



SITE VERIFICATION REPORT

VAAL AEROTROPOLIS

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Vaal Aerozone (Pty) Ltd

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LIST OF ABBREVIATIONS

CBA	Critical Biodiversity Areas
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Ecological Support Area
GAPA	Gauteng Agricultural Potential Atlas IV
GDEnv	Gauteng Department of the Environment
GIS	Geographical Information System
GPEMF	Gauteng Provincial Environmental Management Framework
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Party
IBAs	Important Bird and Biodiversity Areas
m.a.s.l	meters above sea level
mppa	million passengers per annum
NEMA	National Environmental Management Act, 1998 (Act 107 of 1998)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NHRA	National Heritage Resource Act, 1999 (Act No. 25 of 1999)
PHRA-G	Provincial Heritage Resources Agency of Gauteng
PIA	Palaeontological Impact Assessment
PPP	Public Participation Process
SACAA	South African Civil Aviation Authority
SAHRA	South African Heritage Resources Authority
SAPAD	South Africa Protected Areas Database
SEZ	Special Economic Zone

1 INTRODUCTION

Vaal Aerozone (Pty) Ltd intends to develop and manage the Vaal Aerotropolis, planned for an area $\pm 10\text{km}$ west of the N1 and Vanderbijlpark in the Sedibeng district located within the Emfuleni Local Municipality, Gauteng Province. An Aerotropolis is defined as a metropolitan sub-region whose infrastructure, land use and economy are centred on and around an airport. This development, which will be known as the Vaal Aerotropolis, aims to serve as a key freight and logistics hub, featuring a two-terminal design and integrated air cargo services containing state-of-the-art facilities and infrastructure. The Vaal Aerotropolis will serve as a driving force and strategic investment for economic growth and global trade, thereby revitalising Emfuleni and creating sustainable value in the region.

The study area is located across various farms and farm portions which can be seen in Table 1.

Table 1: Surveyor General Numbers of Application Area

Surveyor General Diagram number	Property Description	Local Municipality
T0IQ00000000053000047	Part of Portion 47 of farm Klipkop 530 IQ	Emfuleni
T0IQ00000000053000000	Part of the Remainder of the farm Klipkop 530 IQ	Emfuleni
T0IQ00000000055400003	Re of Portion 3 of the farm Rietkuil 554 IQ	Emfuleni
T0IQ00000000055400009	Re of Portion 9 (Ptn of Ptn 3) of the farm Rietkuil 554 IQ	Emfuleni
T0IQ00000000055400026	Portion 26 of the farm Rietkuil 554 IQ	Emfuleni
T0IQ00000000055500005	Portion 5 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500006	Re of Portion 6 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500007	Portion 7 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500017	Re of Portion 17 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500018	Portion 18 (Ptn of Ptn 6) of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500020	Portion 20 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500051	Portion 51 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500052	Portion 52 of the farm Vlakplaats 555 IQ	Emfuleni

The planned Vaal Aerotropolis will be developed in three (3) phases over a period of 60 years, to include a Cargo Terminal, Airport City, Solar Farm, Agri Zone and Trade Zone. Each phase is designed to progressively expand the airport's capacity and functionality to accommodate increasing demand. Vaal Aerozone (Pty) Ltd will develop, operate and manage the Vaal International Airport alongside the Vaal Special Economic Zone (SEZ), to ensure that the development is managed in an effective and efficient manner and to prevent delays in implementation.

PRISM EMS Africa (Pty) Ltd (Prism EMS Africa) has been appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the Environmental Authorisation (EA) process for **Phase 1** of the proposed Vaal Aerotropolis (**GDEnv Ref No: GAUT 002/25-26/E0240**). Subsequent applications, as required by a host of environmental legislation, will be lodged with the applicable authorities as the phases and related services progress.

2 REQUIREMENTS OF THE SITE SENSITIVITY VERIFICATION AND REPORT OUTLINE

In terms of GN 320 of 20 March 2020, the site sensitivity verification can be undertaken by an EAP or a specialist and should utilize the following methodology:

- A desktop analysis, using satellite imagery.
- A preliminary on-site inspection; and
- Any other available and relevant information.

Further, the outcome of the site sensitivity verification must be recorded in a report that--

- Confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.
- Contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and
- Is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended).

In order to ensure these requirements are met, they are tabulated together with the associated chapter name in Table 2 below.

Table 2: Report Outline

Chapter Number	Chapter Name	Link to GN 320 of 20 March 2020
Chapter 1	Introduction	-
Chapter 2	Requirements of the Site Sensitivity Verification and Report Outline	-
Chapter 3	Details of the Environmental Assessment Practitioner	-
Chapter 4	Desktop Assessment of Sensitivity	• Any other available and relevant information
Chapter 5	Satellite Imagery Assessment	• A desk top analysis, using satellite imagery
Chapter 6	Site Verification	• Preliminary on-site inspections • Contains evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity
Chapter 7	Conclusion	• Confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc. • Contains a motivation of either the verified or different use of the land and environmental sensitivity.

As per the requirements of GN 960 of 5 July 2019, a copy of the report generated from the National web based environmental screening tool as contemplated in Regulation 16(1)(b)(v) of the EIA Regulations, 2014 (as amended) has been included as an appendix. Further, in terms of GN 320 of 20 March 2020, a site sensitivity verification (this report) is required to confirm the findings of the National Screening Tool.

3 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Prism EMS Africa have been appointed to undertake the required EA process in terms of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998) and the associated EIA Regulations, 2014 (as amended). Details of the EAP who is responsible for the Site Verification is provided in Table 3 below.

Table 3 : Details of the Assessor

EAP:	De Wet Botha
Company:	Prism Environmental Management Services Africa
Qualifications:	M.A. Environmental Management PHED
Experience:	23+ years
Affiliation/ Registration:	South African Council for Natural Scientific Professions (SACNASP): Pr.Sci.Nat. – 119979 Environmental Assessment Practitioners Association of South Africa (EAPASA): Reg.EAP – 2019/1209. Member of the International Association for Impact Assessors (IAIAsa) (1653)
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Prism EMS Africa Team				
Designation	Name	Qualification	Professional Registration	Specialist Assessment
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Junior EAP	Ashley Bartmann	BSocSci. Hons. Env.Sci.	EAPASA: Cand.EAP (2025/19475)	• Document Compilation
Junior EAP	Brett Collett	B.Sc. Hons. (Env. Man.) B.Sc. (Env. Man. – Zoology)	FGASA Level 2 EAPASA: Cand.EAP (2025/20560) SACNASP: Cand.Sci.Nat (181127) Member of IAIAsa (2916561)	• Document Compilation
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4 DESKTOP ASSESSMENT OF SENSITIVITY

4.1 Project Location

Within the above-mentioned context, the proposed development area of the Vaal Aerotropolis will be located on a total of 13 farm portions, measuring approximately 4 750ha in extent, located in the Emfuleni Local Municipality, Gauteng Province. All these farm portions will be affected during Phase 1 of the development and will be referred to as the **Application Area** (Table 1, Table 4 and Figure 1). However, it should be noted that *in-situ* surveys were conducted on an area exceeding that of the application area. This survey area will be referred to as the **Total Survey Area** (Figure 2).

The corner point coordinates of the total application area as part of this assessment are indicated in Table 4 and can be seen in Figure 1.

