

Appendix G4: Freshwater Compliance Statement





forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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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

Aquatic biodiversity compliance statement for the proposed Sedibeng maltings plant at Graceview Industrial Park, Gauteng Province.

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

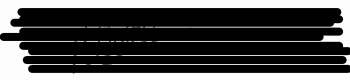
Title of Specialist Assessment	Aquatic biodiversity compliance statement
Specialist Company Name	Scientific Aquatic Services (Pty) Ltd.
Specialist Name	Monique Botha
Specialist Identity Number	████████████████████
Specialist Qualifications:	PhD Env. Sci.
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SPECIALIST DECLARATION FORM – AUGUST 2023

2. DECLARATION BY THE SPECIALIST

I, Monique Botha 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

Scientific Aquatic Services (Pty) Ltd.

Name of Company:

06 Aug 2024

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Monique Botha, _____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

Scientific Aquatic Services PTY Ltd
Name of Company

06 Aug 2024

Date

Signature of the Commissioner of Oaths

Signature of the Commissioner of Oaths

2024-08-06
Date





SCIENTIFIC AQUATIC SERVICES

AQUATIC BIODIVERSITY

COMPLIANCE STATEMENT

**FOR THE PROPOSED SEDIBENG MALTINGS
PLANT AT GRACEVIEW INDUSTRIAL PARK,
GAUTENG PROVINCE**

Prepared for: Royal HaskoningDHV (Pty) Ltd.
Report author: M. Botha (Cand. Sci. Nat.)
Report reviewer: P da Cruz (Cert. Sci. Nat.);
Report Reference: SAS 24-1068
Date: June 2024



Part of the SAS Environmental Group of Companies

Website: <http://www.sasenvironmental.co.za>

EXECUTIVE SUMMARY

Scientific Aquatic Services (Pty) Ltd. (SAS) was appointed by Royal HaskoningDHV (Pty) Ltd. to undertake a freshwater assessment to verify the presence of freshwater ecosystems within the area demarcated for the proposed Sedibeng Maltings Plant at Graceview Industrial Park, within the Midvaal Local Municipality and Sedibeng District Municipality, Gauteng Province. The proposed footprint area of the Sedibeng Maltings Plant will hereafter be referred to as the 'study area'.

Following on from desk-based investigation of possible freshwater features in the study area and investigation area (defined as a 500 m radius around the study area, in line with GN 4167 of 2023 as it relates to the National Water Act (NWA), 1998 (Act No. 36 of 1998) as amended), a field assessment was undertaken on the 13th of May 2024 to verify the presence of freshwater features. It was confirmed that no freshwater ecosystems occur in the study and investigation area.

The Department of Forestry, Fisheries and Environment (DFFE) National Web-based Environmental Screening Tool (2020), provides the criteria for the assessment and reporting of impacts on aquatic/freshwater biodiversity for activities requiring EA. The DFFE Web-based Environmental Screening Tool has designated the study area as being of low aquatic biodiversity sensitivity, which is in line with the findings of the field assessment. The proposed Sedibeng Maltings Plant therefore poses no significant quantum of risk to any freshwater ecosystems in the area. Accordingly, an Aquatic Biodiversity Compliance Statement has been compiled. Note that this assessment does not consider infrastructure associated with discharge of wastewater, and this aspect will therefore have to be included in an additional assessment when the final method of wastewater discharge is confirmed.

Due to the closest freshwater ecosystem being at a distance of greater than 500 m from the study area, no Zones of Regulation, or the required GDARD freshwater-related buffers will apply to the study area and proposed Sedibeng Maltings Plant, nor would the proposed plant be subject to a Water Use Authorisation in terms of Section 21 c and i of the National Water Act (Act No 36 of 1998). The proposed Sedibeng Maltings Plant poses no significant quantum of risk to existing freshwater ecosystems in the area and therefore no risk assessment is required in accordance with GN4167 of 2023 as it relates to the NWA, 1998 (Act No. 36 of 1998) as amended.



GLOSSARY OF TERMS

Alien vegetation:	Plants that do not occur naturally within the area but have been introduced either intentionally or unintentionally. Vegetation species that originate from outside of the borders of the biome -usually international in origin.
Alluvial Material / deposits	Sedimentary deposits resulting from the action of rivers, including those deposited within river channels, floodplains, etc.
Anaerobic	The absence of molecular oxygen.
Catchment:	The area where water is collected by the natural landscape, where all rain and run-off water ultimately flow into a river, wetland, lake, and ocean or contributes to the groundwater system.
Delineation (of a wetland):	To determine the boundary of a wetland based on soil, vegetation, and/or hydrological indicators.
Ecoregion:	An ecoregion is a "recurring pattern of ecosystems associated with characteristic combinations of soil and landform that characterise that region".
Hydromorphy	A process of gleying and mottling resulting from intermittent or permanent presence of free water in soil. Results in hydromorphic soils.
Landtype	Distinct areas defined as part of the Land Type Survey of South Africa based on a unique combination of soil pattern, macroclimate and terrain form.
Reach	A longitudinal stretch of a river, wetland or watercourse
Riparian Area /Zone	The physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterised by alluvial soils, which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent land areas
Temporary zone of wetness:	The outer zone of a wetland characterised by saturation within 50 cm of the surface for less than three months of the year.
Wetland Vegetation (WetVeg) type:	Broad groupings of wetland vegetation, reflecting differences in regional contexts, such as geology, climate, and soil, which may, in turn, influence the ecological characteristics and functioning of wetlands.



ACRONYMS

AIP	Alien Invasive Plant
AIS	Alien Invasive Species
°C	Degree Celsius
CBA	Critical Biodiversity Area
DEA	Department of Environmental Affairs
DFFE	Department of Forestry, Fisheries and the Environmental
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EIS	Ecological Importance and Sensitivity
EPL	Ecosystem Protection Level
ESA	Ecological Support Area
ETS	Ecosystem Threat Status
EWR	Ecological Water Requirement
FEPA	Freshwater Ecosystem Priority Area
GDARD	Gauteng Department of Agriculture and Rural Development
GIS	Geographic Information System
GN	Government Notice
GPS	Global Positioning System
Ha	Hectares
HGM	Hydrogeomorphic
IFC	International Finance Corporations
km	Kilometre
m ²	Square metre
m ³	Cubic metre
mamsl	Metres above mean sea level
MAP	Mean Annual Precipitation
mm	Millimetre
NBA	National Biodiversity Assessment
NEMA	National Environmental Management Act, Act 107 of 1998
NFEPA	National Freshwater Ecosystem Priority Area
NWA	National Water Act, Act 36 of 1998
ONA	Other Natural Area
PES	Present Ecological State
SACNASP	South African Council for Natural Scientific Professions
SANBI	The South African National Biodiversity Institute
SAS	Scientific Aquatic Services
SWSA	Strategic Water Source Area
subWMA	Sub-Water Management Area
WetVeg-Group	Wetland Vegetation Group
WMA	Water Management Area
WMS	Water Management System
ZoR	Zone of Regulation



DOCUMENT GUIDE

Table 1 below provides the specialist report requirements for the assessment and reporting of impacts to the aquatic biodiversity in terms of Government Notice 320 as promulgated in Government Gazette 43110 of 20 March 2020 in line with the Department of Environmental Affairs screening tool requirements, as it relates to the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended (NEMA). It is important to note that the aquatic biodiversity theme replaces Appendix 6 of NEMA.

Table A: Specialist report requirements for the assessment and reporting of impacts to the aquatic biodiversity

No.	Requirements	Section in Report
3.1	The compliance statement must be prepared by a suitably qualified specialist registered with the SACNASP, with expertise in the field of aquatic sciences.	Appendix C
3.2	The compliance statement must:	-
3.2.1	be applicable to the preferred site and the proposed development footprint;	Section 1, 2, 6
3.2.2	confirm that the site is of "low" sensitivity for aquatic biodiversity; and	Section 6.1
3.2.3	indicate whether or not the proposed development will have an impact on the aquatic features.	Section 8.2
3.3	The compliance statement must contain, as a minimum, the following information:	-
3.3.1	contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae;	Appendix C
3.3.2	a signed statement of independence by the specialist;	Appendix B
3.3.3	a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Section 6
3.3.4	a baseline profile description of biodiversity and ecosystems of the site;	Section 6
3.3.5	the methodology used to verify the sensitivities of the aquatic biodiversity features on the site including the equipment and modelling used where relevant;	Section 1.1, 6.1
3.3.6	in the case of a linear activity, confirmation from the aquatic biodiversity specialist 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;	N/A
3.3.7	where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr;	N/A
3.3.8	a description of the assumptions made as well as any uncertainties or gaps in knowledge or data; and	Section 1.1
3.3.9	any conditions to which this statement is subjected.	Section 6.1, 8.2, 8.3
3.4	A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.	EAP to ensure this requirement is met.



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1. INTRODUCTION AND BACKGROUND SETTING

Scientific Aquatic Services (SAS) (Pty) Ltd. was appointed by Royal HaskoningDHV (Pty) Ltd. to prepare an aquatic biodiversity assessment. This aquatic biodiversity compliance statement was prepared as part of the requirements for the Basic Assessment (BA) process, for the proposed Sedibeng Maltings Plant at Graceview Industrial Park, within the Midvaal Local Municipality and Sedibeng District Municipality, Gauteng Province. The proposed footprint area of the Sedibeng Maltings Plant will hereafter be referred to as the ‘study area’. The footprint area considered in this report excludes any wastewater discharge pipeline infrastructure, as the proposed method for discharge was not finalised at the time this report was written. The area of the proposed development is presented in Figures 1 and 2. A 500 m “zone of investigation” around the study area, (in accordance with General Notice (GN) 4167 of 2023 (as it relates to the National Water Act (Act No. 36 of 1998) as amended), was generated to determine potential risks to possible freshwater ecosystems associated with the study area. This will henceforth be referred to as the “investigation area” (Figures 1 and 2).

