interaction with adjacent grassland and wetland features.

The LNG Pipeline route follows a more peripheral alignment and intersects a broader range of land cover types. While portions of the route occur within transformed and built-up areas, the alignment also traverses areas mapped as grassland and passes through several wetland systems and associated waterbody features. In addition, portions of the surrounding landscape are classified as mines and quarries, particularly to the south and east of the study area, reflecting the extensive mining and industrial land uses characteristic of the broader Secunda region.

The land cover mapping indicates that the proposed project is largely associated with an already modified industrial landscape. However, the presence of remnant grassland habitat, wetlands, and other natural or semi-natural features within and adjacent to the study area highlights the need for site-specific verification of ecological sensitivities and consideration of potential biodiversity constraints during the impact assessment process.

5.1.3 PRIORITY AREAS FOR PROTECTED AREA EXPANSION

Priority Focus Areas (PFAs) identified through the National Protected Area Expansion Strategy (NPAES) represent large, relatively intact landscapes of high biodiversity value that have been

identified as priorities for future protected area expansion (Driver et al., 2012). These areas contribute to the long-term protection of biodiversity and ecological processes and should, where possible, remain unfragmented to facilitate future conservation initiatives.

As illustrated in Figure 5-3, the study area is not located within a Priority Focus Area for protected area expansion. The proposed Gas-to-Power facility footprint and both the LNG and MRG pipeline route options occur within the existing industrial and transformed landscape associated with the broader Sasol Secunda operations. Several Priority Focus Areas are, however, present within the surrounding landscape to the north, south and southeast of the study area.

Given the transformed nature of the study area and its location within an established industrial complex, the proposed development is not anticipated to result in the direct loss or fragmentation of land identified as a Priority Focus Area. Nevertheless, the presence of Priority Focus Areas within the broader region highlights the importance of maintaining ecological connectivity and avoiding unnecessary impacts on remaining natural habitat and biodiversity features that contribute to landscape-scale ecological functioning.

5.1.4 PROTECTED AREAS

Protected areas form the cornerstone of South Africa's biodiversity conservation network and play an important role in safeguarding ecosystems, ecological processes, species of conservation concern, and ecosystem services. Protected areas are formally recognised and managed to conserve biodiversity and contribute to the long-term persistence of ecological functioning at local, regional, and national scales.

A review of the Protected Areas Database indicates that the study area does not overlap with any formally protected area. Similarly, the proposed Gas-to-Power facility footprint and the LNG and MRG pipeline route options do not intersect any nationally protected areas.

Given the location of the proposed development within the existing industrial landscape associated with the Sasol Secunda complex, direct impacts on formally protected areas are not anticipated. Protected areas are therefore not considered a key terrestrial biodiversity constraint to the proposed development.

5.1.5 IMPORTANT BIRD AREAS

Important Bird Areas (IBAs) are sites identified by BirdLife International and BirdLife South Africa as being of particular importance for the conservation of bird species and their habitats. These areas are designated using internationally recognised criteria based on the presence of threatened, range-restricted, biome-restricted, or congregatory bird species and represent priority areas for avifaunal conservation.

A review of the national Important Bird Area dataset indicates that the study area does not overlap with any designated IBA. The proposed Gas-to-Power facility footprint and both pipeline route options are located within the industrialised Secunda landscape and are not situated within or adjacent to any recognised IBA.

The closest IBA to the study area is the Amersfoort-Bethal-Carolina District IBA, located approximately 28 km from the proposed development. Given the separation distance and the absence of any direct spatial overlap, Important Bird Areas are not considered a significant biodiversity constraint to the proposed development.

5.1.6 NATIONAL THREATENED ECOSYSTEMS

The National List of Threatened Terrestrial Ecosystems (NTEs) identifies ecosystem types that are considered threatened from a national biodiversity conservation perspective and which are afforded protection under the National Environmental Management: Biodiversity Act (Act No. 10 of 2004). Ecosystem threat status provides an indication of the risk of ecosystem loss and is based on the extent of historical habitat transformation, remaining habitat availability and the likelihood of continued habitat loss.

According to the National Terrestrial Ecosystem dataset (SANBI, 2021), portions of the study area intersect ecosystems classified as Vulnerable (Figure 5-4). The mapped Vulnerable ecosystem corresponds to Soweto Highveld Grassland (Figure 5-5), which is discussed further in the vegetation section of this report. The mapped ecosystem extends across portions of the broader landscape and is intersected by sections of the proposed LNG pipeline alignment. In contrast, the proposed Gas-to-Power facility footprint and the MRG pipeline route are largely situated within the existing Sasol industrial complex and do not substantially overlap mapped Vulnerable ecosystem areas.

It is important to note that ecosystem threat status is assigned at an ecosystem level and does not necessarily reflect the current ecological condition of individual sites. While portions of the LNG pipeline alignment overlap areas mapped as Vulnerable Soweto Highveld Grassland, extensive historical industrial development, associated infrastructure, agricultural transformation and other anthropogenic disturbances have altered portions of the original ecosystem within the area of influence. Consequently, the presence of a mapped threatened ecosystem does not necessarily indicate the presence of intact or well-conserved habitat on the ground.

Notwithstanding the transformed nature of much of the study area, remnant grassland habitats associated with the Soweto Highveld Grassland ecosystem may still contribute to local biodiversity value, ecological connectivity, and habitat availability for SCC. As such, the condition, extent, and ecological significance of these remaining habitats were considered during the SSV process and informed the assessment of terrestrial biodiversity sensitivities associated with the proposed development.

5.1.7 KEY BIODIVERSITY AREAS (KBA)

Key Biodiversity Areas (KBAs) are sites identified as contributing significantly to the global persistence of biodiversity. These areas are recognised using internationally standardised criteria and are considered important for the conservation of species, ecosystems, and ecological processes. KBAs may occur within terrestrial, freshwater, estuarine or marine environments and are intended to guide biodiversity conservation planning and decision-making.

A review of the national KBA dataset indicates that the study area does not overlap with any designated Key Biodiversity Area. The proposed Gas-to-Power facility footprint and both the LNG and MRG pipeline route options are situated within the existing industrialised landscape associated with the Sasol Secunda operations and are not located within or adjacent to a recognised KBA.

The nearest Key Biodiversity Area is the Devon Grasslands KBA, which occurs approximately 13 km west of the study area. Given the separation distance and absence of direct spatial overlap, Key Biodiversity Areas are not considered a significant terrestrial biodiversity constraint to the proposed development.

5.1.8 VEGETATION TYPES

The study area is situated within the Grassland Biome and is mapped predominantly as Soweto Highveld Grassland (Gm 8), which represents the dominant natural vegetation type occurring within the study area and wider surrounding landscape (Figure 5-4). Soweto Highveld Grassland is classified as Vulnerable and corresponds with the National Threatened Ecosystem designation discussed in Section 5.1.5.

It is important to note that the mapped vegetation type represents the historical or potential natural vegetation expected to occur in the absence of significant anthropogenic disturbance. Within the study area, extensive industrial development associated with the Sasol Secunda complex, together with supporting infrastructure, transformed areas, historical cultivation, and other land use activities has resulted in the substantial modification of portions of the original vegetation. Consequently, large areas associated with the proposed facility footprint and sections of the pipeline alignments no longer support intact examples of the mapped vegetation type.