Table 4 : Corner Coordinates of the Application Areas

Point	Latitude	Longitude	Point	Latitude	Longitude
A	-26,5631367	27,6782414	X	-26,6235514	27,680876
B	-26,5724473	27,7119542	Y	-26,6191821	27,6800494
C	-26,5717003	27,7137366	Z	-26,618773	27,6828394
D	-26,56716498	27,71454084	AA	-26,6169503	27,6818275
E	-26,56964767	27,7325621	AB	-26,6177115	27,6797446
F	-26,59642674	27,72835109	AC	-26,6132766	27,6781567
G	-26,5953853	27,7389373	AD	-26,6090808	27,6737655
H	-26,5970682	27,7497903	AE	-26,6082232	27,6755423
I	-26,6107626	27,756443	AF	-26,6013198	27,6784528
J	-26,6111093	27,7620265	AG	-26,6022384	27,6692059
K	-26,61789189	27,73396112	AH	-26,6254136	27,7111204
L	-26,6280137	27,7317545	AI	-26,6226418	27,7300366
M	-26,6334741	27,6815306	AJ	-26,6158528	27,7287589
N	-26,6320755	27,6809037	AK	-26,6162669	27,7265421
O	-26,6325433	27,6795379	AL	-26,6196283	27,7271593
P	-26,6339856	27,6801395	AM	-26,6200073	27,7248711
Q	-26,6359671	27,664727	AN	-26,6166971	27,7242392
R	-26,6292231	27,665541	AO	-26,6175542	27,7196511
S	-26,6279971	27,6739314	AP	-26,6207734	27,7202449
T	-26,629237	27,6755218	AQ	-26,621167	27,7178678
U	-26,6290538	27,6776773	AR	-26,6180009	27,7172592
V	-26,6274935	27,6773765	AS	-26,6193681	27,7099374
W	-26,6272606	27,6789693			

Refer to Figure 4-1 and Figure 4-2 below for the locality map and aerial locality map showing the **Total Survey Area** of the proposed Vaal Aerotropolis; while Figure x displays the **Application Area**.