The Soufflet Malting Facility is to be established at Graceview Industrial Park in Sedibeng which is located in the southern part of Gauteng. The development is located directly adjacent (south of) the Heineken Sedibeng Brewery, west of the R59 provincial road.

1.1 Assumptions and limitations

The following assumptions and limitations are applicable to this verification report:

- It is assumed that all third-party information used (e.g., GIS data and satellite imagery) is correct at the time of generating this report; and
- The survey was restricted to a single site visit in May (late autumn), but due to the characteristics and condition of the study area, undertaking additional surveys for the purposes of this compliance statement is not considered necessary.
- No confirmation as to the final discharge method of wastewater was available at the time this report was written. Therefore, the usage and discharge of water required for the proposed plant was not specifically assessed as part of this report.



2. PROJECT DESCRIPTION

The objective of the project is the establishment of a malt production plant with annual capacity of 100kT in Phase 1 and 135kT in Phase 2 for the local market. The lifespan of the facility will be approximately 50 years. This includes the time required for undertaking the construction, operation, maintenance and decommissioning. The actual construction work is planned to commence in 2025 and it will take about 24 months to complete.

During the operational phase, the proposed project will require large quantities of water, i.e. for steeping, germination, cleaning, sanitary purposes, laundry and gardening. The quantity of water that will be consumed during phase 1 and phase 2 stages of the project is estimated to be 250,000m³/year and 325,000m³/year respectively. Wastewater will be generated from the industrial processing, and sanitation facilities. The quantity of wastewater that will be discharged during phase 1 and phase 2 stages of the project is estimated to be 200,000m³/year and 260,000m³/year respectively.

The preferred option for wastewater discharge proposed by the proponent is discharge directly into the Ekurhuleni Water Care Company (ERWAT) infrastructure, which will require the addition of a pipeline to convey water from the proposed plant to the nearby Midvaal pumpstation. As an alternative, it is proposed that wastewater is treated on site and discharged into the Klip River. However, no confirmation as to the final discharge method was available at the time this report was written. Therefore, as stated in Section 1, the usage and discharge of water required for the proposed plant was therefore not specifically assessed as part of this report.

3. ASSESSMENT APPROACH

- The desktop assessment, as presented in Section 5, reports on the findings from the relevant national, provincial and municipal datasets (such as the National Freshwater Ecosystem Priority Areas [NFEPA], 2011 database; The National Wetland Map 5 (2018), the North-West Biodiversity Spatial Plan (2015) and the Gauteng Conservation Plan (C-Plan) (2013)), which was undertaken to aid in identifying freshwater ecosystems;
- The national web based Environmental Screening Tool (DEA, 2020) was utilised to screen the study area and investigation area for any environmental sensitivity, with specific focus on aquatic biodiversity sensitivities. The results are presented in Section 4;
- Section 5 reports on the results of the desktop survey, whilst Section 6 reports on the outcome of the site investigation;



- Section 7 addresses compliance of the proposed project in terms of the International Finance Corporations (IFC) performance standards on environmental and social sustainability; and
- Section 8 provides a summary of the applicable legislative conditions that may be applicable.

3.1 Freshwater Definition

The NWA is aimed at the protection of the country's water resources, defined in the Act as:

“a watercourse, surface water, estuary or aquifer”

According to the NWA a watercourse means:

- (a) a river or spring;*
- (b) a natural channel in which water flows regularly or intermittently;*
- (c) a wetland, lake or dam into which, or from which, water flows; and*
- (d) any collection of water which the Minister may, by notice in the Gazette, declare a watercourse.*

A 'Watercourse' as per the definition of the NWA, is referred to in this report as a “freshwater ecosystem”

The NWA further provides definitions of wetland and riparian habitats as follows:

Wetland habitat is “land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.”

Another widely used definition of wetlands is the one used under the **Ramsar Convention**; wetlands are defined as:

“areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres”

However, the presence / absence of hydric soils is the primary determining factor used to define a freshwater feature as a wetland.

This determining factor has been utilised in this assessment. Wetland soils can be termed hydric or hydromorphic soils. **Hydric soils** are defined by the United States Department of Agriculture's Natural Resources Conservation Service as being:



“soils that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part”.

These anaerobic conditions would typically support the growth of hydrophytic vegetation (vegetation adapted to grow in soils that are saturated and starved of oxygen) and are typified by the presence of redoximorphic features.

Riparian habitat includes the physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterized by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent area.

3.2 Freshwater Ecosystem Site Verification

Verification of potential freshwater ecosystems took place according to the method presented in the “Updated manual for the identification and delineation of wetland and riparian resources” (DWAF, 2008). The foundation of the method is based on the fact that freshwater features have several distinguishing factors including the following:

- Landscape position;
- The presence of water at or near the ground surface;
- Distinctive hydromorphic soils;
- Vegetation adapted to saturated soils; and
- The presence of alluvial soils in stream systems.

A field assessment was undertaken on the 13th of May 2024 (late-autumn) during which the presence of any riparian or wetland characteristics as defined by DWAF (2008) and by the NWA, was investigated (please refer to Section 6 of this report).





Figure 1: Digital satellite image depicting the study and investigation area in relation to the surrounding area.



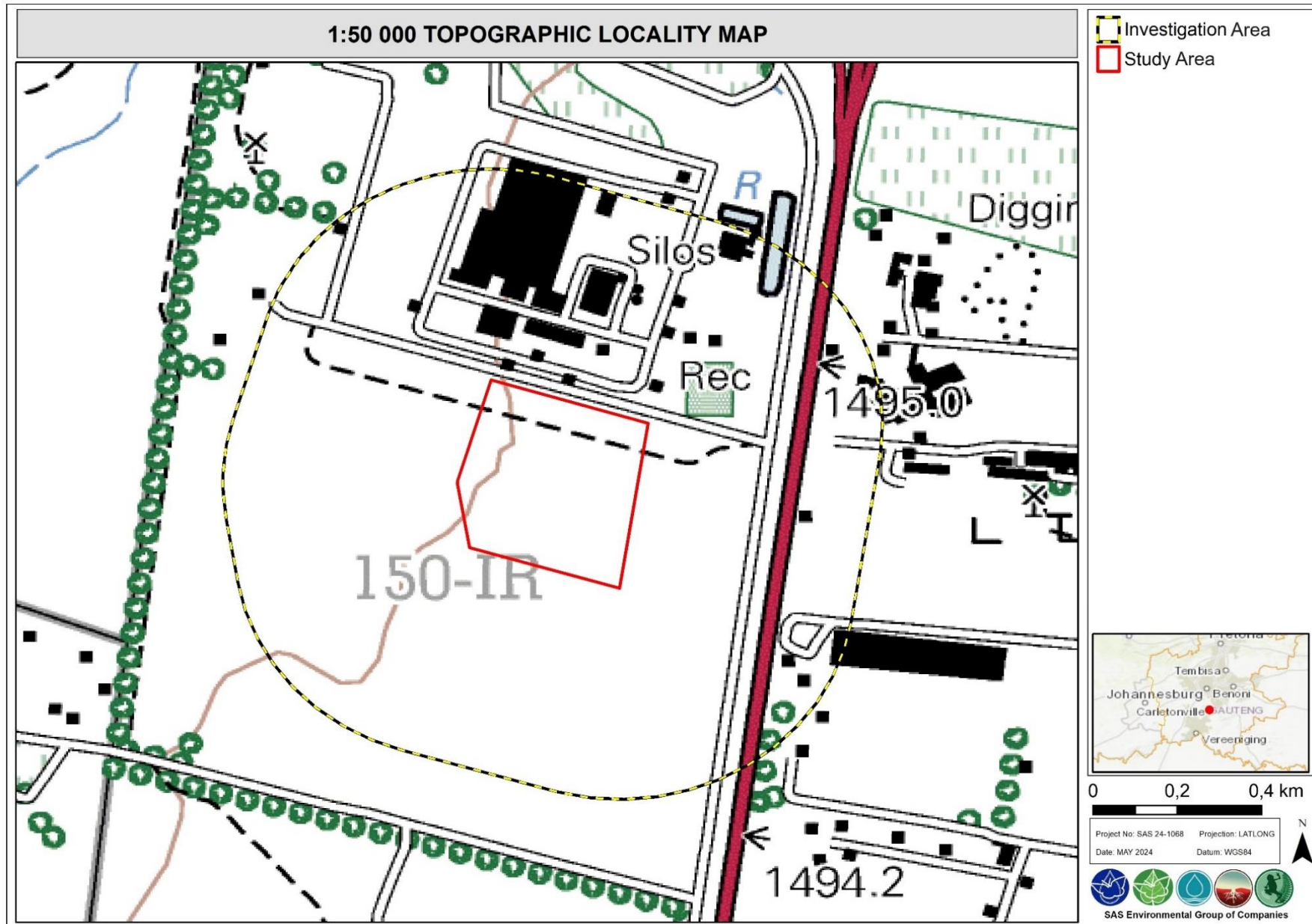


Figure 2: Location of the study and investigation areas depicted on a 1:50 000 topographical map, in relation to surrounding area.



4. APPLICATION OF THE DEPARTMENT OF FORESTRY, FISHERIES AND ENVIRONMENT (DFFE) WEB-BASED ENVIRONMENTAL SCREENING TOOL

The protocol for the assessment of freshwater and aquatic biodiversity prepared in support of the Department of Forestry, Fisheries and Environment (DFFE) (previously the Department of Environmental Affairs (DEA)) National Web-based Environmental Screening Tool (2020), provides the criteria for the assessment and reporting of impacts on aquatic/freshwater biodiversity for activities requiring Environmental Authorisation (EA). For the aquatic biodiversity (freshwater) theme, the requirements are for sites which support various levels of biodiversity. The relevant aquatic / freshwater biodiversity theme in the National Web-based Environmental Screening Tool (2020) has been provided by the South African National Biodiversity Institute (SANBI). Based on the sensitivity rating, a suitably qualified specialist must prepare the relevant report or opinion memorandum which is to be submitted as part of the EA application.