The habitat associations, ecological characteristics and conservation status of Soweto Highveld Grassland are discussed below.

5.1.8.1 Soweto Highveld Grassland Gm 8 (VU)

Soweto Highveld Grassland is a mesic grassland vegetation type occurring across the Highveld of Gauteng and Mpumalanga, extending broadly between Johannesburg and Ermelo in the north, and the Vaal River and Perdekop areas in the south (Mucina & Rutherford, 2006). The vegetation is typically characterised by short to medium-height tufted grassland occurring on gently undulating plains, with *Themeda triandra* commonly forming a dominant component of the grass layer together with species such as *Heteropogon contortus*, *Eragrostis curvula*, *Elionurus muticus*, *Setaria sphacelata* and *Cymbopogon pospischilii*. The ecosystem also supports a diverse suite of forbs and geophytes and is frequently associated with wetlands, drainage lines, seep systems and other moisture-dependent habitats which contribute significantly to overall biodiversity patterns within the landscape.

The vegetation type occurs within a summer rainfall region receiving approximately 662 mm of rainfall per annum and is maintained by ecological processes such as fire and grazing, which play an important role in maintaining grassland structure, species diversity and ecological functioning. In an intact condition, Soweto Highveld Grassland provides habitat for a wide range of flora and fauna, including several SCC, and contributes to ecological connectivity and ecosystem functioning across the broader Highveld landscape.

Soweto Highveld Grassland is currently classified as Vulnerable, reflecting the significant historical loss and fragmentation of this ecosystem as a result of urban expansion, agricultural transformation, mining activities, industrial development and associated infrastructure. Within the broader Secunda region, large portions of the original vegetation have been transformed by industrial activities, cultivation, mining-related land uses and associated support infrastructure. Consequently, remaining natural and semi-natural grassland habitats frequently occur as fragmented remnants within a modified landscape matrix.

Although substantial portions of the proposed development footprint have been transformed by existing industrial infrastructure associated with the Sasol Secunda complex, remnant grassland habitat, wetlands, drainage features and other semi-natural habitats remain present within the area of



influence. These habitats retain ecological value and continue to provide suitable habitat for SCC and other indigenous flora and fauna. As such, while the mapped vegetation type should not be interpreted as occurring in an entirely intact state throughout the study area, the remaining natural and semi-natural habitat associated with the Soweto Highveld Grassland ecosystem remains ecologically relevant and was therefore considered.