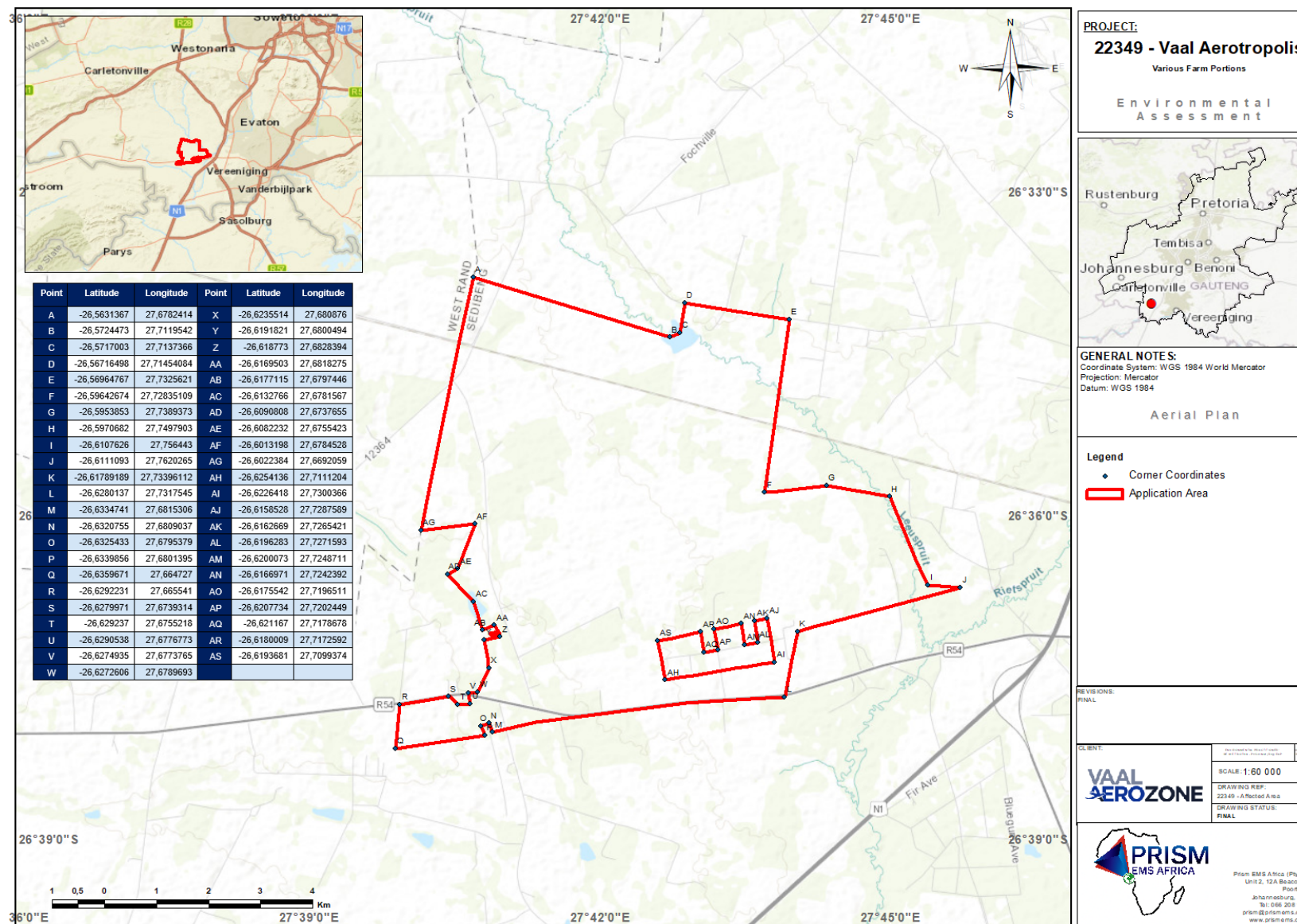


Figure 1: Locality Plan of the Application Area

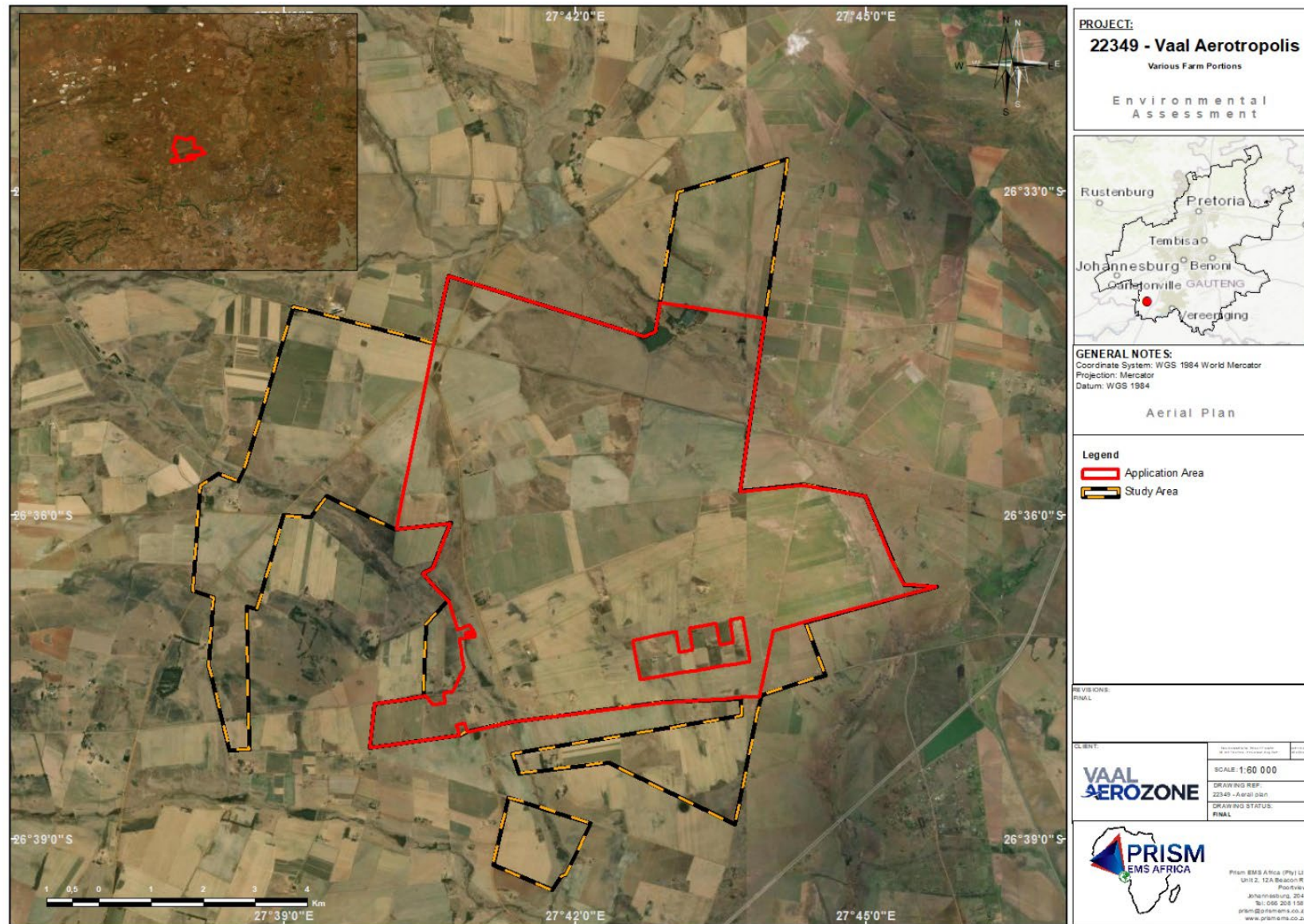


Figure 2: Aerial Plan of Study Area

4.2 Summary of the Environmental Sensitivity Findings of the National Screening Tool

In terms of the Notice of the requirements to submit a report generated by the National Web Based Environmental Screening Tool in terms of Section 24(5)(h) of the NEMA, 1998 (Act No. 107 of 1998) and Regulation 18(1)(b)(v) of the EIA Regulations, 2014 (as amended) (GN 960 of 5 July 2019), a report generated on the National Screening Tool must be submitted as part of the Application for Environmental Authorisation.

The National Web Based Screening Tool Report is an important component of the site sensitivity verification, as the aim of the verification is to confirm/dispute the findings of the National Screening Tool Report. As per the requirements, such a report has been generated and is included as an annexure in this document.

A summary of the findings of the report is included in Table 5.

Table 5 : Desktop Sensitivity as identified by the National Screening Tool

Theme	Very High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Agricultural	✓			
Animal Species		✓		
Aquatic Biodiversity	✓			
Archaeological and Cultural Heritage				✓
Civil Aviation		✓		
Defence				✓
Palaeontology		✓		
Plant Species				✓
Terrestrial Biodiversity	✓			

4.3 Additional Desktop Sensitivity Assessment

In addition, a desktop assessment of the site sensitivity has been undertaken (Figure 3 to Figure 8) and the following should be noted:

- The topography of the study area is undulating with the altitude ranging from 1500 meters above sea level (masl) in the northwest to 1450 masl in the southeast.
- The study area is underlain by quaternary sedimentary deposits overlying the older Transvaal Supergroup. These quaternary sedimentary deposits predominantly consist of alluvial and colluvial deposits.
- The soils found in the study area are predominantly red, yellow and/or greyish with low to medium base status. These soils are also associated with plinthic horizons.
- According to the Gauteng C-Plan (v3.3 and v4), the proposed site falls within an Ecological Support Areas (ESA 1 and 2) as well as Critical Biodiversity Areas (CBA 1 and 2).
- The proposed development occurs within the Soweto Highveld Grassland which is classified as a vulnerable ecosystem type in terms of the National Environmental Management Act: Biodiversity Act, 2004 (Act No. 10 of 2004).
- According to the Gauteng Province Environmental Management Framework, the proposed development falls within Zone 3: High control zone (outside the urban development zone) and Zone 4: Normal control zone.
- The site is not protected in terms of any international convention.
- No Protected Areas are located within the proposed application area, although the Tweefontein Private Nature Reserve (*in the process of deregistration*¹) is located within 5km.
- No Important Bird Areas are located within or near the proposed site.
- The proposed development area is located within quaternary catchments C22J of the Vaal Orange Water Management Area (WMA).
- According to the National Wetland Map version 6 (NWM6) as presented by SANBI, wetland areas occur on the western and eastern sections of the site along with water courses flowing from the north-west to the south-east.
- According to the Gauteng Agricultural Potential Atlas Version 4 (GAPA IV), the site is indicated as “moderate” and “high”, with small sections of the site indicated as “low” and “build up”. This correlates with the National Screening tool which also indicates that the site has “high” agricultural sensitivity.

¹ A separate application to facilitate the deregistration of the Tweefontein Private Nature Reserve is currently in process.