As part of the process of the background information gathering, the DFFE Screening Tool was applied to the study and investigation area. According to the guidelines, an applicant intending to undertake an activity on a site identified as being of “very high sensitivity” for an aquatic biodiversity theme must submit an Aquatic Biodiversity Impact Assessment, or if the area is identified as being of “low sensitivity” then an Aquatic Biodiversity Compliance Statement must be compiled and submitted to the competent authority. It is noted, however, that if during a site survey undertaken by a suitably qualified freshwater ecologist, the sensitivity is determined to be different from that assigned by the screening tool (i.e. that a high risk to the regional aquatic biodiversity or freshwater ecosystems in the area is likely even though it is assigned as a “low” sensitivity, or if it is assigned a high sensitivity, however, the proposed development risks are deemed low) then the relevant assessment approach must be followed based on the site survey results and not the DFFE Screening Tool allocation.

The DFFE Web-based Environmental Screening Tool indicates that the study area is classified as an area of low aquatic biodiversity sensitivity (Figure 3). This correlates with the findings of the site visit confirming that no freshwater ecosystems occur within the study or associated investigation area, which motivates the consideration of classifying the area as being of a “low” sensitivity within the context of this development.



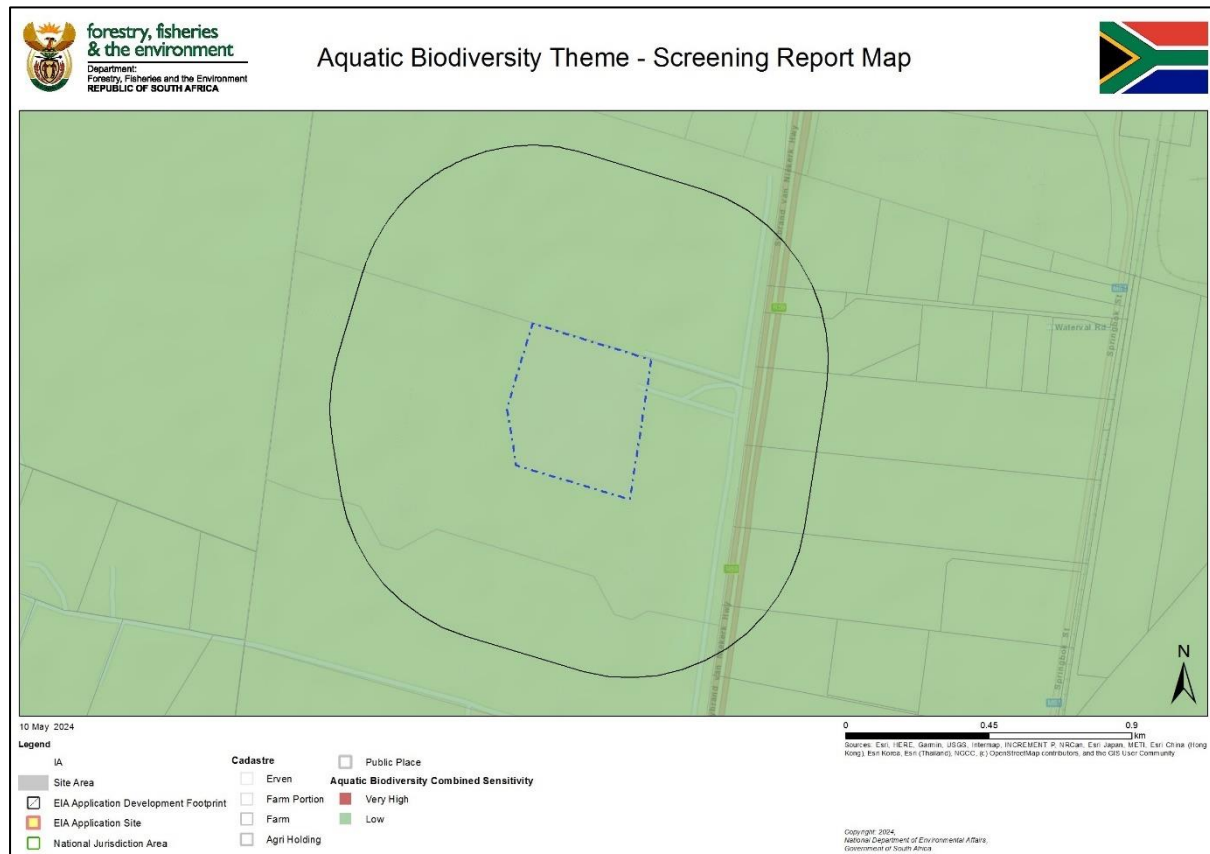


Figure 3: The Screening Tool image depicting the sensitivity associated with the investigation area in relation to the surrounding area.

5. DESKTOP INVESTIGATION FINDINGS

A background study of relevant national, provincial and municipal datasets (such as the National Freshwater Ecosystem Priority Areas [NFEPA] 2011 database; The National Wetland Map 5 (2018) and the Gauteng Province C-Plan (2011)) was undertaken to aid in defining presence of any freshwater ecosystems prior to the site survey of the study area (see Table 1) as well as the associated 500 m investigation area. The results are summarised in the dashboard and relevant maps below.

- According to the NFEPA (2011) and National Wetland Map (NBA 2018) freshwater databases, no wetlands or rivers are located within the study area or the investigation area.
- According to the Gauteng C-Plan, the study area is not associated with a CBA or ESA.
- The topo-cadastral drainage map layer (CDNGI, 2006) indicates no watercourses within the study or investigation area.
- The DFFE Web-based Environmental Screening Tool has designated the study area as being of low aquatic biodiversity sensitivity.

The results are summarised in the dashboard below.

Table 1: Desktop data relating to the characteristics of the freshwater ecosystems / features associated with the study and investigation area [Quarter Degree Square (2628AC)].

Aquatic ecoregion and sub-regions in which the study area is located		Detail of the study area in terms of the National Freshwater Ecosystem Priority Area (NFEPA) (2011) Database	
Ecoregion	Highveld	FEPACODE	The study area and associated investigation area are not located within a sub quaternary catchment currently considered important in terms freshwater conservation.
Catchment	Vaal		
Quaternary Catchment	C22D		
WMA	Upper Vaal	NFEPA Wetlands	According to the NFEPA Database, no wetlands are located within the study area or within the investigation area.
subWMA	Downstream Vaal Dam	Wetland Vegetation Type	The study area is situated within the Dry Highveld Grassland Group 5 Vegetation Type, indicated as Least Threatened (LT) by Mbona <i>et al.</i> (2015).
Characteristics of the Highveld Ecoregion Level II (Kleynhans <i>et al.</i>, 2007)			
Level II Code	11.01	NFEPA Rivers	As per the NFEPA database, no rivers are indicated within the study area or associated investigation area.
Dominant primary terrain morphology	Plains		
Dominant primary vegetation types	Rocky Highveld Grassland; Mixed Bushveld	National Biodiversity Assessment (2018): South African Inventory of Inland Aquatic Ecosystems (SAIIAE) (National Wetland Map 5 is included in the NBA)	
Altitude (m a.m.s.l)	1300 to 1900	According to the NBA 2018: SAIIAE Database, no natural wetlands are indicated by the database to be within the study area or the investigation area. The Artificial Wetlands Database indicates two open reservoirs north west of the study area, within the investigation area. According to the NBA Database, no rivers are indicated within the study area or associated investigation area.	
MAP (mm)	500 to 700		
The coefficient of Variation	20 to 34		
Rainfall concentration index	55 to 64		
Rainfall seasonality	Early to mid-summer		
Mean annual temp. (°C)	14 to 18		
Winter temperature (July)	0 to 20		
Summer temperature (Feb)	12 to 30	Strategic Water Source Areas (2021)	
Median simulated runoff (mm)	20 to 60	Surface water SWSAs are defined as areas of land that supply a disproportionate (i.e., relatively large) quantity of mean annual surface water runoff in relation to their size. They include transboundary areas that extend into Lesotho and Swaziland. The sub-national Water Source Areas (WSAs) are not nationally strategic as defined in the report but were included to provide complete coverage.	
Ecological Status of the most proximal sub-quaternary reach (DWS, 2014)			
Sub-quaternary reach	C22C - 01509 (Rietspruit River)	The study area and its associated investigation area are not indicated to be within a surface Strategic Water Source Area.	
Distance from the study area	± 1.4 km east		
Assessed by an expert?	Yes	National web-based Environmental Screening Tool (2020) (Accessed 2024)	
PES Category Median	Largely Modified (Class D)	The screening tool is intended for the pre-screening of sensitivities in the landscape to be assessed within the EIA process. This assists with implementing the migration hierarchy by allowing developers to adjust their proposed development footprint to avoid sensitive areas.	
Mean EI Class	Low	The study area and associated investigation area are indicated by the Screening Tool is in an area considered to be of low aquatic biodiversity sensitivity.	
Mean ES Class	Low		
Stream Order	3		
Default Ecological Class	D		
Detail of the Assessment area in terms of the Land Type Data (Job <i>et al.</i>, 2019)			
The study area and the majority of the investigation area fall within the Ab7 land type while a portion of the investigation area in the north east is indicated to be in the Ab8 land type. Red and yellow, freely-drained apedal soils with Hutton, Griffin and Clovelly soils occupying more than 40% of the landscape. Ab Land Types are dominated by red soils (yellow soils <10%).			
Detail of the study area in terms of the Gauteng Conservation Plan (C-Plan V3.3, 2011)			
Critical Biodiversity Area (CBA)	A Small portion of the investigation area in the west of the study area is associated with an Important Critical Biodiversity Area (CBA). The CBA is considered to be an important area for Red Listed bird habitat and for primary vegetation. CBAs include natural and near-natural terrestrial and aquatic features that are required to meet targets for biodiversity patterns and ecological processes. Furthermore, CBAs are an area considered important for the survival of threatened species and include valuable ecosystems such as wetlands, untransformed vegetation, and ridges.		
Ecological Support Area (ESA)	None of the study area is indicated to be within an ESA. ESAs are natural, near natural, degraded or heavily modified areas required to be maintained in an ecologically functional state to support CBAs and/or Protected Areas.		
Wetland and River Buffers	The database does not indicate any river or wetland buffers in the study area or associated investigation area.		