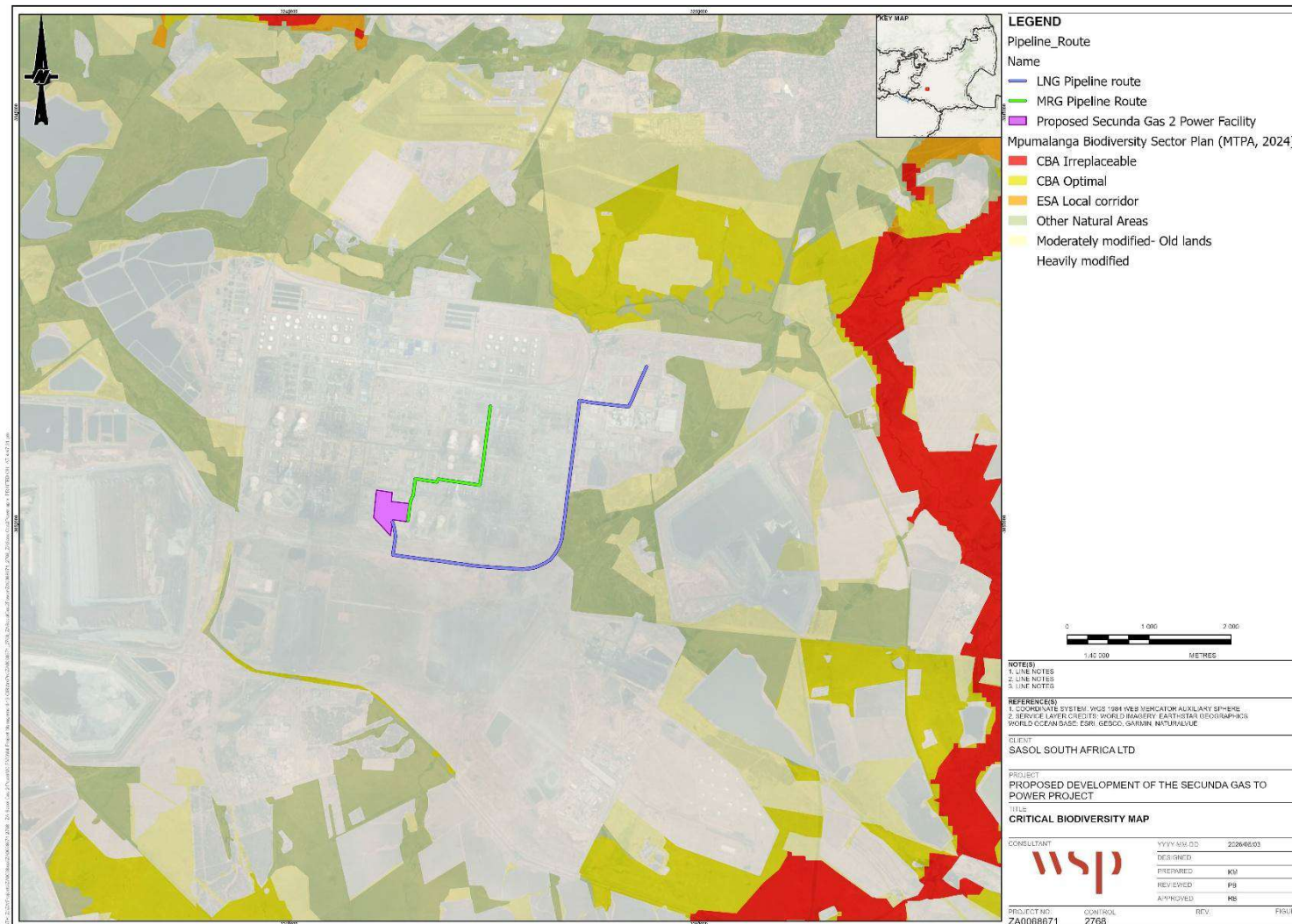


Figure 5-1 - MBSP in relation to the study area

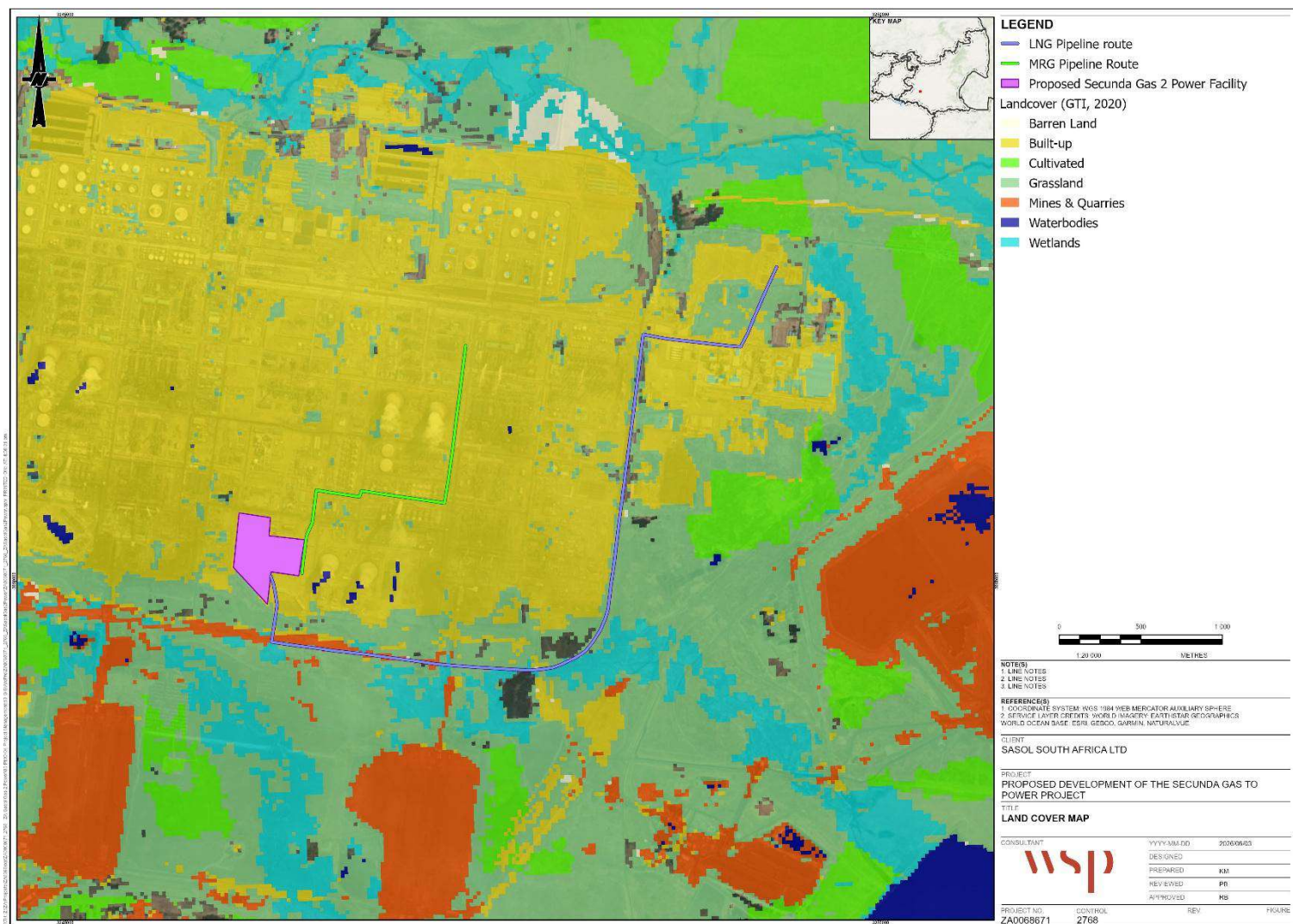


Figure 5-2 - Landcover in relation to the study area

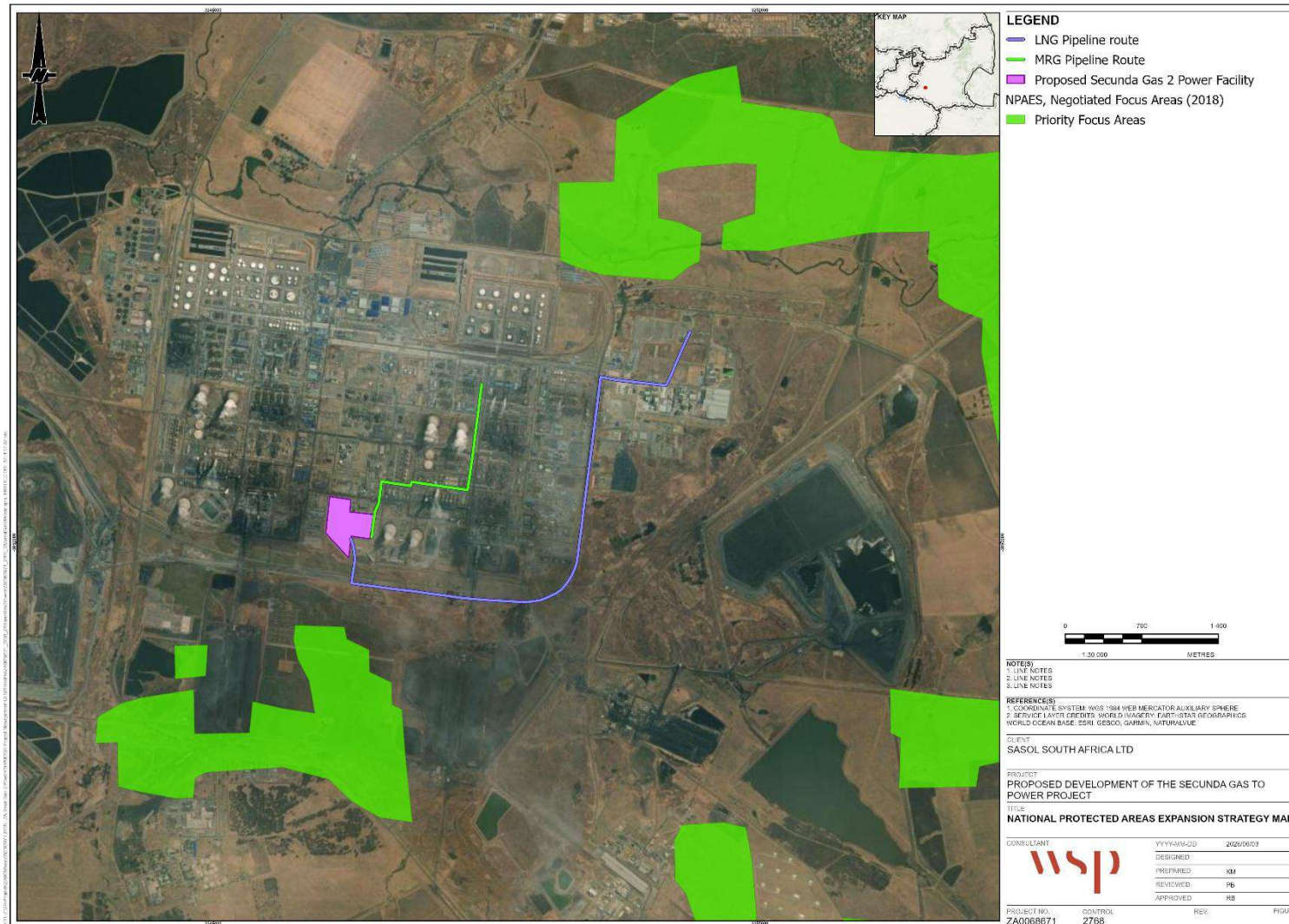


Figure 5-3 - NPAES in relation to the study area

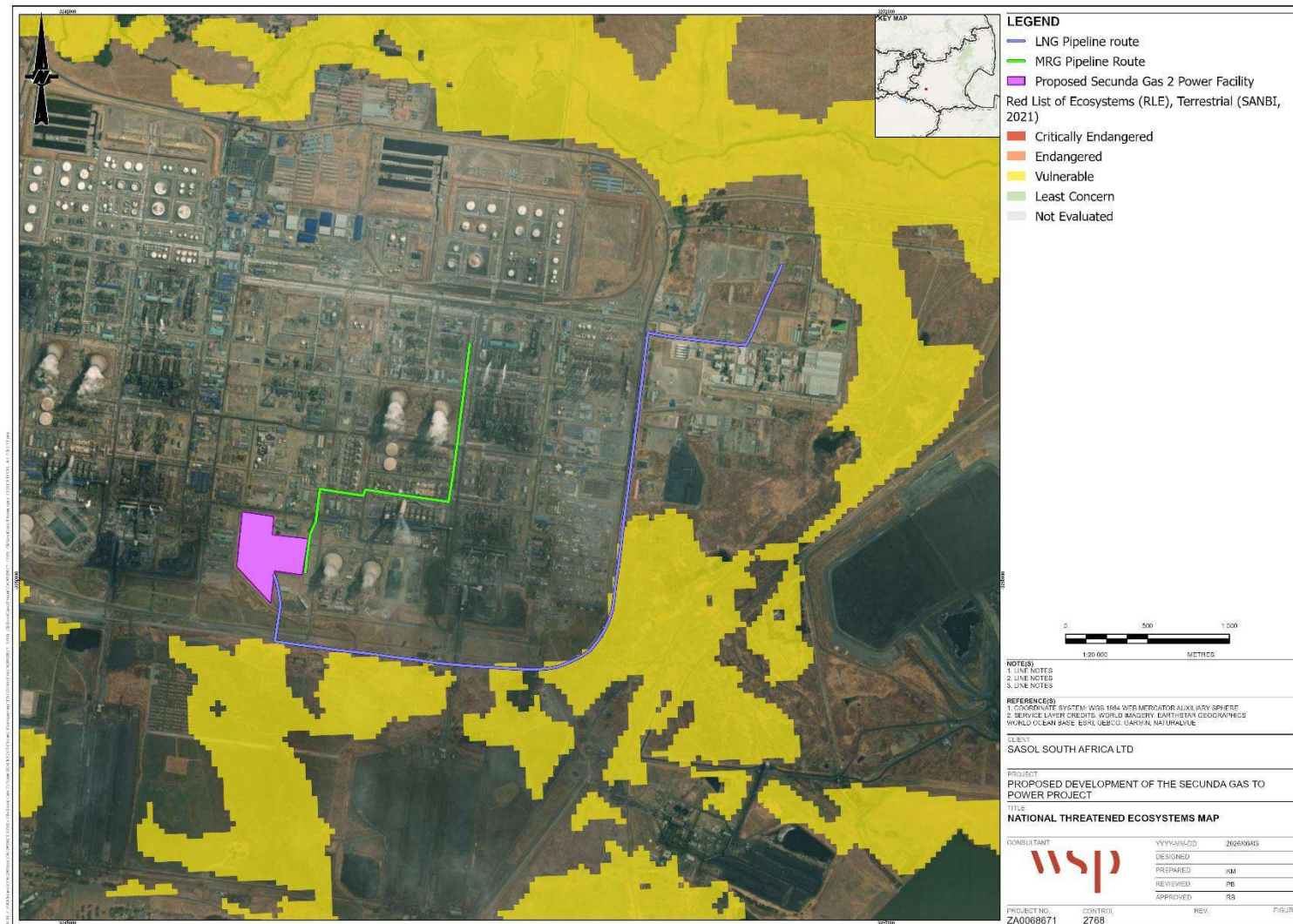


Figure 5-4 - Nationally threatened ecosystems in relation to the study area

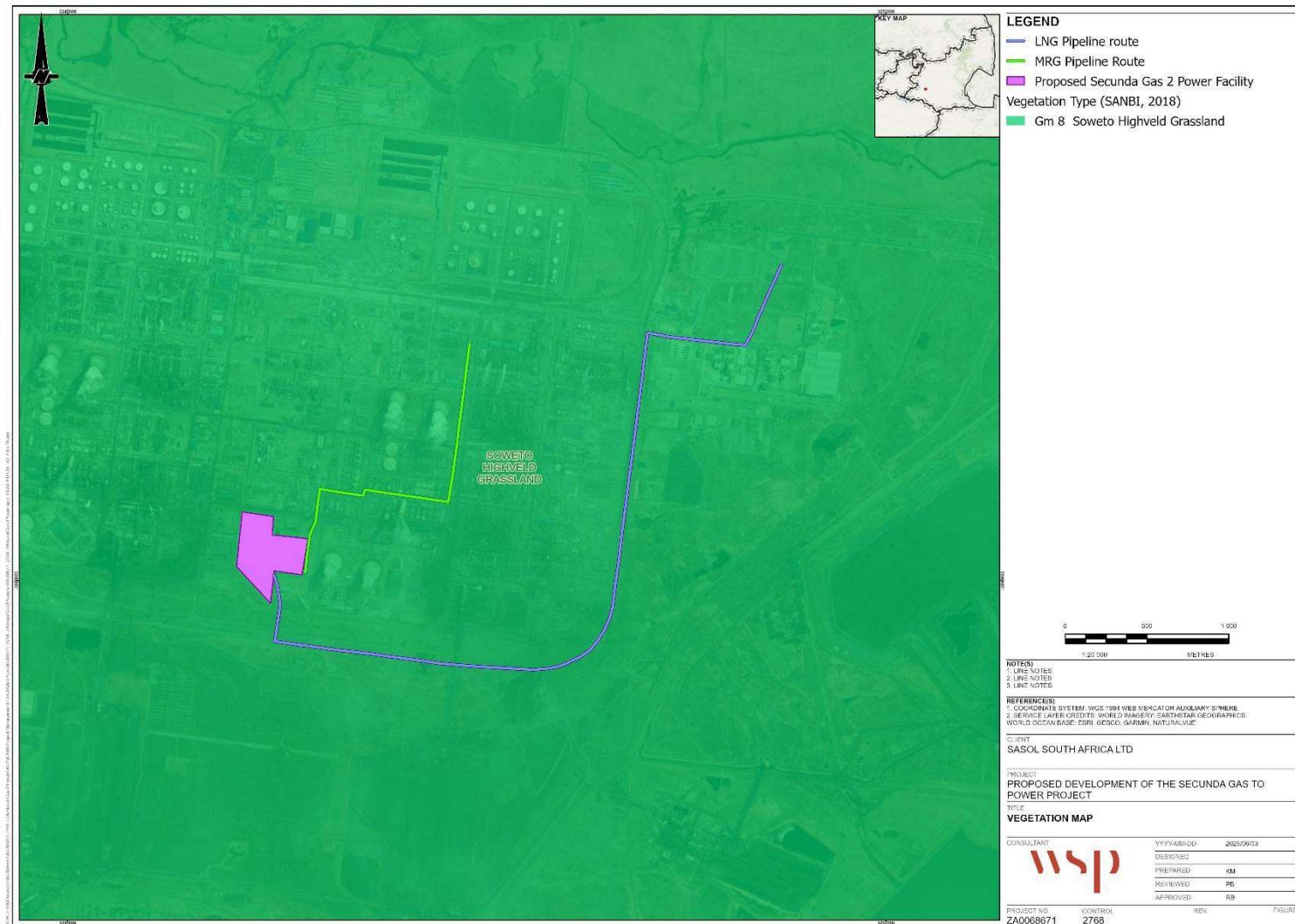


Figure 5-5 - Vegetation types in relation to the study area

6 FIELD SURVEY FINDINGS

A field survey of the study area and surrounding area of influence was undertaken by a terrestrial ecologist on 24 April 2026 over an approximately eight-hour period. The survey included the proposed Gas-to-Power facility footprint, the LNG pipeline route and the MRG pipeline route. The purpose of the survey was to verify the environmental sensitivities identified through the desktop assessment and National Web-Based Environmental Screening Tool and to characterise the terrestrial biodiversity features, habitat condition, ecological disturbances, and biodiversity sensitivities present within the receiving environment.

Particular emphasis was placed on the verification of vegetation communities, assessment of faunal habitat availability, identification of ecological features of conservation importance, and evaluation of habitat suitability for SCC. The findings of the field survey were integrated with the desktop assessment to develop a site-specific understanding of the terrestrial biodiversity, animal species, and plant species sensitivities associated with the proposed development. The outcomes of the field assessment are discussed in the sections that follow.

6.1 PLANT SPECIES/FLORA

The field survey confirmed that although large portions of the study area have been transformed by existing industrial infrastructure and associated land uses, remnant natural and semi-natural habitats remain present within the broader study area and area of influence. These habitats include grassland, wetland, and drainage-associated vegetation communities characteristic of the Soweto Highveld Grassland ecosystem and are capable of supporting a range of indigenous plant species, including SCC.

In accordance with the IUCN Red List Categories and Criteria, the Red List of South African Plants (SANBI) recognises three categories of threatened species, namely Critically Endangered, Endangered, and Vulnerable. A further five categories of conservation concern are recognised, namely Near Threatened, Critically Rare, Rare, Declining, and Data Deficient.