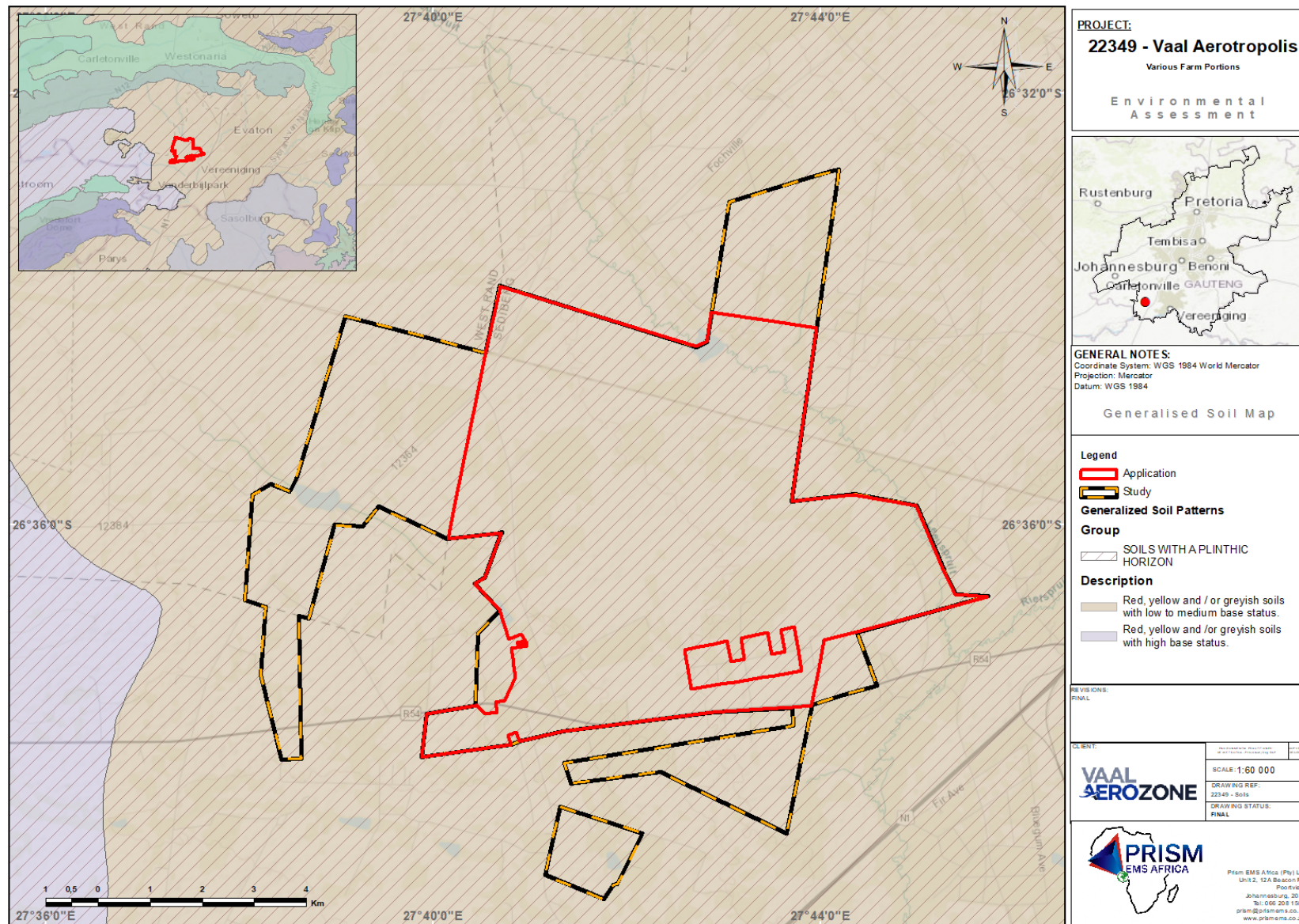


Figure 3: Generalised Soil Map (Schulze, 2006)