Gauteng Environmental Management Framework (GEMF, 2014)

The entire study area and the majority of the investigation area are indicated to be located within the Industrial and Large Commercial (Zone 5) Zone while the remainder of the investigation area in the south is indicated to be within the Urban Development Zone (Zone 1).

Zone 1 (Urban Development Zone): The intention of this zone is to streamline urban development activities in it and to promote development infill, densification, and concentration of urban development in order to establish a more effective and efficient city region that will minimise urban sprawl into rural areas.

Zone 5 (Industrial and Large Commercial Focus Zone): The intention with Zone 5 is to streamline non-polluting industrial and large-scale commercial (warehouses etc.) activities in areas that are already used for such purposes and areas that are severely degraded but in proximity to required infrastructure.

CBA = Critical Biodiversity Area; DWS = Department of Water and Sanitation; EI = Ecological Importance; ES = Ecological Sensitivity; EPL = Ecosystem Protection Level; ESA = Ecological Support Area; ETS = Ecosystem Threat Status; m.a.m.s.l = Metres Above Mean Sea Level; MAP = Mean Annual Precipitation; NBA = National Biodiversity Assessment; NFEPA = National Freshwater Ecosystem Priority Areas; PES = Present Ecological State; SAIIE = South African Inventory of Inland Aquatic Ecosystems; WMA = Water Management Area



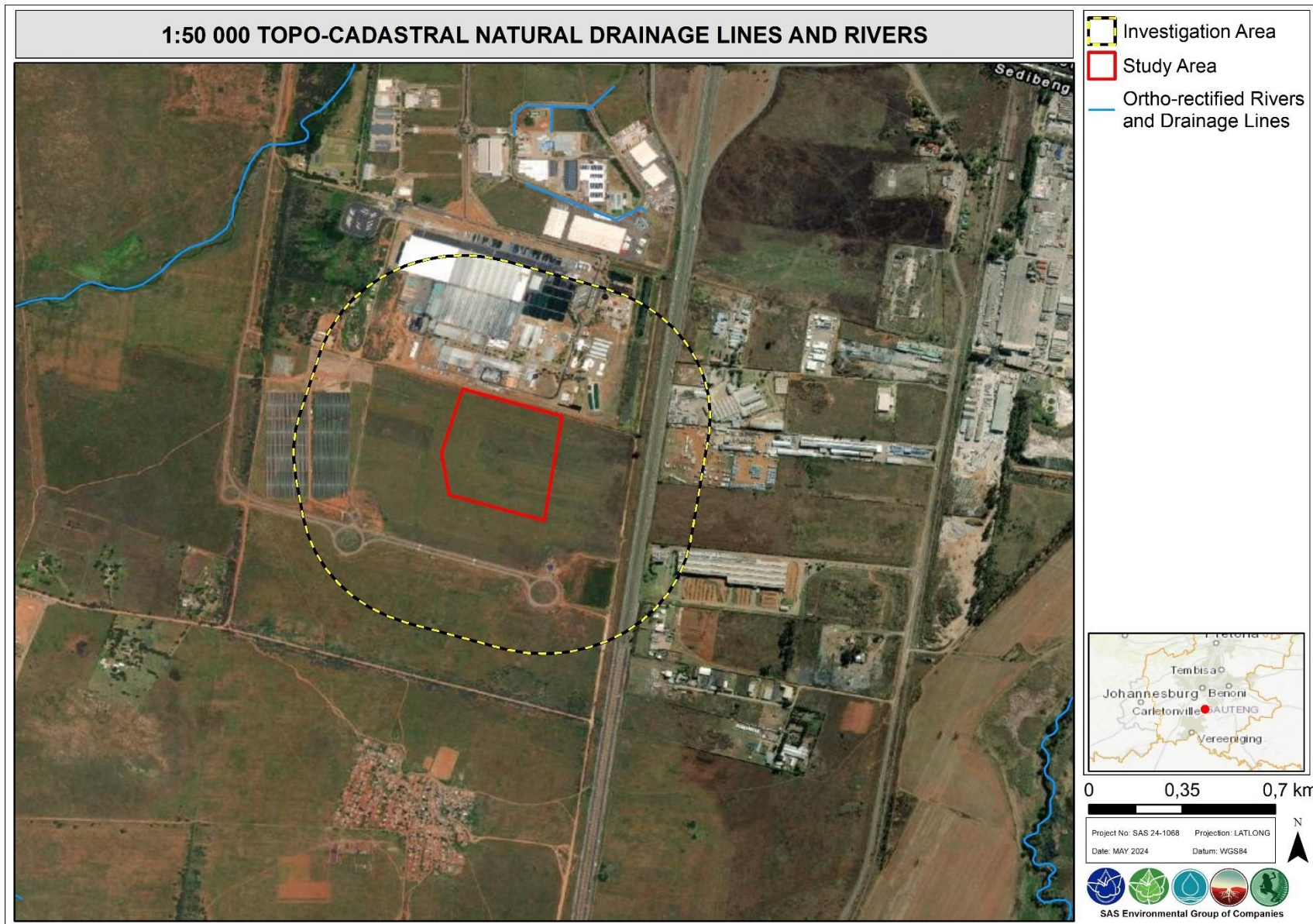


Figure 4: Map of natural surface water drainage in the study and investigation area, as presented on the 1:50 000-scale topo-cadastral map for the area.

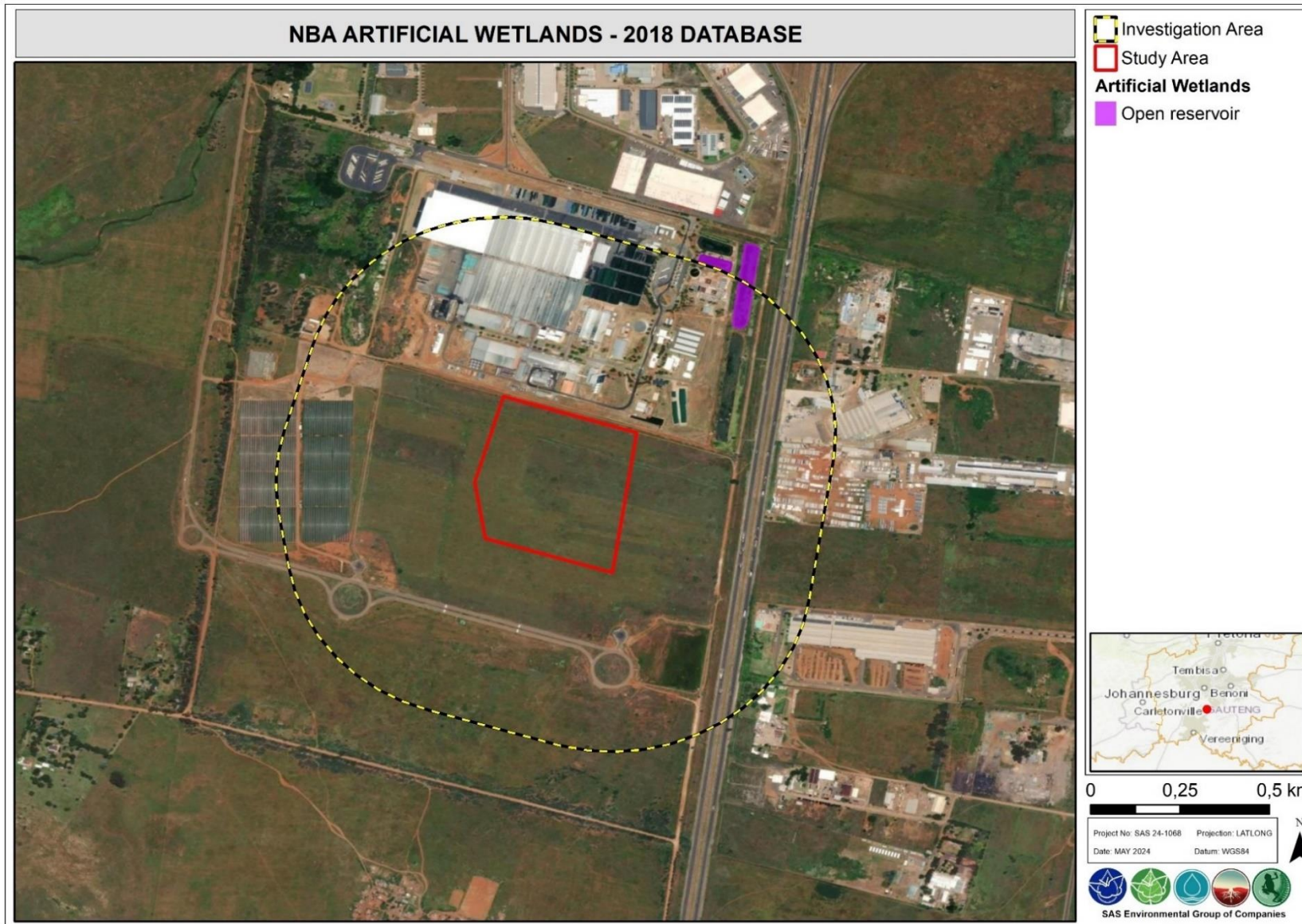


Figure 5: Artificial water features associated with the investigation area according to the National Biodiversity Assessment database (2018).