Plant species listed under the National Environmental Management: Biodiversity Act (Act No. 10 of 2004) Threatened or Protected Species Regulations and/or the Mpumalanga Nature Conservation Act (Act No. 10 of 1998) are afforded additional legislative protection and may require avoidance, permitting, or species-specific management measures where impacts cannot be avoided.

The desktop assessment and field survey therefore considered the likelihood of occurrence of SCC and protected plant species within the study area and surrounding area of influence, the findings of which are discussed below.

6.1.1 FLORA SCC

The DFFE Environmental Screening Tool rated the plant species theme for the study area as 'Medium' sensitivity due to the potential occurrence of the following flora SCC:

- Sensitive species 691 – VU;
- Sensitive species 1252 - VU; and
- *Pachycarpus suaveolens* (Sweet-Scented Pachycarpus) – VU.

During the field survey, no threatened or protected plant species were recorded within the study area or proposed development footprint. However, a population of approximately 25 individuals of *Crinum bulbispermum* (Orange River Swamp Lily), a species protected under provincial legislation, was recorded approximately 198 m southwest of the study area boundary (26°33'54.68"S; 29°09'32.82"E) within the broader area of influence (Figure 6-1).

The recorded population occurs outside the proposed development footprint and outside the defined study area assessed for direct impacts. Furthermore, the population is separated from the proposed infrastructure by existing disturbance features, including a road corridor, which is likely to reduce the potential for direct or indirect project-related impacts. As such, the recorded *Crinum bulbispermum* population is not expected to be directly affected by the proposed development.

While the species was not recorded within the study area itself, its presence within the broader area of influence demonstrates that suitable habitat for protected plant species persists within the surrounding landscape. This finding further supports the conclusion that remnant natural and semi-natural habitats associated with the Soweto Highveld Grassland ecosystem continue to retain ecological value and biodiversity significance despite the extensive transformation of the broader industrial landscape.

Habitat associations, conservation status, and likelihood of occurrence of the identified sensitive plant species are presented in Table 6-1.

Table 6-1 - Sensitive plant species

Scientific Name	Red-list status	Provincial Protection status	Habitat Preferences	Occurrence Relative to the Study area
<i>Crinum bulbispermum</i>	Least Concern	Protected	Prefers wetland and moist environments, and typically occurs along riverbanks and stream edges, as well as in swampy grasslands and seasonally wet areas.	Not recorded within the Study Area; confirmed within adjacent habitat in the Area of Influence (Figure 6-1)