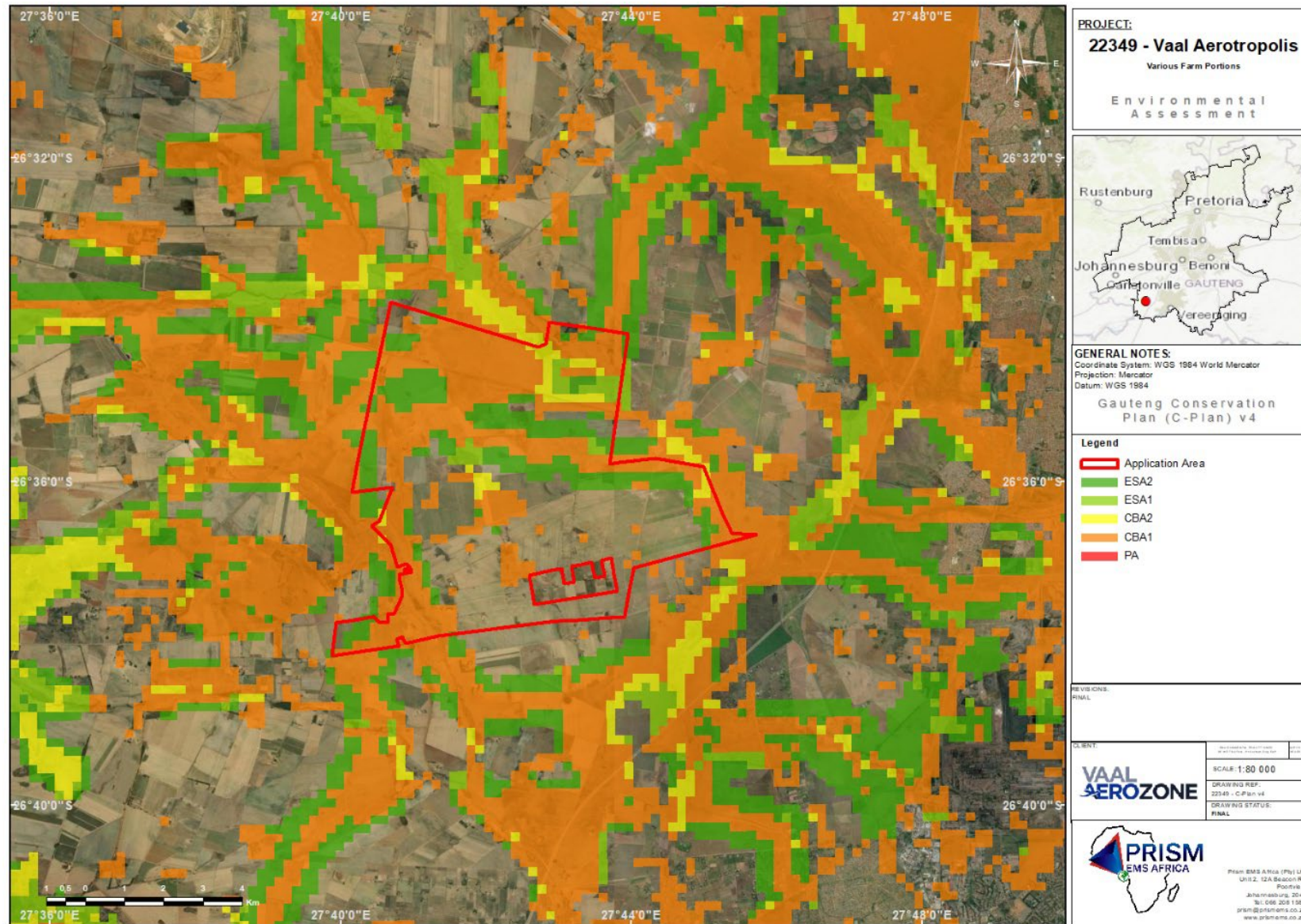


Figure 4: Gauteng C-Plan v4

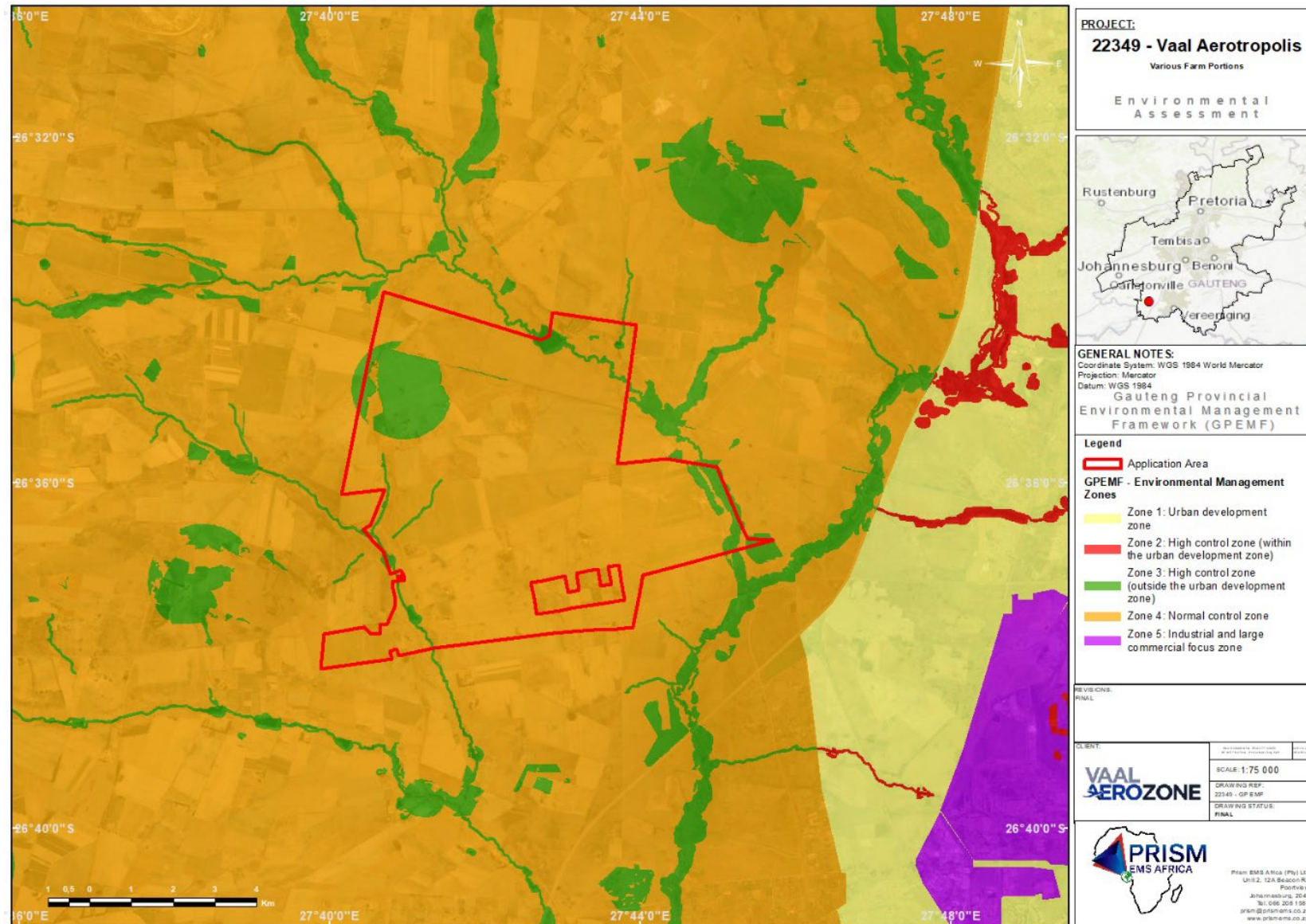


Figure 5: Gauteng Provincial Environmental Management Framework

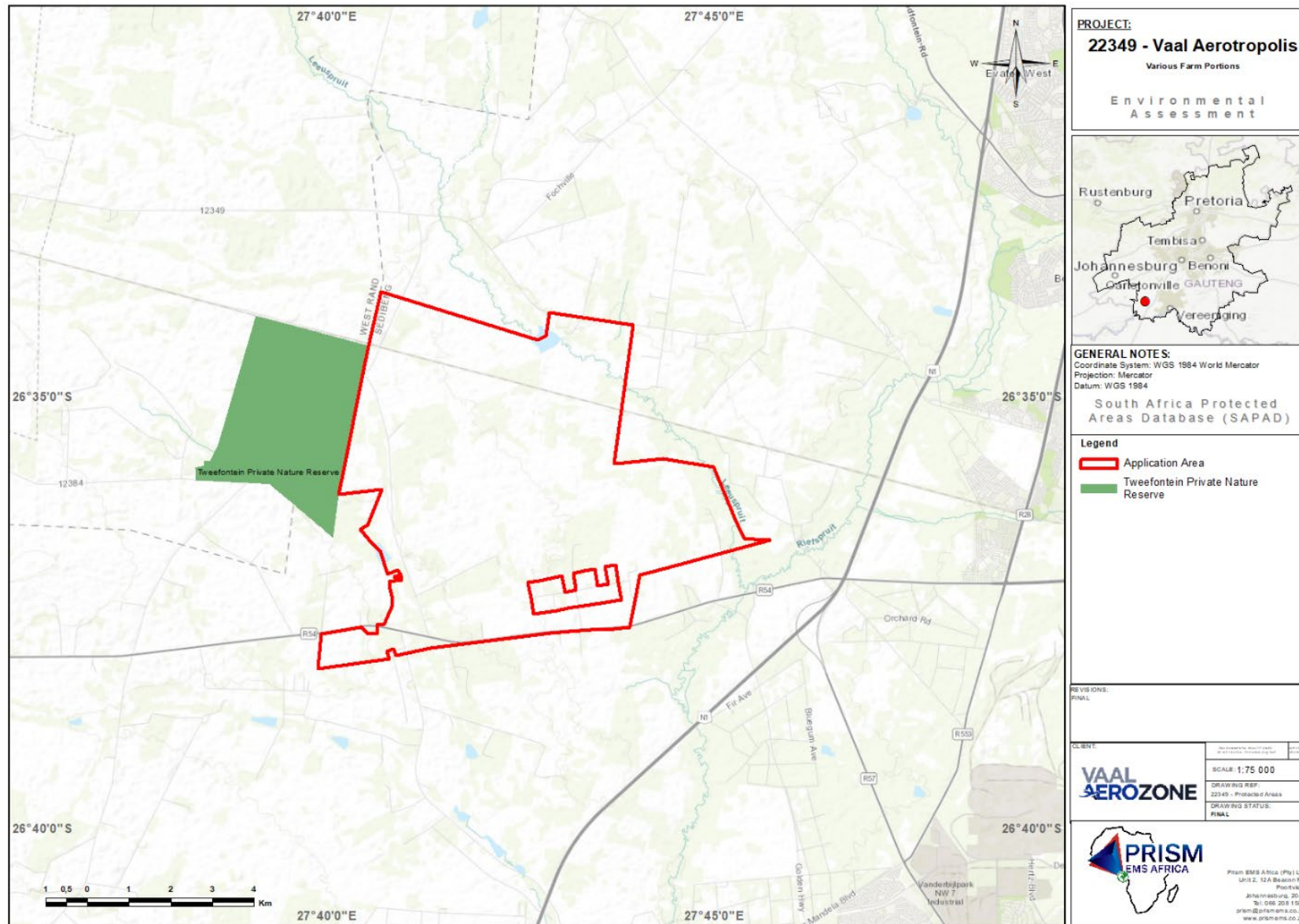


Figure 6: Protected Areas (SAPAD, 2026)