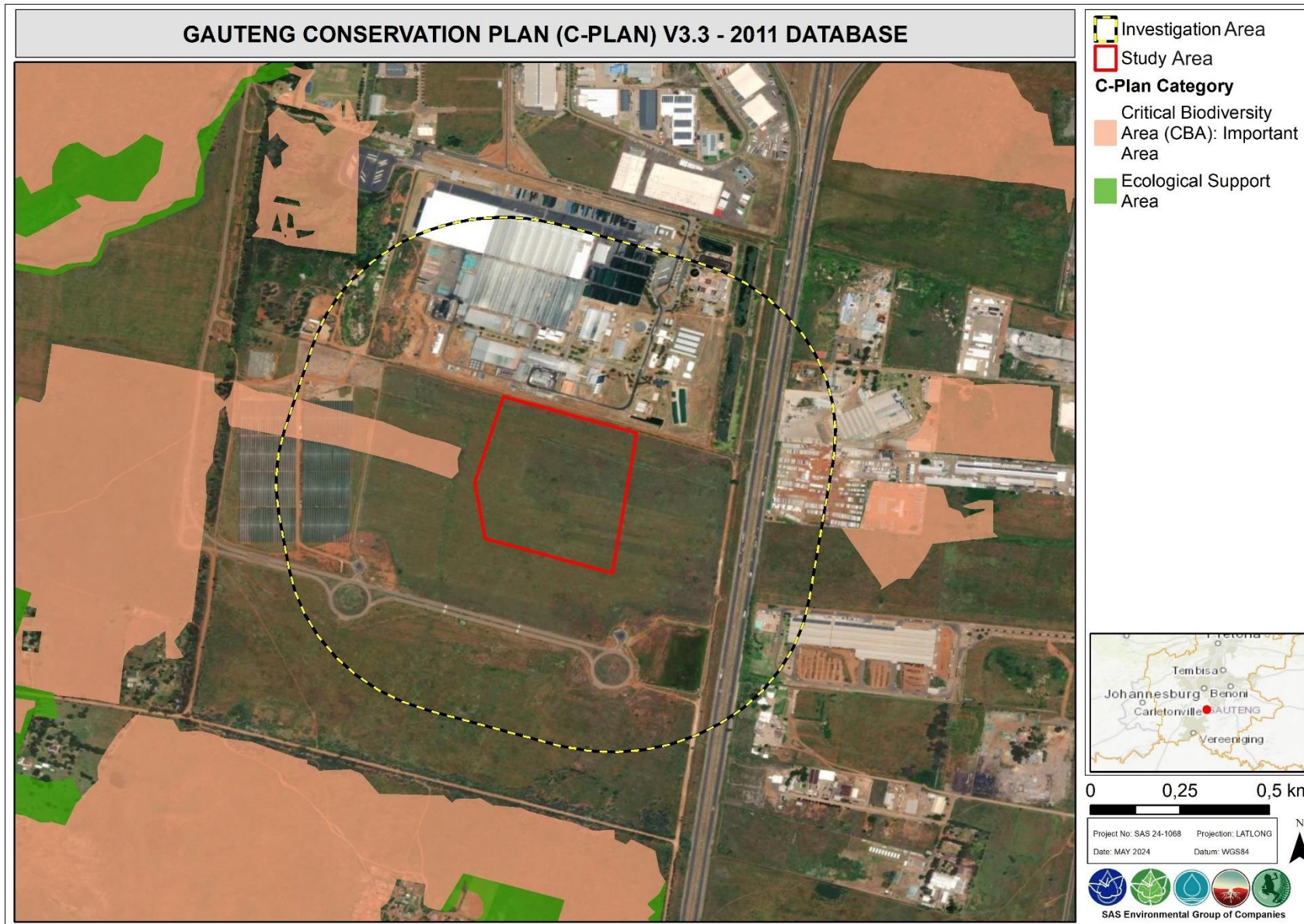


Figure 6: Ecologically important areas associated with the study and investigation area according to the Gauteng Conservation Plan (C-Plan V3.3, 2011).



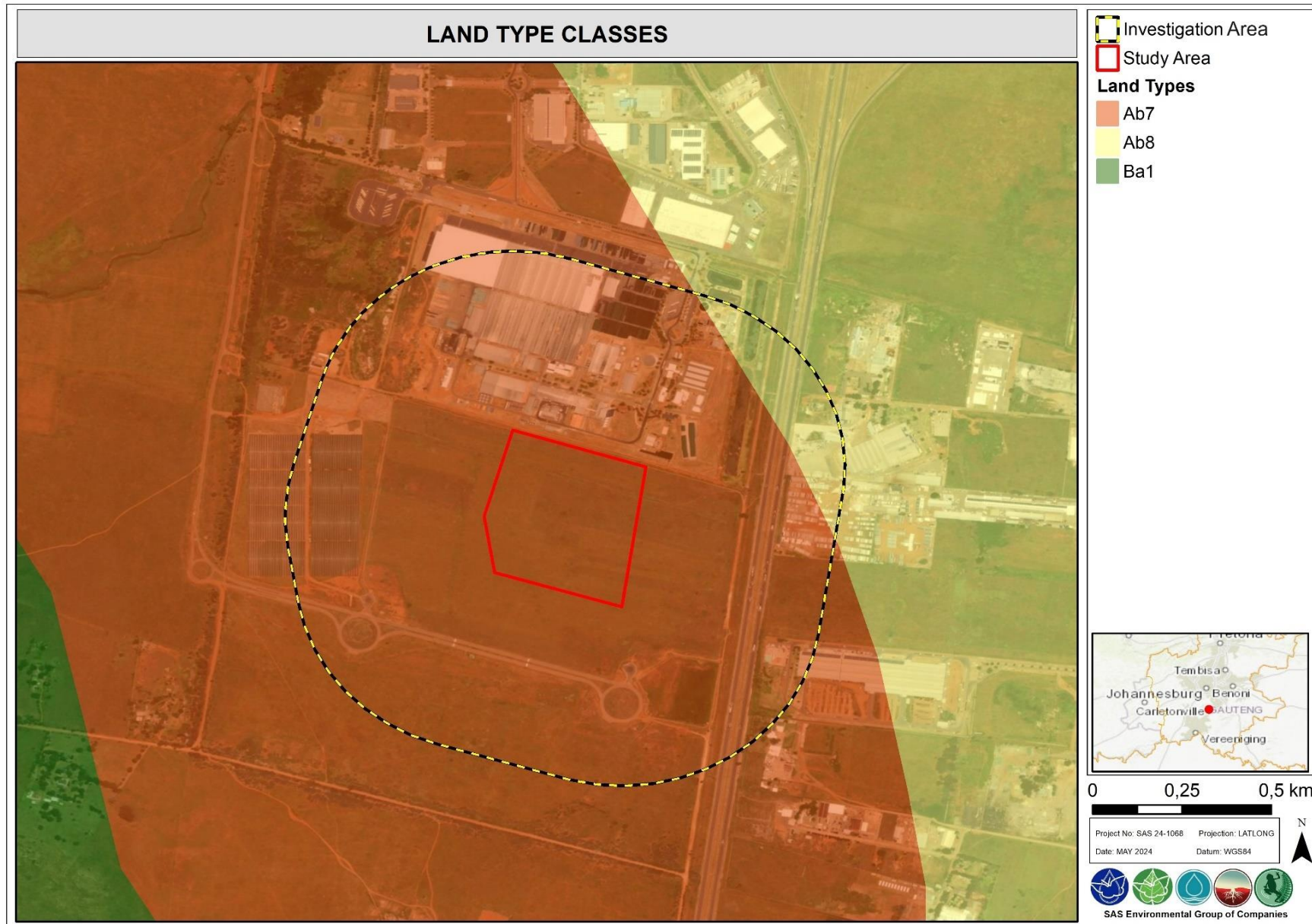


Figure 7: Details of the study and investigation area regarding land type data.