<i>Pachycarpus suaveolens</i>	Vulnerable	-	Favours short, annually burnt grassland between 1400-2000 m.	Unlikely
Sensitive species 691	Vulnerable	Protected	It occurs in grassland habitats where it favours very shallow coarse sediments on flat rock protrusions.	Unlikely
Sensitive Species 1252	Vulnerable	Protected	Primarily associated with mesic to moderately moist, well-drained environments.	Unlikely



Figure 6-1 - The *Crinum bulbispermum* (Orange River Swamp Lilly) (26°33'54.68"S; 29°9'32.82"E)

6.2 ANIMAL SPECIES/FAUNA

Although substantial portions of the study area are associated with existing industrial infrastructure and transformed land cover, remnant grassland habitat and other semi-natural habitats remain present within the area of influence. These habitats continue to provide ecological resources for a range of fauna species and retain the potential to support SCC, particularly species associated with grassland and wetland ecosystems.

In accordance with the IUCN Red List Categories and Criteria, the Red Lists of South African mammals, birds, reptiles, amphibians and invertebrates recognise three categories of threatened species, namely Critically Endangered, Endangered, and Vulnerable. A further five categories of conservation concern are recognised, namely Near Threatened, Critically Rare, Rare, Declining, and Data Deficient.

Fauna species listed under the National Environmental Management: Biodiversity Act (Act No. 10 of 2004) Threatened or Protected Species Regulations and/or the Mpumalanga Nature Conservation Act (Act No. 10 of 1998) are afforded additional legal protection and may require species-specific management measures where impacts cannot be avoided.

The desktop assessment and field survey considered the likelihood of occurrence of fauna SCC within the study area and surrounding area of influence, taking into account available habitat, ecological condition, known species distributions and field observations. The findings are discussed by taxonomic group below.

6.2.1 MAMMALS

The DFFE Environmental Screening Tool identified the Makwassie Musk Shrew (*Crocidura maquassiensis*), a Vulnerable species, as having the potential to occur within the study area.

The Makwassie Musk Shrew is typically associated with moist grassland habitats where sufficient vegetative cover and suitable microhabitats are available. Although portions of the area of influence retain natural and semi-natural habitat, extensive industrial transformation within the proposed development footprint has substantially reduced the availability of suitable habitat. Consequently, the likelihood of occurrence of this species within the development footprint is considered low.