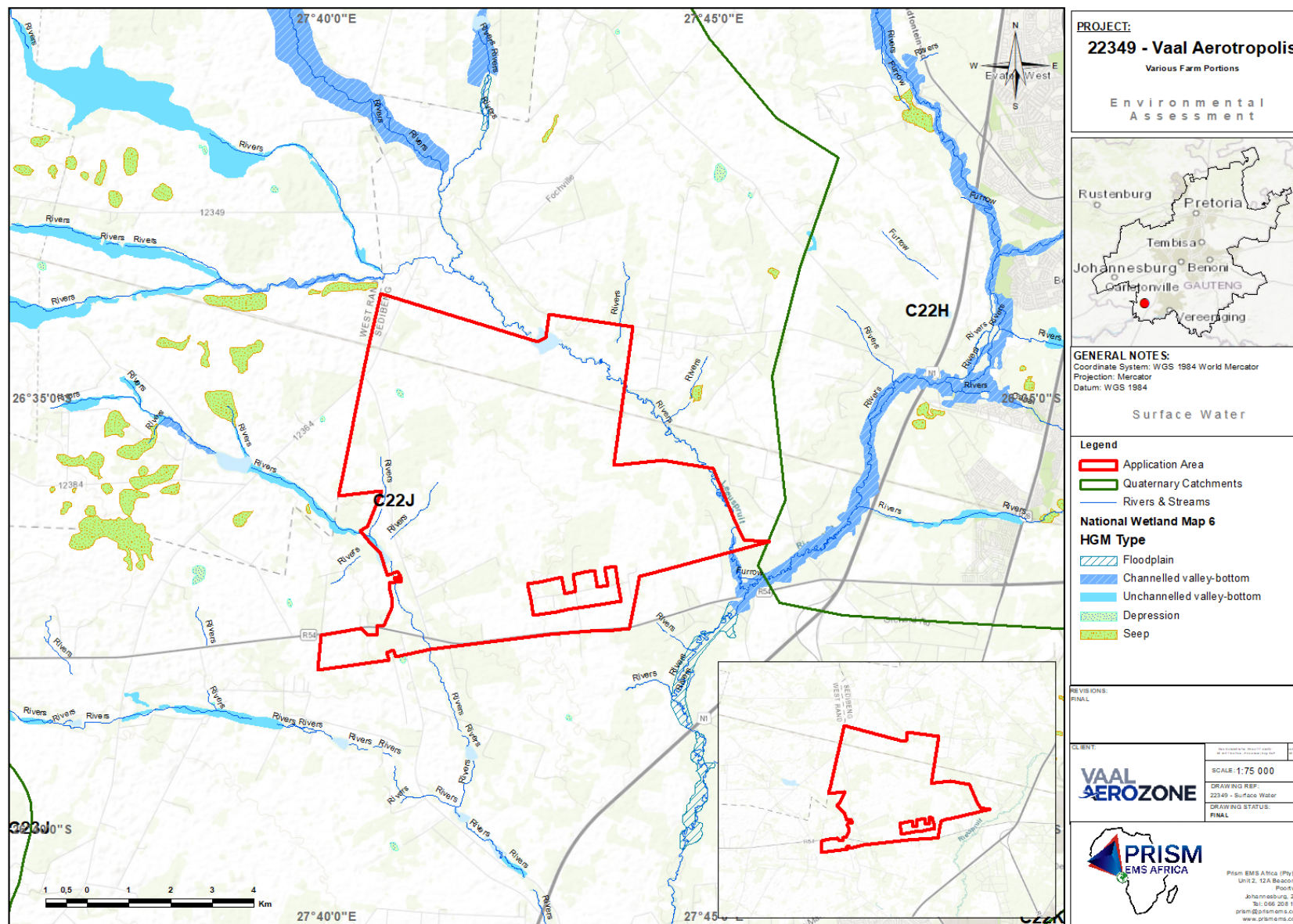


Figure 7: National Wetland Map v6

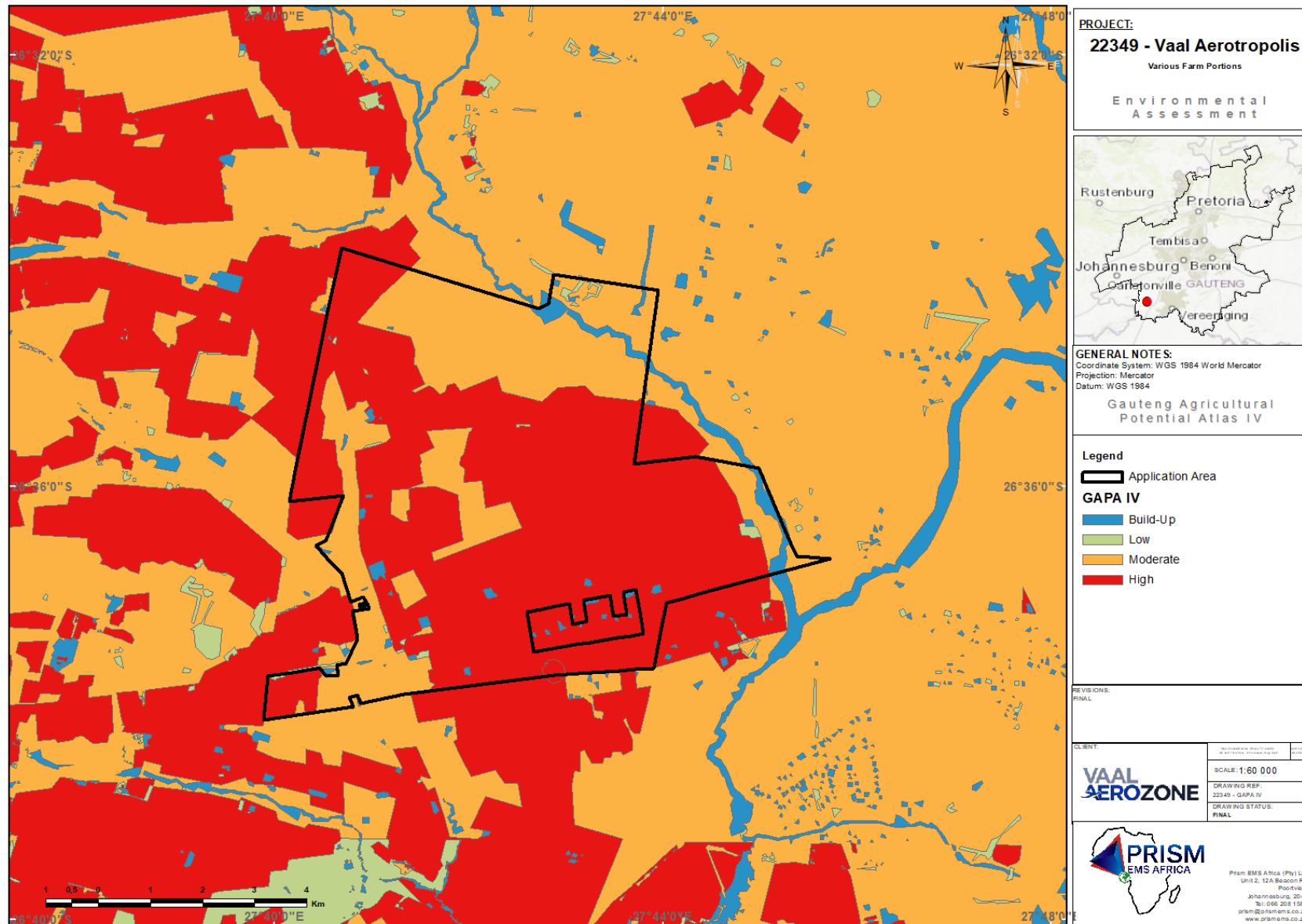


Figure 8: Gauteng Agricultural Potential Atlas IV

5 SATELLITE IMAGERY ASSESSMENT

5.1 Historical Imagery

An assessment of the available historic imagery of the site was undertaken. Clear historic imagery was only available from November 2004 onwards (Figure 9). As can be seen in the images below, cultivated fields and agricultural dams have been implemented across the survey area.