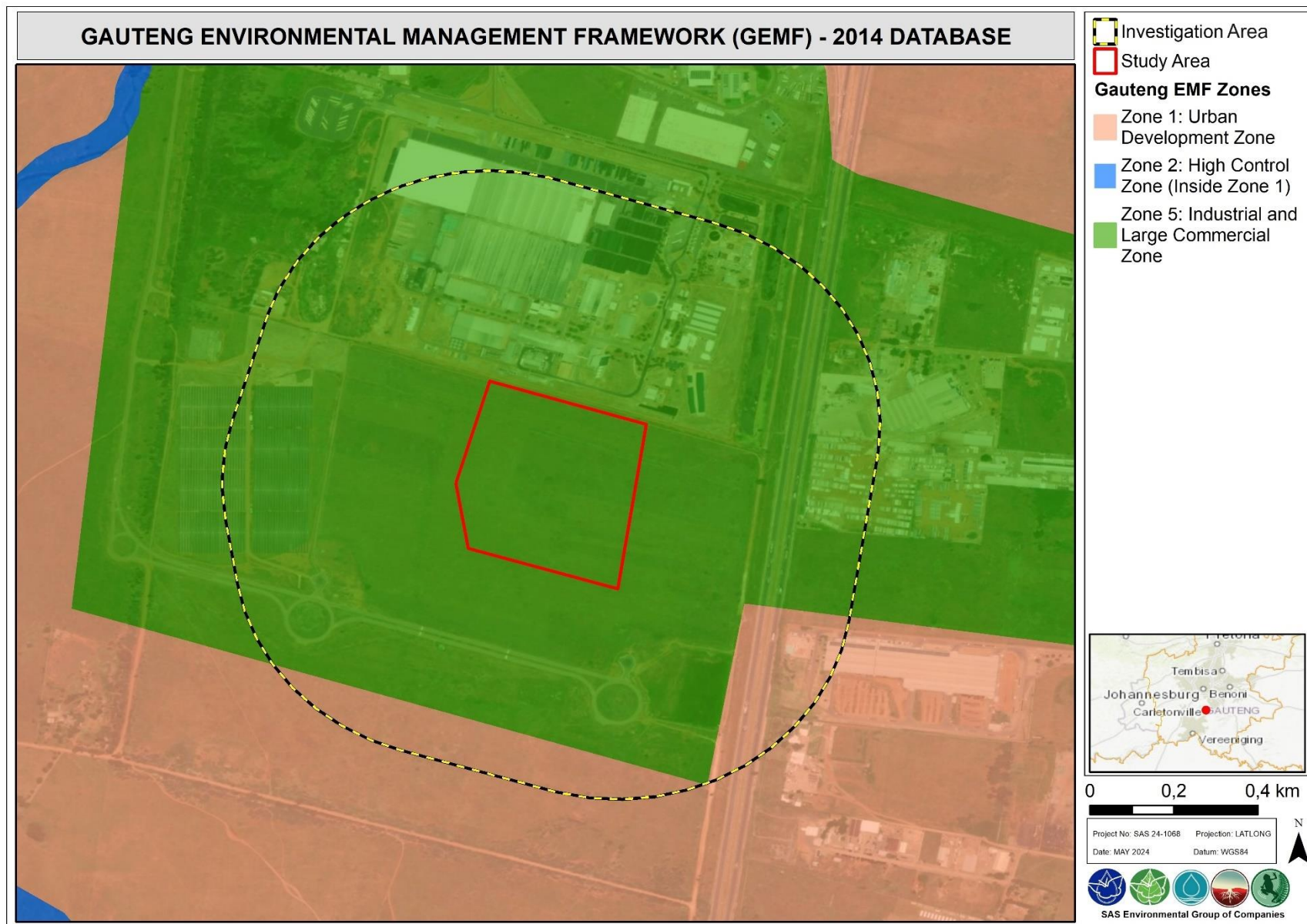


Figure 8: Details of the study and investigation area regarding the Gauteng Environmental Management Framework (GEMF, 2014).



6. SITE SURVEY RESULTS

Aerial photographs, digital satellite imagery, and provincial and national wetland databases (as outlined in Section 5) were used to identify areas of interest at a desktop level. All possible measures were undertaken to ensure that all freshwater ecosystems within the study and investigation area were assessed. Site investigation of the study area was undertaken in May 2024, using visual assessment methods as well as digital satellite imagery. In addition, a bucket soil auger was used to verify soil characteristics that may indicate the presence or lack thereof of any potential wetland/riparian features in the study area and associated investigation area.



Figure 9: Representative photograph of the study area, which supports a secondary grassland vegetation component, with no species indicative of wetland/watercourse conditions (A). The soils throughout the study area are red, unconsolidated, apedal soils of the Hutton soil type with no indication of hydromorphism (B).

The vegetation within the study area is predominantly herbaceous, and support species typically associated with secondary/disturbed grassland. Dominant species identified during the site visit include *Aristida congesta* subsp. *congesta*; *Cynodon dactylon*; *Eragrostis curvula*; *Hyparrhenia* spp.; *Melinis repens*; *Nidorella resedifolia*; *Pogonarthria squarrosa*; *Sporobolus africanus* and *Trichoneura grandiglumis*. No plant species typically associated with permanent or temporary wet conditions (hydrophytes) were observed. From historical satellite imagery, it is apparent that the entire site was previously disturbed by mowing for the production of livestock fodder. Within the greater investigation area, the vegetation is also indicative of

previous disturbance, the most recent being the construction activities associated with the new road south of the study area, which has recently been completed. Alien Invasive Plants (AIPs) were found in low to medium abundance at the time of the site visit, and included *Bidens pilosa*; *Conyza* spp.; *Seriphium plumosum*; *Solanum sisymbriifolium*; *Tagetes minuta* and *Verbena bonariensis*.

Upon investigation of the soil on site, it was confirmed that the soil in the study area did not display any characteristics of redoximorphism such as mottling (indicators of a fluctuating water table associated with wetland conditions) but were red, unconsolidated, apedal soils of the Hutton soil type (Figure 9).

In terms of landscape setting, the site is situated on a plain, and is therefore associated with very flat topography. No natural depressions were observed where water might accumulate during rainfall events, which further supports the lack of freshwater characteristics on site. Within the south-eastern portion of the investigation area, one depressional feature, to be utilised as an attenuation pond (with water accumulation and wetland vegetation) was noted adjacent the newly constructed road. This feature is however likely of artificial origin, as no definitive wet response could be observed on satellite imagery prior to the road construction activities in this area.

6.1 Freshwater Wetland Sensitivity

Under the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Aquatic Biodiversity, (GN320 of March 2020), for areas of low aquatic biodiversity sensitivity an Aquatic Biodiversity Compliance Statement must be produced. As described in Section 5, the DFFE Web-based Environmental Screening Tool has designated the study area as being of low aquatic biodiversity sensitivity. Since the site survey confirmed that no natural freshwater ecosystems are located within the study or investigation area, and the proposed Sedibeng Maltings Plant poses no quantum of risk to any freshwater ecosystems outside this area, the study area has been confirmed to have a low aquatic biodiversity sensitivity. This supports the approach of undertaking an Aquatic Biodiversity Compliance Statement.



7. IFC PERFORMANCE STANDARDS ON ENVIRONMENTAL AND SOCIAL SUSTAINABILITY

The International Finance Corporations (IFC) Sustainability Framework articulates the Corporation's strategic commitment to sustainable development, and is an integral part of IFC's approach to risk management. The sustainability framework comprises IFC's Policy and Performance standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The IFC Performance Standards (PS) are designed to assist the proponent in designing and implementing a project in a manner where risks and impacts associated with the project are identified and mitigated to ensure the project is completed sustainably. The following Equator Principles as well as Performance Standards were considered, were applicable: 1,3,4,6 and 8. For a detailed description of the Performance Standards please see **Appendix B**.

In the context of the freshwater assessment the following IFC Performance Standards are applicable:

- Performance Standard 1 (IFC PS 1) – Assessment and Management of Environmental and Social Risks and Impacts; and
- Performance Standard 6 (IFC PS 6) – Biodiversity Conservation and Sustainable Management of Living Natural Resources.

IFC PS 1 is applicable to all projects which pose potential risk and may have an impact on the receiving environment. IFC PS 1 (2012) states that should the host country have legislative control for the management of the environment that overlaps with the guidelines of the IFC standards, the more stringent measure should be implemented for the project. The objectives of IFC PS 1 (2012), that are applicable to the freshwater assessment, are summarised as follows:

- The identification and quantification of environmental risks and impacts associated with the proposed Sedibeng Maltings Plant, as well as the identification of -mitigation measures to be implemented at the site to minimise or avoid said risks and impacts;
- To encourage and ensure that the client runs the project as sustainably as possible using efficient and effective environmental management plans; and
- To ensure that relevant stakeholders (e.g. local communities, government, etc.) are aware of the project and their respective communications and queries are responded to and managed effectively.



IFC PS 6 recognises that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development. The objectives of IFC PS 6 are:

- To protect and conserve biodiversity;
- To maintain the benefits from ecosystem services; and
- To promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.

In a development context, IFC PS 6 states that the proponent (a developer) will not significantly convert or degrade natural habitats, unless all of the following are demonstrated:

- No other viable alternatives within the region exist for development of the project on modified habitat;
- Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and
- Any conversion or degradation is mitigated according to the *mitigation hierarchy*.

The IFC PS6 stipulates that in areas of natural habitat, mitigation measures will be designed to achieve *no net loss of biodiversity* where feasible. No net loss of biodiversity is defined in the PS as:

the point at which project-related impacts on biodiversity are balanced by measures taken to avoid and minimise the project's impacts, to undertake on-site restoration and finally to offset significant residual impacts, if any, on an appropriate geographic scale.

Appropriate actions to ensure no net loss of biodiversity include:

- Avoiding impacts on biodiversity through the identification and protection of set-asides;
- Implementing measures to minimize habitat fragmentation, such as biological corridors;
- Restoring habitats during operations and/or after operations; and
- Implementing biodiversity offsets.

The proposed Sedibeng Maltings Plant development has avoided development within the freshwater ecosystems in the area and their respective Zone of Regulation (ZoR) thereby ensuring a no net loss of freshwater biodiversity and has avoided potential impacts in line with the mitigation hierarchy. Since no freshwater ecosystems occur within the study or investigation area, relevant IFC defined habitat categories were not assigned for the development area from a freshwater ecosystems perspective. Considering the nearest freshwater ecosystems to the study area however, these freshwater ecosystems fall within the *natural habitat* category as the freshwater ecosystems are “composed of viable assemblages



of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition". The proponent will not significantly convert or degrade the natural habitats as the freshwater ecosystems have been avoided, as per the mitigation hierarchy, to ensure ***no net loss of aquatic biodiversity***. For a detailed discussion on the habitat categories please see **Appendix B**.



8. LEGISLATIVE REQUIREMENTS

The following legislative requirements and provincial guidelines were considered during the assessment.

- The Constitution of the Republic of South Africa, 1996¹;
- The National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended (NEMA);
- The National Water Act, 1998 (Act No. 36 of 1998) as amended (NWA); and
- GDARD Requirements for Biodiversity Assessments, Version 3 (2014).

The legislative context of a regulated zone(s) of activity for the protection of freshwater ecosystems as based on the above legislation can be summarised as follows:

Table 2: Articles of Legislation and the relevant zones of regulation applicable to each article.