Although no mammal SCC were recorded within the study area itself, evidence of Serval (*Leptailurus serval*) in the form of scat was recorded within the broader area of influence during the field survey (26°34'4.83"S; 29°10'52.52"E; Figure 4-12). The record was located outside the study area and outside areas likely to be directly affected by the proposed development. Serval is a wetland-associated mesocarnivore that primarily feeds on small mammals and is closely associated with wetlands, drainage features, and other habitats that provide suitable prey resources and cover. Although the species is listed as Least Concern globally, it is classified as Near Threatened in South Africa and is protected under provincial legislation.

While the serval was not recorded within the study area, its occurrence within the broader area of influence demonstrates that the surrounding landscape continues to support fauna species of conservation importance despite the high degree of industrial and agricultural transformation that characterises the wider Secunda region. This finding is consistent with previous studies undertaken in the area, which have documented notable serval persistence within a landscape comprising a mosaic of industrial infrastructure, wetlands, grasslands, and associated habitats (Loock et al., 2018). The record further highlights the ecological importance of remnant wetland and grassland habitats occurring outside the development footprint and within the broader receiving environment.

Habitat associations, conservation status, and likelihood of occurrence of sensitive mammal species are provided in Table 6-2.

Table 6-2 - Sensitive mammal species

Family	Scientific Name	Red-list status	Provincial Protection status	Habitat Preferences	Probability of Occurrence in Study Area
Felidae	<i>Leptailurus serval</i>	Near Threatened	Protected	Closely associated with wetland habitats.	Recorded within the area of influence; not recorded within the study area (Figure 6-2).
Soricidae	<i>Crocidura maquassiensis</i>	Vulnerable	-	Primarily associated with moist grassland habitats within savanna and grassland biomes, often occurring in rocky or montane areas that provide suitable cover.	Unlikely



Figure 6-2 - *Leptailurus serval* (serval) scat observed outside the study area (26°34'4.83"S; 29°10'52.52"E)

6.2.2 AVIFAUNA

The DFFE Environmental Screening Tool identified the Caspian Tern (*Hydroprogne caspia*), a Vulnerable species, as having the potential to occur within the study area.

A review of SABAP2 records indicates that approximately 148 bird species have been recorded within the broader region, highlighting the importance of the remaining grassland, wetland and aquatic habitats in supporting avifaunal diversity. However, no avifaunal SCC were recorded during the field survey.

The Caspian Tern is primarily associated with large waterbodies, estuaries, coastal environments and suitable roosting and foraging areas. While artificial waterbodies occur within the broader landscape, the highly transformed nature of the development footprint and the absence of suitable breeding or roosting habitat suggest that the likelihood of regular utilisation of the study area by this species is low.

6.2.3 INVERTEBRATES

The DFFE Environmental Screening Tool identified the Grassveld Nimble Blue (*Lepidochrysops procera*) as having the potential to occur within the study area.

This species is a habitat specialist associated with relatively intact grassland ecosystems and specific host plant requirements. No evidence of the species was recorded during the field survey and the highly transformed nature of much of the development footprint is not considered favourable for its occurrence.

Although isolated remnants of grassland habitat remain within the broader landscape, the likelihood of occurrence of *Lepidochrysops procera* within the proposed development footprint is considered low. No invertebrate SCC were recorded during the survey.

7 SITE SENSITIVITY VERIFICATION OUTCOMES

7.1 OVERVIEW OF SSV FINDINGS

The SSV confirmed that terrestrial biodiversity sensitivities vary across the proposed development alternatives. While the proposed Sasol Gas-to-Power facility footprint and MRG Pipeline route occur predominantly within the existing Sasol Secunda operational area and are associated with extensively transformed habitat, portions of the LNG Pipeline route traverse less disturbed areas that retain remnant grassland habitat, wetland features, drainage corridors and associated ecological functions.

Consequently, the SSV identified during the field verification process differ from those assigned by the National Web-Based Environmental Screening Tool, which is based on regional biodiversity datasets and does not account for current on-site conditions or levels of habitat transformation. The proposed Sasol Gas-to-Power facility footprint and associated MRG Pipeline route are therefore considered to exhibit low terrestrial biodiversity sensitivity, including the terrestrial biodiversity, animal species and plant species themes (Table 7-1). This is primarily due to the highly transformed nature of these areas, which are characterised by industrial infrastructure, disturbed surfaces, artificial fill, existing service corridors and ongoing operational activities, with limited remaining natural habitat.

In contrast, the LNG Pipeline route is considered to exhibit an overall medium terrestrial biodiversity sensitivity (Table 7-2). Although portions of the alignment occur within transformed areas, sections of the route traverse secondary grassland habitat and intersect, or occur in close proximity to, the Groot-Bossiespruit and associated wetland systems. These habitats retain ecological functionality and continue to provide ecological connectivity, habitat resources and biodiversity value within the broader landscape.

Based on the SSV outcomes, the MRG Pipeline route is considered the environmentally preferred alternative from a terrestrial biodiversity perspective, as it is largely confined to existing transformed areas and disturbed infrastructure corridors. The LNG Pipeline route, while still considered developable from a terrestrial biodiversity perspective, traverses habitats of greater ecological value and therefore presents a comparatively higher biodiversity sensitivity. Consequently, the MRG Pipeline route is anticipated to result in the lowest potential impact on terrestrial biodiversity, animal species and plant species resources.

7.1.1 PROPOSED GAS-TO-POWER-FACILITY AND MRG PIPELINE

The proposed Sasol Gas-to-Power facility footprint and MRG Pipeline route occur entirely within the existing Sasol Secunda operational area and are associated with highly transformed land cover characterised by industrial infrastructure, existing service corridors, artificial fill, paved surfaces and gravel hardstands (Figure 7-1 and 7-2). The facility footprint is currently utilised for operational purposes, including the storage of equipment and machinery, and consequently exhibits limited ecological functionality and biodiversity value.

Although isolated vegetated areas occur within portions of the facility footprint and along sections of the MRG Pipeline route, these habitats are secondary in nature and highly disturbed. Vegetation associated with modified stormwater drainage features is dominated by disturbance-tolerant and alien invasive species including *Bidens pilosa* (Blackjack), *Tagetes minuta* and *Phragmites australis* (Common Reed). These areas are structurally and compositionally altered and do not represent intact examples of the region's natural vegetation.

The proposed MRG Pipeline route largely follows existing disturbed corridors and pipeline servitudes within the operational area and does not traverse intact grassland habitat, wetlands or other terrestrial biodiversity features of elevated conservation importance. Although the route crosses and runs adjacent to a modified stormwater drainage channel along portions of its alignment, these habitats occur within an industrial setting and display a high degree of disturbance.

Overall, the proposed facility footprint and MRG Pipeline route are characterised by highly modified habitat conditions, limited ecological integrity and low biodiversity value. Consequently, both development components are considered to exhibit low terrestrial biodiversity sensitivity from terrestrial biodiversity, animal species and plant species perspectives.