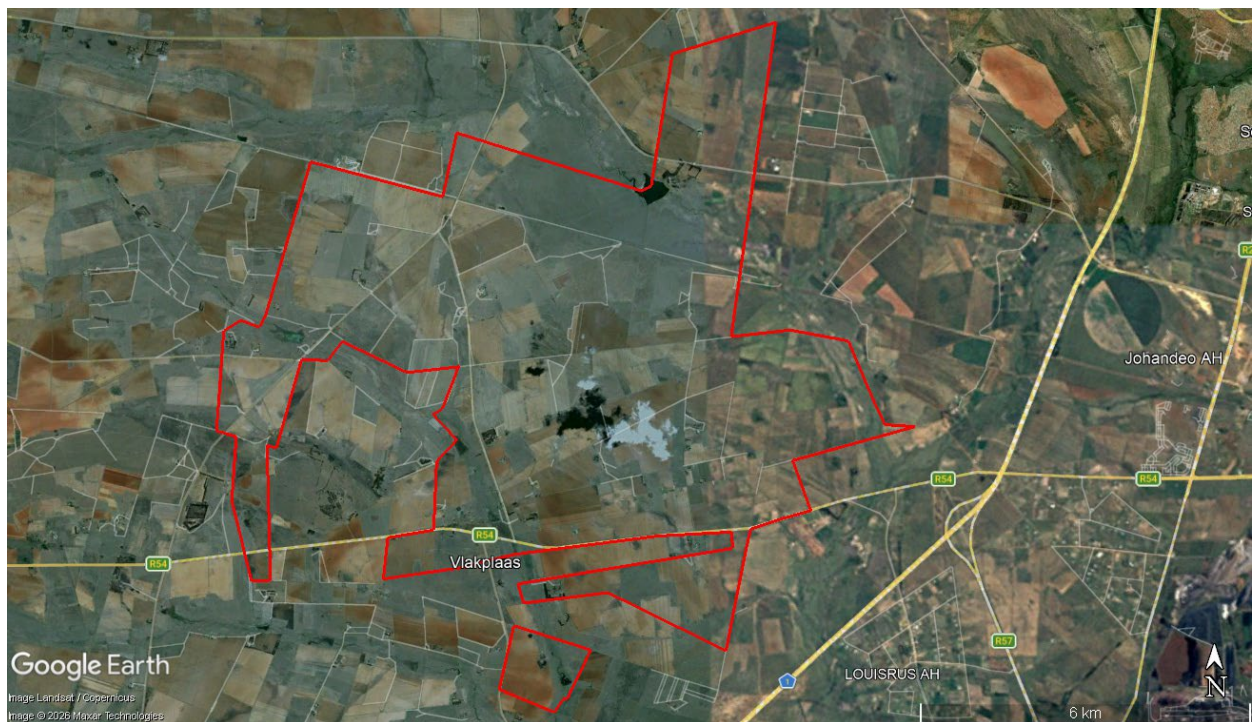


Figure 9: Satellite Imagery of Survey Area – November 2004

5.2 Existing Status

The status of the study area has not changed from its original land use; i.e., utilized for agricultural practices. The agricultural practices in question include grazing, cultivation and the breeding of livestock for beef production. Proof of continuing agricultural practices can be seen below in Figure 10.

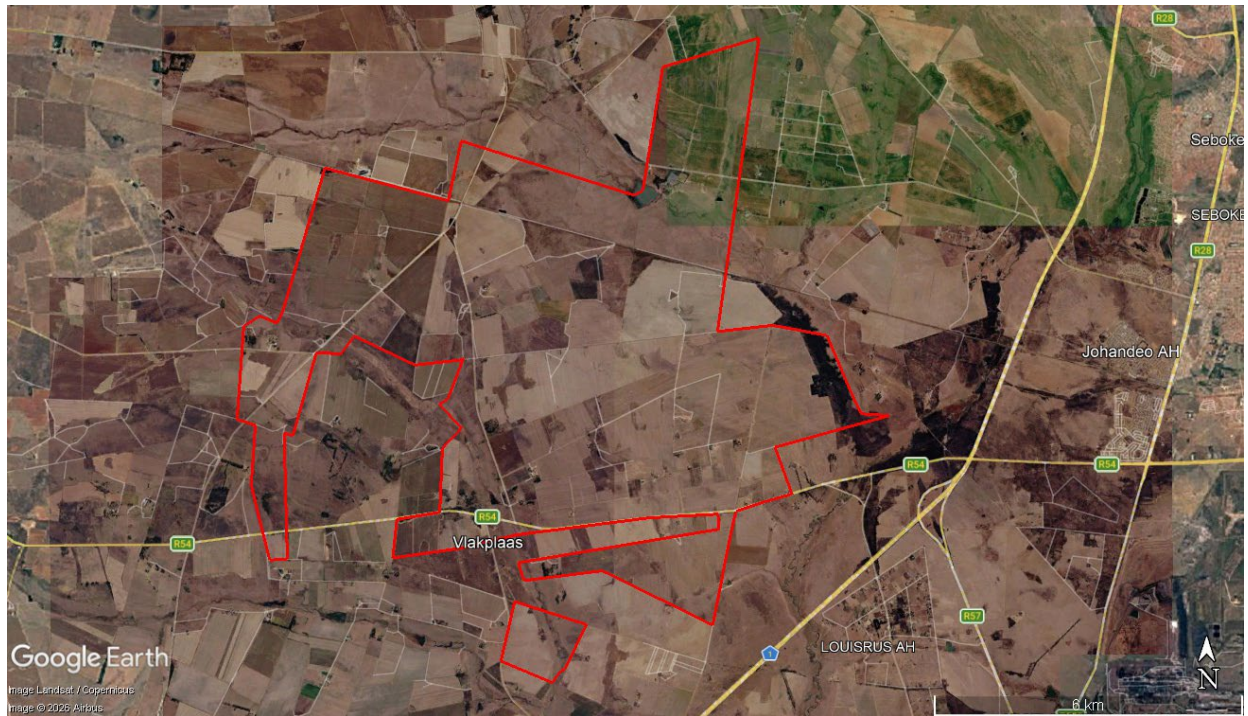


Figure 10: Satellite Imagery of Survey Area – July 2026

5.3 Civil Aviation and Defence

According to the National Web Based Screening Tool, the site has a high sensitivity in terms of civil aviation as it occurs between 8km and 15km from a major civil aviation aerodrome, and within 8km of other civil aviation aerodromes. The area is demarcated as a dangerous and restricted airspace. A wide variety of aviation facilities can be found within 100km of the site (Figure 11).