Legislation / Guideline	Zone of applicability
<p>Water Use Authorisation. Application for water uses as stipulated in Section 21(c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998) as amended. Department of Water and Sanitation (DWS)</p>	<p>Government Notice 509 as published in the Government Gazette 40229 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998) In accordance with GN509 of 2016 as it relates to the National Water Act, 1998 (Act No. 36 of 1998), a regulated area of a watercourse in terms of water uses as listed in Section 21 (c) and 21(i) is defined as:</p> <ul style="list-style-type: none"> • the outer edge of the 1 in 100 year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam; • in the absence of a determined 1 in 100 year flood line or riparian area the area within 100 m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench; or • a 500 m radius from the delineated boundary (extent) of any wetland or pan in terms of this regulation.
<p>Listed activities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) EIA Regulations (2014), as amended in 2017.</p>	<p>Activity 12 of Listing Notice 1 (GN 327) of the National Environmental Management Act, 1998 (Act No.107 of 1998) EIA regulations, 2014 (as amended in 2017) The development of— (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs—;</p> <p>a) within a watercourse; b) in front of a development setback; or c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse. excluding— (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (ee) where such development occurs within existing roads, road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.</p>

¹ Since 1996, the Constitution has been amended by seventeen amendments acts. The Constitution is formally entitled the 'Constitution of the Republic of South Africa, 1996'. It was previously also numbered as if it were an Act of Parliament – Act No. 108 of 1996 – but since the passage of the Citation of Constitutional Laws Act, neither it nor the acts amending it are allocated act numbers.



Legislation / Guideline	Zone of applicability
GDARD Requirements for Biodiversity Assessments, Version 3 (2014).	<p>The GDARD Requirements for Biodiversity Assessments, Version 3 (2014) specifies buffer widths for sensitive features. For rivers (non-perennial / perennial) riparian zones and wetlands, buffer zones must be designated as sensitive according to the following mapping rules.</p> <ul style="list-style-type: none"> • The riparian zone/wetland must be delineated according to “DAAF, 2003: A Practical Guideline Procedure for the Identification and Delineation of Wetlands and Riparian Zones”. • A 100m buffer zone from the edge of the riparian zone for rivers/streams outside urban areas must apply. • A 30m buffer for wetlands occurring inside urban areas must apply. • A 50 m buffer for wetlands occurring outside urban areas must apply. <p>The Guidelines highlight that these buffer zones are essential to ensure healthy functioning and maintenance of aquatic ecosystems and function as wildlife corridors and refugia.</p>

Due to the closest freshwater ecosystem being greater than 500 m distant from the study area, no Zones of Regulation, or the required GDARD 100 m riparian/50m wetland buffer will apply to the study area or the activities therein.



9. CONCLUSION

9.1 Summary of Desktop Verification Outcome/Findings

Based on the site verification undertaken by Scientific Aquatic Services and the findings thereof presented in this report, it was confirmed that no natural freshwater ecosystems occur within the study or investigation area. Due to the closest freshwater ecosystem being greater than 500 m distant from the study area, no Zones of Regulation, or the required GDARD 100 m riparian/50m wetland buffer will apply to the study area and proposed development, nor would the development be subject to a Water Use Authorisation in terms of Section 21 c and i of the National Water Act (Act No 36 of 1998). The proposed Sedibeng Maltings Plant poses no significant quantum of risk to existing freshwater ecosystems in the area and therefore no risk assessment is required in accordance with GN4167 of 2023.

9.2 Compliance Statement/Impact Statement

No impacts to the freshwater environment or freshwater features in the area surrounding the study area are envisioned and the risk profile to the freshwater environment is considered low to negligible. Should the maltings plant, as proposed, remain within the demarcated footprint (study area) as provided by the proponent, the maltings plant and construction and operation thereof will not result in an impact (new or cumulative) on any freshwater features in the vicinity of the study area. The proposed maltings plant in its current form is associated with a low risk to the freshwater environment.

9.3 Reasoned Opinion for issuing of EA

Due to the fact that all identified freshwater ecosystems are located at a distance greater than 500m from the proposed Sedibeng Maltings Plant site, no impact on the freshwater environment is anticipated. As such it is the professional opinion of the freshwater specialist that the proposed Sedibeng Maltings Plant be granted Environmental Authorisation.



10. REFERENCES

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APPENDIX A - INDEMNITY AND DECLARATION OF INDEPENDENCE

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information. The report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken and SAS (Pty) Ltd and its staff reserve the right, at their sole discretion, to modify aspects of the report including the recommendations if and when new information may become available from ongoing research or further work in this field or pertaining to this investigation.

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APPENDIX B - IFC PERFORMANCE STANDARDS

There are eight (8) Performance Standards which has to be implemented throughout the life of an investment by IFC. The Performance Standards include:

- 1 Assessment and Management of Environmental and Social Risk and Impacts;
- 2 Labor and Working Conditions;
- 3 Resource Efficiency and Pollution Prevention;
- 4 Community Health, Safety, and Security;
- 5 Land Acquisition and Involuntary Resettlement;
- 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- 7 Indigenous Peoples; and
- 8 Cultural Heritage.

The environmental assessment had to consider, were applicable and/or include the Equator Principles and the following IFC Performance Standards (PS):

- PS 1: the product must meet the requirements of a bankable IFC environmental and social impact assessment as they relate to the terms of reference;
- PS 3: must be considered where relevant in terms of water consumption, pollution prevention, wastes, hazardous material management and pesticide use and management;
- PS 4: must be considered, if applicable, in terms of ecosystem services; and
- PS 6: must be included in terms of protection and conservation of biodiversity and habitat (modified, natural and critical).
- PS 8: must be included as cultural heritage must be protected as it relates to the terms of reference.

PS 1 establishes the importance of (i) integrated assessment to identify the environmental and social impacts, risks, and opportunities of the project; (ii) effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and (iii) the clients management of environmental and social performance throughout the life of the project. The objectives of PS 1 are to identify and evaluate environmental and social risks and impact of the project as well as to adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise, and, where residual impacts remain, compensate/offset for risks and impacts to workers, affected communities, and the environment. This assessment focused on the impact that the proposed development might have on the freshwater ecosystems related to the proposed Sedibeng Maltings Plant and associated investigation area. However, as it was confirmed that



no freshwater ecosystems occur within the study or associated investigation area, no significant impact to freshwater ecosystems in the area is anticipated, and therefore no risk/impact assessment is required.

PS 3 recognizes that increased economic activity and urbanisation often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels. The objectives of PS 3 is to (i) avoid or minimise adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities, (ii) to promote more sustainable use of resources, including energy and water and (iii) to reduce project-related greenhouse gases (GHG) emissions. This assessment focused on the impact that the proposed development will have on the freshwater ecosystems related to the proposed Sedibeng Maltings Plant and associated investigation area. However, as stated above, it was confirmed that no freshwater ecosystems occur within the study or associated investigation area and it is therefore considered unlikely that pollution of surface water will result from the proposed activities.

PS 4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. The objectives of PS 4 are to anticipate and avoid adverse impacts on the health and safety of the Affected Community during the project life from both routine and non-routine circumstances. As well as to ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the Affected Communities. However, it was confirmed that no freshwater ecosystems occur within the study or associated investigation area and it is therefore considered unlikely that pollution of surface water, which may pose risks to the Affected Communities, will result from the proposed activities.

PS 6 recognizes that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development. The objectives of PS 6 are to protect and conserve biodiversity, maintain the benefits from ecosystem services, and to promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities. The overall ecoservice provisioning by the freshwater ecosystems within the area will likely not be affected by the proposed Sedibeng Maltings Plant, since these features are situated in excess of 500m from the proposed development.

PS 8 recognizes the importance of cultural heritage for current and future generations. Consistent with the Convention Concerning the Protection of the World Cultural and Natural



Heritage, PS 8 aims to ensure that clients protect cultural heritage in the course of their project activities. In addition, the requirements of this PS on a project's use of cultural heritage are based in part on standards set by the Convention on Biological Diversity. The objectives of PS 8 are to protect cultural heritage from the adverse impacts of project activities and support its preservation. And to promote the equitable sharing of benefits from the use of cultural heritage. The effect that the proposed Sedibeng Maltings Plant might have on cultural heritage was not assessed in the freshwater report as it is not part of the scope of work for this report.

The IFC habitat categories are defined as follows:

Modified Habitat

Modified habitats are areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition. Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones, and reclaimed wetlands.

This Performance Standard applies to those areas of modified habitat that include significant biodiversity value, as determined by the risks and impacts identification process required in PS 1. The client should minimize impacts on such biodiversity and implement mitigation measures as appropriate.

Natural Habitat

Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

The client will not significantly convert or degrade natural habitats, unless all of the following are demonstrated:

- No other viable alternatives within the region exist for development of the project on modified habitat;
- Consultation has established the views of stakeholders, including Affected Communities, with respect to the extent of conversion and degradation; and
- Any conversion or degradation is mitigated according to the mitigation hierarchy.

In areas of natural habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible. Appropriate actions include:

- Avoiding impacts on biodiversity through the identification and protection of set-asides;
- Implementing measures to minimize habitat fragmentation, such as biological corridors;
- Restoring habitats during operations and/or after operations; and



- Implementing biodiversity offsets.

Critical Habitat

Critical habitats are areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes.

In areas of critical habitat, the proponent will not implement any project activities unless all of the following are demonstrated:

- No other viable alternatives within the region exist for development of the project on modified or natural habitats that are not critical;
- The project does not lead to measurable adverse impacts on those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values;
- The project does not lead to a net reduction in the global and/or national/regional population of any Critically Endangered or Endangered species over a reasonable period of time; and
- A robust, appropriately designed, and long-term biodiversity monitoring and evaluation program is integrated into the client's management program.

In such cases where a client is able to meet the requirements defined in paragraph 17, the project's mitigation strategy will be described in a Biodiversity Action Plan and will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated.

In instances where biodiversity offsets are proposed as part of the mitigation strategy, the client must demonstrate through an assessment that the project's significant residual impacts on biodiversity will be adequately mitigated to meet the requirements of paragraph 17.

GN9. The requirements for the baseline study will vary depending on the nature and scale of the project. For sites with potentially significant impacts on natural and critical habitats and ecosystem services, the baseline should include field surveys over multiple seasons, to be undertaken by competent professionals and with the involvement of external experts, as necessary. Field surveys and assessments should be recent, and data should be acquired for the direct project footprint, including related and associated facilities, the project's area of influence, and potentially beyond.