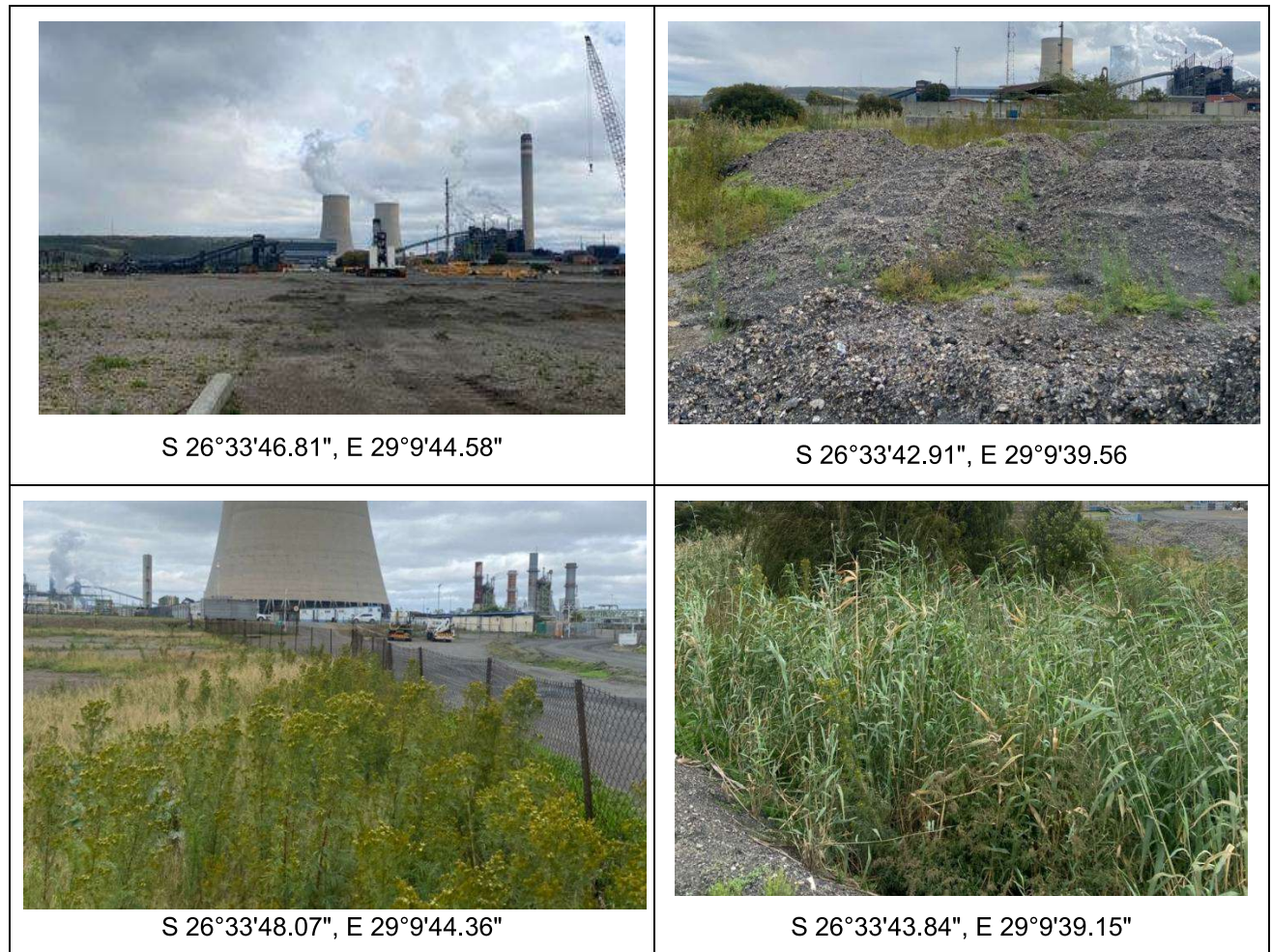


Figure 7-1 - Field survey images of proposed Sasol Gas-to-Power Facility



Figure 7-2 - Field survey images of the MRG Pipeline route

7.1.2 LNG PIPELINE ROUTE

In contrast, the LNG Pipeline route traverses a broader range of habitat types and intersects areas that retain greater ecological functionality (Figure 7-3). Portions of the alignment occur within secondary grassland habitat and intersect, or occur in close proximity to, the Groot-Bossiespruit and associated wetland systems. The route crosses the Groot-Bossiespruit on two occasions and thereafter follows the drainage corridor and associated wetland habitat for approximately 2.5 km.

Although portions of the alignment occur within previously disturbed areas, several sections retain semi-natural habitat characteristics and remain connected to broader grassland and wetland systems within the surrounding landscape. These habitats contribute to ecological connectivity, support indigenous biodiversity, and provide habitat resources for a range of flora and fauna. Consequently, the LNG Pipeline route traverses an environment of higher ecological value than that associated with the proposed Gas-to-Power facility footprint and MRG Pipeline route.

No plant or animal SCC were recorded within the LNG Pipeline route itself during the field survey. However, evidence of *Leptailurus serval* (Serval), a provincially protected and Near Threatened mammal species, was recorded within the broader area of influence associated with adjacent wetland habitat. Although this record was located outside the study area and outside areas likely to be directly affected by the proposed development, it demonstrates that the surrounding landscape continues to support fauna species of conservation importance. The record further highlights the ecological significance of remnant wetland and grassland habitat occurring within the broader receiving environment surrounding the LNG Pipeline alignment.

Therefore, while the LNG Pipeline route remains developable from a terrestrial biodiversity perspective, the presence of secondary grassland habitat, wetland-associated ecological features, and greater landscape connectivity results in a higher site-based sensitivity than that associated with the proposed Gas-to-Power facility footprint and MRG Pipeline route.



Figure 7-3 - Field survey images of the LNG Pipeline route

7.2 DETAILED SSV

The SSV confirmed that terrestrial biodiversity sensitivities vary across the proposed development alternatives. While the proposed Sasol Gas-to-Power facility footprint and MRG Pipeline route occur predominantly within the existing Sasol Secunda operational area and are associated with extensively transformed habitat, portions of the LNG Pipeline route traverse less disturbed areas that retain remnant grassland habitat, wetland features, drainage corridors and associated ecological functions.

Consequently, the site-based sensitivities identified during the field verification process differ from those assigned by the National Web-Based Environmental Screening Tool, which is based on regional biodiversity datasets and does not account for current on-site conditions or levels of habitat transformation. The proposed Sasol Gas-to-Power facility footprint and associated MRG Pipeline route are therefore considered to exhibit low terrestrial biodiversity sensitivity, including the terrestrial biodiversity, animal species and plant species themes (Table 7-1). In contrast, the LNG Pipeline route is considered to exhibit an overall medium terrestrial biodiversity sensitivity (Table 7-2) owing to its

interaction with secondary grassland habitat and proximity to the Groot-Bossiespruit and associated wetland systems.

Based on the SSV outcomes, the MRG Pipeline route is considered the environmentally preferred alternative from a terrestrial biodiversity perspective, as it is largely confined to existing transformed areas and disturbed infrastructure corridors. The LNG Pipeline route, while still considered developable from a terrestrial biodiversity perspective, traverses habitats of comparatively greater ecological value and therefore presents a higher biodiversity sensitivity.