- Saffire Airstrip (18.9km)
- Fochville Airstrip (22.8km)
- Driefontein Airfield (25.4km)
- Vereeniging Airport (Aerovaal) (26.7km)
- Syferfontein Air Strip (29.0km)
- Star Airport (32.5km)
- Parys Airport (37.0km)
- Tedderfield Air Park (39.0km)
- Carletonville Airfield (42.9km)
- Kliprivier Airfield (43.9km)
- Stonehenge in Africa Airstrip (45.0km)
- Leeukop Aero Club (47.4km)
- Panorama Flight Park (48.0km)

Two light aircraft airports are located within the Emfuleni Local Municipality, according to the Spatial Development Framework of the Emfuleni Local Municipality for 2023-2024. These being the Vanderbijlpark Airport as well as the Vereeniging Airport also known as Aeroaal. The Vanderbijlpark Airport is located on the western boundary of Bophelong and is presumed to be closed down. The Vereeniging Airport is located on the eastern boundary of Roshnee and has the capacity to accommodate approximately 64 planes and an average of 80 tons of freight per month with hanger facilities as well as two runways. OR Tambo International Airport is approximately 80km from Emfuleni and therefore air traffic from Vereeniging Airport must be coordinated with the OR Tambo International Airport control tower as the airport is located within its airspace.

The OR Tambo International Airport is approximately 75km north-east and the Lanseria International Airport is located approximately 77km north-north-east of the proposed development. As such, it is expected that such development will impact on civil aviation. The Vaal Aerotropolis will therefore also coordinate with the OR Tambo International Airport and Lanseria International Airport to control air traffic.

The proposed Vaal Aerotropolis development is envisaged to include aviation-related infrastructure and services, commercial and industrial activities, logistics and warehousing facilities, mixed-use and supporting hotel development, as well as associated municipal and transport infrastructure within the boundaries of the current application area.

Applicable civil aviation and defence assessments will be conducted.

6 SITE VERIFICATION

6.1 Site Conditions

Several site visits have been conducted in November 2023, February 2024, as well as in April, May, and October 2025 to conduct specialist assessments and gather information for this Site Verification Assessment Report. Following these site visits, the following was noted:

- The site is located between two perennial water courses namely the Leeuspruit, located along the northeastern portion, and the Klein Rietspruit, a tributary to the Rietspruit River, along the southwestern portion of the study area.
- Land use in the study area, presently, is predominantly agricultural and consists of cultivated land, pastures for livestock and some farmhouses with outbuildings for residents.
- Various dams, rivers, wetlands and riparians were found within the total survey area.
- The site assessment undertaken indicated that whilst from a desktop perspective, the site falls within the Soweto Highveld Grassland threatened ecosystem, the vegetation found on site, however, is not representative of Soweto Highveld Grassland.

- Due to the rural nature of the site, there are currently no bulk sewer, water, and stormwater infrastructure available in the area.
- Boreholes are presently utilised by residents as a source of water for domestic and agricultural purposes.
- Sewer services in the area are, mostly, in the form of septic tanks and French drains.
- Electricity is available via direct ESKOM connections.
- Access roads are mainly in the form of provincial roads and/or secondary (i.e., gravel) roads.

6.2 Updated Sensitivity

Based on the site verification assessment, the desktop sensitivity table (Table 6) was updated to better explain the current on-site conditions. Information on the required specialist studies and general comments are also provided.

Table 6 : Updated Site Verification Sensitivity

Theme	Sensitivity				Specialist Assessment Required
	Very High	High	Medium	Low	
Agricultural					The National Screening Tool as well as the Agricultural Potential Atlas IV, indicates that the agricultural potential of the proposed site is very high to moderate . As such, an Agricultural Impact Assessment will be undertaken and included in the EIA Report.
Animal Species					The National Screening Tool has indicated that the Animal species sensitivity is high , with potential <i>Aves-Tyto capensis</i> , <i>Aves-Mycteria ibis</i> , <i>Aves-Hydroprogne caspia</i> , <i>Aves-Eupodotis senegalensis</i> , <i>Insecta-Aloeides dentatis dentatis</i> , <i>Insecta-Lepidochrysops praeterita</i> , <i>Insecta-Lepidochrysops procera</i> , <i>Mammalia-Crociodura maquassiensis</i> , <i>Mammalia-Hydricis maculicollis</i> and <i>Mammalia-Ourebia ourebi ourebi</i> . An Animal Impact Assessment, Avi-Faunal Assessment as well as a Terrestrial Biodiversity Impact Assessment will be undertaken and included in the EIA Report.
Aquatic Biodiversity					The National Screening Tool has indicated that the aquatic biodiversity is very high (rivers and wetlands). A Wetland Impact Assessment and an Aquatic Impact Assessment will be undertaken and included in the EIA Report.

Theme	Sensitivity				Specialist Assessment Required
	Very High	High	Medium	Low	
Archaeological and Cultural Heritage					The Screening Tool indicated low sensitivity i.r.o. the heritage theme. To ensure no negative impact on any sites of Heritage significance, a Phase 1 Heritage Impact Assessment (HIA) will be undertaken and included in the EIA Report. Formal clearance in terms of the National Heritage Resources Act (NHRA) from the South African Heritage Resource Agency (SAHRA) is required, and will be applied for, as part of the EIA process.
Civil Aviation					The National Screening Tool has indicated that the site has high civil aviation sensitivity. As the proposed development is for an airport, a Civil Aviation Report will be undertaken and included in the EIA Report.
Defence					None
Palaeontology					The National Screening Tool has indicated that the Palaeontology sensitivity is high. A Palaeontological Impact Assessment will be undertaken and included in the EIA Report.
Plant Species					The National Screening Tool has indicated that the Plant species sensitivity is low. To ensure a rigorous and comprehensive understanding of the possible sensitivity of the area, a Plant Species Assessment as well as a Terrestrial Biodiversity Impact Assessment will be undertaken and included in the EIA Report.
Terrestrial Biodiversity					According to the National Screening Tool, the site has very high sensitivity in terms of terrestrial biodiversity (as the site occurs within a CBA1 and 2, ESA 1 and 2, National Protected Area Expansion Strategy (NPAES), is expected to contain the vulnerable Soweto Highveld Grassland vegetation unit and a section of the application area falls within the Tweefontein Private Nature Reserve). A Terrestrial Biodiversity Impact Assessment will be undertaken and included in the EIA Report



a) Agricultural uses



b) Wetlands and streams on site



c) Drone imagery of study area



d) Some buildings and houses located on site

Figure 12 : Site Photographs

7 CONCLUSION

Based on the findings of this verification assessment, the following specialist studies will be undertaken and included in the EIA Report:

- Agricultural Impact Assessment.
- Air Quality Impact Assessment.
- Animal Impact Assessment.
- Aquatic Impact Assessment.
- Avi-Faunal Assessment.
- Civil Aviation Report.
- Climate Change Impact Assessment.
- Geohydrology Assessment.
- Geotechnical Assessment.
- Heritage Impact Assessment.
- Hydropedology Assessment.
- Noise Impact Assessment.
- Palaeontological Impact Assessment.
- Plant Species Assessment.
- Socio-Economic Assessment.
- Terrestrial Biodiversity Assessment.
- Traffic Impact Assessment.
- Visual Impact Assessment.
- Wetland Assessment.

No further sensitivities were identified that required specific specialist assessment and thus no further studies are deemed necessary.

APPENDICES

A. National Screening Tool Report