GN22. For projects located in critical habitats (including legally protected and internationally recognized areas), clients must ensure that external experts with regional experience are involved in the biodiversity and/or critical habitat assessment. If habitat is critical due to the presence of critically endangered or endangered species, recognized species specialists must be involved (for example, including individuals from IUCN Species Survival Commission Specialist Groups). In areas of critical habitat, clients will benefit from establishing a mechanism for external review of the project's risks and impacts identification process and proposed mitigation strategy. This is especially relevant where uncertainty is high, where potential impacts are complex and/or controversial, and/or where no precedent exists for proposed mitigations (such as some types of offsets). Such a mechanism would also promote the sharing of good international practice between projects and improve transparency in decision making.

GN28. Both natural and modified habitats may contain high biodiversity values, thereby qualifying as critical habitat. Performance Standard 6 does not limit its definition of critical habitat to *critical natural* habitat. An area may just as well be *critical modified* habitat. The extent of human-induced modification of the habitat is therefore not necessarily an indicator of its biodiversity value or the presence of critical habitat.

GN36. Clients should endeavour to site the project in modified habitat rather than on natural or critical habitat and demonstrate this effort through a project alternatives analysis conducted during the risks and impacts identification process.

GN37. Performance Standard 6 requires that projects with significant biodiversity values in modified habitats minimize their impacts and implement mitigation and management measures as needed to conserve those values. Significant biodiversity values that might occur in modified habitat include species of conservation concern (for example, species that are threatened or otherwise identified as important by stakeholders) and remnant ecological features that persist in the modified landscape, especially those that perform important ecological functions. In some cases, significant biodiversity values may cause natural or critical habitat requirements to be applied, in which case they should be treated using the guidelines for those habitat designations.

GN58. *Relatively broad landscape and seascape units might qualify as critical habitat.* The scale of the critical habitat assessment depends on the biodiversity attributes particular to the habitat in question and the ecological patterns and processes required to maintain them. Even within a single site designated as critical habitat there might be areas or features of higher or lower biodiversity value. There also will be cases where a project is sited within a greater area



recognized as critical habitat, but the project site itself has been highly modified. *A critical habitat assessment therefore must not focus solely on the project site.* The client should be prepared to conduct desktop assessments, consult with experts and other relevant stakeholders to obtain an understanding of the relative importance or uniqueness of the site with respect to the regional and even the global scale, and/or conduct field surveys beyond the boundaries of the project site. These considerations would form part of the landscape/seascape analyses as referred to in paragraph 6 of Performance Standard 6 and in paragraph GN17 of this note.

GN104. In many cases, invasive species will have already been established in the region in which the project is located. In these cases, the client has the responsibility to take measures to prevent the species from further spread into areas in which it has not already been established. For example, in the case of linear infrastructure, invasive weeds might be spread into forested habitats, especially if the forest canopy is not able to re-establish itself (due to maintenance of the right-of-way for operational purposes). This is exacerbated if opportunistic agricultural or logging activities further widen the right-of-way, thereby facilitating spread. In these cases, the client is expected to determine the severity of the threat and the mode of spread of that species. The situation should be monitored as part of the overall ESMS, and the client should seek effective mitigation measures in coordination with local and national authorities.

GN106. Performance Standard 6 defines ecosystem services as “the benefits that people, including businesses, obtain from ecosystems” (paragraph 2), which is in line with the definition provided by the Millennium Ecosystem Assessment (GN23). As described in paragraph 2 and footnote 1 of Performance Standard 6, ecosystem services are organized into four major categories:

- Provisioning ecosystem services, include, among others, (i) agricultural products, seafood and game, wild foods, and ethnobotanical plants; (ii) water for drinking, irrigation, and industrial purposes; and (iii) forest areas, which provide the basis for many biopharmaceuticals, construction materials, and biomass for renewable energy;
- Regulating ecosystem services, include, among others, (i) climate regulation and carbon;
- storage and sequestration; (ii) waste decomposition and detoxification; (iii) purification of water and air; (iv) control of pests, disease, and pollination; and (v) natural hazard mitigation;



- Cultural services, include, among others, (i) spiritual and sacred sites; (ii) recreational purposes such as sport, hunting, fishing, and ecotourism; and (iii) scientific exploration and education; and
- Supporting services, are the natural processes that maintain the other services, such as (i) nutrient capture and recycling, (ii) primary production, and (iii) pathways for genetic exchange.



APPENDIX C - DETAILS, EXPERTISE AND CURRICULUM VITAE OF SPECIALISTS

1. (a) (i) Details of the specialist who prepared the report

Paul Da Cruz	BA (Hons) (Geography and Environmental Studies) (WITS)
Monique Botha	PhD Env. Sci (NWU)

1. (a). (ii) The expertise of that specialist to compile a specialist report including a curriculum vitae

Company of Specialist:	Scientific Aquatic Services (Pty) Ltd		
Name / Contact person:	Monique Botha		
Postal address:	29 Arterial Road West, Oriel, Bedfordview		
Postal code:	1401	Cell:	[REDACTED]
Telephone:	[REDACTED]	Fax:	[REDACTED]
E-mail:	[REDACTED]		
Qualifications	Ph. D Environmental Science		
Registration / Associations	Registered Candidate Member of the South African Council for Natural Scientific Professions (SACNASP)		

1. (b) a declaration that the specialist is independent in a form as may be specified by the competent authority.

I, Paul da Cruz, declare that -

- I act as the independent specialist in this application;
- 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 relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, 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.

[REDACTED SIGNATURE]

Signature of the Specialist



1. (c) a declaration that the specialist is independent in a form as may be specified by the competent authority.

I, Monique Botha, declare that -

- I act as the independent specialist in this application;
- 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 relevant legislation and any guidelines that have relevance to the proposed activity;
- I will comply with the applicable legislation;
- I have not, 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.

A series of horizontal black bars redacting the signature of the specialist.

Signature of the Specialist



**SAS ENVIRONMENTAL GROUP OF COMPANIES –
SPECIALIST CONSULTANT INFORMATION**

CURRICULUM VITAE OF PAUL DA CRUZ

PERSONAL DETAILS

Position in Company	Senior Ecologist
Joined SAS Environmental Group of Companies	2022

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Registered Certificated Scientist at South African Council for Natural Scientific Professions (SACNASP)
 Registered Environmental Assessment Practitioner (EAP) with the Environmental Assessment Practitioners Association of South Africa (EAPASA)
 Member of the South African Wetland Society (SAWS)

EDUCATION

Qualifications

BA (Hons) (Geography and Environmental Studies) (University of the Witwatersrand)	1998
BA (Geography) (University of the Witwatersrand)	1997

Short Courses

Taxonomy of Wetland Plants (Water Research Commission)	2017
Advanced Grass Identification (Frits van Outshoorn)	2010
Grass Identification (Frits van Outshoorn),	2009
Soil Form Classification and Wetland Delineation; (TerraSoil Science)	2008

AREAS OF WORK EXPERIENCE

South Africa – All Provinces
 Southern Africa – Lesotho, Botswana

DEVELOPMENT SECTORS OF EXPERIENCE

1. Renewable energy (Wind and solar)
2. Linear developments (energy transmission, telecommunication, pipelines, roads, border infrastructure)
3. Nature Conservation and Ecotourism Development
4. Commercial development
5. Residential development
6. Environmental and Development Planning and Strategic Assessment



7. Industrial/chemical; Non-renewable power Generation

KEY SPECIALIST DISCIPLINES

Legislative Requirements, Processes and Assessments

- EIA / BA Applications
- Environmental Authorisation Amendments
- EMPr Compilation
- Environmental Compliance Monitoring (Environmental Auditing)
- Environmental Screening Assessments and Listing Notice 3 Trigger Identification / Mapping
- Strategic Environmental Assessments and Environmental Management Frameworks
- EIA / Specialist Study Peer Review

Freshwater Assessments

- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant Species and Landscape Plans
- Freshwater Assessments in support of Environmental Screening Assessments, Precinct Planning & SEA
- Wetland Construction (Compliance) Monitoring

Biodiversity Assessments

- Avifaunal Assessments
- Strategic Biodiversity Assessment

Visual Impact Assessment

- Visual Impact Assessments

GIS / Spatial Analysis

- GIS Spatial Analysis and Listing Notice 3 mapping





**SAS ENVIRONMENTAL GROUP OF COMPANIES –
SPECIALIST CONSULTANT INFORMATION**

CURRICULUM VITAE OF MONIQUE BOTHA

PERSONAL DETAILS

Position in Company	Junior Freshwater Specialist
Joined SAS Environmental Group of Companies	2022

MEMBERSHIP IN PROFESSIONAL SOCIETIES

SACNASP Candidate Natural Scientist (Environmental Sciences) #126160

EDUCATION

Qualifications

B.Sc. Environmental and Biological Sciences (North-West University)	2010
Hons. B.Sc. Environmental Sciences (North-West University)	2011
M.Sc. Environmental Sciences (North-West University)	2014
Ph.D. Environmental Sciences (North-West University)	2016

Training Courses

Basic Soil Properties: Analysis and Interpretation of Results (ARC-SCW)	2022
Wetland Legislation Course (WETREST)	2023

DEVELOPMENT SECTORS OF EXPERIENCE

1. Linear developments (energy transmission, pipelines, roads)
2. Renewable energy (wind and solar)
3. Commercial development
4. Residential development
5. Landfills

AREAS OF WORK EXPERIENCE

South Africa – Gauteng, Mpumalanga, North-West, Northern Cape, Eastern Cape

KEY SPECIALIST DISCIPLINES

Freshwater Assessments

- Desktop Freshwater Delineation
- Freshwater Verification Assessment
- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation, Maintenance and Management Plans