Table 7-1 - Terrestrial biodiversity, animal and plant species SSV outcomes for the Proposed Sasol Gas-to-Power Facility and MRG Pipeline

Theme	Screening Tool Sensitivity	Site-based Sensitivity	Motivation
Terrestrial Biodiversity	Very High	Low	The Screening Tool sensitivity is triggered by the regional occurrence of the Vulnerable Soweto Highveld Grassland vegetation type. However, the proposed Gas-to-Power facility footprint and MRG Pipeline route occur within the existing Sasol Secunda operational area and are largely transformed by paved and gravelled surfaces, artificial fill, existing infrastructure, and ongoing industrial activities. Remaining vegetation is limited and largely confined to disturbed margins and modified drainage features with reduced ecological functioning. The site-based terrestrial biodiversity sensitivity is therefore considered Low.
Animal Species	Medium	Low	No animal SCC, or evidence thereof, were recorded within the proposed facility footprint or along the MRG Pipeline route during the field survey. These areas are highly modified, fenced, and subject to ongoing industrial disturbance, resulting in limited habitat availability for the species identified by the Screening Tool, including the Makwassie Musk Shrew (<i>Crocidura maquassiensis</i>), Caspian Tern (<i>Hydroprogne caspia</i>) and Grassveld Nimble Blue (<i>Lepidochrysops procera</i>). The site-based animal species sensitivity is therefore considered Low.
Plant Species	Medium	Low	No plant SCC were recorded within the proposed facility footprint or along the MRG Pipeline route during the field survey. A population of <i>Crinum bulbispermum</i> , a provincially protected species, was recorded approximately 198 m outside the study area within the broader area of influence. Given the separation distance from the proposed infrastructure and the presence of existing disturbance features between the recorded population and the development area, direct

			impacts are not anticipated. The site-based plant species sensitivity is therefore considered Low.
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Table 7-2 - Terrestrial biodiversity, animal and plant species SSV outcomes for the LNG Pipeline Route

Theme	Screening Tool Sensitivity	Site-based Sensitivity	Motivation
Terrestrial Biodiversity	Very High	Medium	The Screening Tool sensitivity is triggered by the regional occurrence of the Vulnerable Soweto Highveld Grassland vegetation type. Although portions of the LNG Pipeline route occur within transformed areas, sections of the alignment traverse secondary grassland habitat and intersect, or occur in close proximity to, the Groot-Bossiespruit and associated wetland systems. These habitats retain ecological functionality and contribute to ecological connectivity, habitat availability and biodiversity value within the broader landscape. Consequently, a Medium site-based terrestrial biodiversity sensitivity is considered appropriate.
Animal Species	Medium	Medium	No animal SCC were recorded within the LNG Pipeline route itself during the field survey. However, evidence of <i>Leptailurus serval</i> (Serval), a Near Threatened and provincially protected species, was recorded within the broader area of influence associated with adjacent wetland habitat. While this record occurred outside the study area and outside areas likely to be directly affected by the proposed development, it confirms that the surrounding landscape retains habitat capable of supporting fauna species of conservation importance. Given the route's proximity to wetlands, drainage features and secondary grassland habitat, the LNG Pipeline route is considered to retain moderate habitat value for fauna species and is consequently assigned a Medium site-based sensitivity.
Plant Species	Medium	Low	No plant SCC were recorded within the LNG Pipeline route during the field survey. Although secondary grassland habitat occurs along portions of the alignment, no protected or threatened plant species were identified within the development corridor. The site-based plant species sensitivity is therefore considered Low.

8 CONCLUSION AND RECOMMENDATIONS

Based on the combined desktop assessment and field verification survey, the proposed Gas-to-Power facility and MRG Pipeline route are considered to exhibit low terrestrial biodiversity sensitivity, as they are largely confined to the highly transformed Sasol Secunda operational area, which is characterised by extensive disturbance, existing industrial infrastructure, and vegetation dominated by disturbance-tolerant and invasive species. No plant or animal SCC were recorded within the proposed facility footprint or MRG Pipeline route, and habitat suitability for SCC within these areas is considered limited.

In contrast, the LNG Pipeline route is considered to exhibit an overall low to medium terrestrial biodiversity sensitivity due to its interaction with comparatively less disturbed environments, including sections associated with the Groot-Bossiespruit, adjacent wetland habitats, drainage features, and secondary grassland vegetation that retain ecological functionality and provide habitat resources for indigenous species. Although no SCC were recorded within the LNG Pipeline route itself, the surrounding landscape remains capable of supporting fauna and flora of conservation importance, as evidenced by the presence of provincially protected and SCC habitat within the broader area of influence.

The SSV confirmed that the regional sensitivities identified by the National Web-Based Environmental Screening Tool are not uniformly applicable across all proposed development components, particularly within the highly transformed Sasol Secunda operational area. However, portions of the LNG Pipeline route retain ecological characteristics more consistent with the sensitivities identified through the desktop assessment and therefore warrant additional consideration during project planning and implementation.

Overall, the proposed development is considered acceptable from a terrestrial biodiversity, animal species and plant species perspective, subject to the implementation of appropriate environmental management measures and adherence to the environmental controls contained within the Environmental Management Programme (EMPr).

Based on the findings of this assessment, the MRG Pipeline route is the environmentally preferred alternative, as it remains largely within transformed areas and existing infrastructure corridors and avoids direct interaction with remnant grassland and wetland-associated habitat. Consequently, the MRG Pipeline route is anticipated to result in the lowest potential impact on terrestrial biodiversity resources and should be prioritised during project planning where technically feasible.

8.1 SCOPING-LEVEL IMPACT MANAGEMENT RECOMMENDATIONS

The following high-level management recommendations are provided to inform project planning, detailed design, and EMPr development:

- Development activities should remain confined to the authorised and demarcated development footprint at all times, and unnecessary disturbance of surrounding habitat should be avoided.
- Where practical, existing disturbed areas, infrastructure corridors and previously modified surfaces should be utilised in preference to undeveloped or semi-natural habitat.
- Construction activities should be undertaken in a manner that minimises unnecessary disturbance to adjacent grassland, wetland and drainage-associated habitats.

- Existing site-specific environmental management procedures applicable to alien invasive plant control should continue to be implemented in accordance with the applicable Sasol management plans.
- All temporary construction disturbances should be rehabilitated as soon as practicable following construction, with disturbed areas stabilised and revegetated using appropriate indigenous vegetation where required.
- Open trenches and excavations should be minimised where possible and should not be left open for extended periods to reduce potential risks to fauna moving through the area.
- No trapping, hunting, collecting, poisoning or intentional disturbance of fauna may be undertaken by site personnel.
- Environmental awareness training should be provided to construction personnel prior to commencement of works. Training should include awareness of protected animal and plant species that may occur within the broader area of influence, appropriate reporting procedures for wildlife observations, and compliance with site-specific environmental controls.
- Should any protected plant species or fauna of conservation importance be encountered during construction activities, the relevant environmental personnel should be notified and appropriate avoidance or management measures implemented where necessary.
- Environmental induction must be provided to all staff and contractors prior to commencement of works. This induction shall include specific awareness training on the presence and conservation importance of protected animal and plant species within the project area. Personnel must be instructed to avoid any disturbance to such species, with particular emphasis on *Crinum bulbispermum* and *Leptailurus serval*, and to adhere strictly to all site-specific environmental controls and permit conditions.

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