Vegetation Assessment for the proposed vegetation clearing at Tonkmeter Landfill site, Springs, Gauteng

September 2026

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Executive Summary

Introduction

Kyllinga Consulting was approached by EcoPartners to conduct the vegetation assessment for the proposed clearing of vegetation at the Tonk Meter Landfill, Gauteng.

Methods

Aerial photographs of the site were investigated, and the vegetation units on site were identified. The vegetation was recorded along random transect walks during the site visit on 4 September 2026. The vegetation units were delineated on Google Earth aerial photographs of the site.

Results and Conclusion

The following conclusions and recommendations were reached in regard to the site and the proposed clearing of the vegetation on site:

- *The vegetation on site is transformed and no longer resembles the Tsakane Clay Grassland vegetation type. The clearing of the vegetation will therefore not result is the loss of a threatened vegetation type.*
- *The vegetation on site is dominated by alien and invasive plant species, with only a few common indigenous species present.*
- *The removal of invasive species is a legal requirement under the National Environmental Management Biodiversity Act (Act 10 of 2004).*
- *The site is proposed to be used for an MRF, but the use of the area may change depending on need.*
- *The impacts from the proposed clearing of vegetation from the site and the use of the site is anticipated to be low.*
- *The clearing of the vegetation on site is supported.*

Kyllinga CONSULTING

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List of Abbreviations

CBA	Critical Biodiversity Areas
C-Plan	Conservation Plan
ESA	Ecological Support Areas
NBA	National Biodiversity Assessment
NEMA	National Environmental Management Act
NSBA	National Spatial Biodiversity Assessment

1 Introduction

Kyllinga Consulting was approached by EcoPartners to conduct the vegetation assessment for the proposed clearing of vegetation at the Tonk Meter Landfill, Gauteng. The site is located on a part of Portions 134, 223 and 225 of the Farm Rietfontein 128 in the Springs area.

The following is included in the assessment:

- Confirmation of the transformed nature of the vegetation on site.
- List of the dominant plant species on site.
- Search for Red Data plant species and species of conservation importance on site (none are expected).
- Determining the sensitivity and conservation importance of the vegetation on site.
- Impact assessment and mitigation.

1.1 Limitations

The vegetation was assessed during a single site visit conducted during the early spring season, when the vegetation is largely dormant. The assessment was confined to the area proposed for the clearing of vegetation and its direct surroundings. Please note that the inventories and the number of taxa listed in this document is by no means complete, and is merely a reflection of the dominant taxa on the study site obtained during a single ("snapshot") instantaneous sampling session. Therefore, a comprehensive inventory, irrespective of the taxon or group of taxa could only be achieved during long-term temporal sampling. The report provides a broad ecological investigation of the habitat units on the study site based on dominant floristic characters.

It is assumed that all attempts will be made to limit the impact of the proposed project on the environment and that the mitigation measures included in this report will be adhered to. Should this not be the case, the impact / risk assessments and buffer requirements will be influenced.

The information as presented in this document only has reference to the investigated study site boundaries and cannot be applied to any other area without prior investigation. This company, the consultants and/or specialist investigators do not accept any responsibility for conclusions, suggestions, limitations and recommendations made in good faith, based on the information presented to them, obtained from the surveys or requests made to them at the time of this report.

1.2 Details of the Authors

Ina Venter has an M.Sc in Botany from the University of Pretoria, focusing on wetland vegetation. She is a registered professional natural scientist (Pr.Sci.Nat) in the fields of Botanical Science and Ecological Science (400048/08). She has working experience in South Africa, Lesotho and Mozambique, and has been involved in several projects in the Gauteng, North-West, Limpopo, Mpumalanga, KwaZulu-Natal and Free State Provinces. Experience includes wetland and vegetation assessments.

2 Site

2.1 Location and site description

The site is located inside the Tonkmeter landfill site boundaries, approximately 1.2km to the south of the N17/M63 interchange in the Springs area, Gauteng. The clearing of vegetation in proposed for the area to the east of the pollution control dam and west of the solar panel. The section is location to the

north-west of the site offices and east of the bulk of the landfill site. The northern boundary of the site is located along the northern boundary of the landfill site. The assessed area is indicated as the Materials Recovery Facility circled in orange in Figure 1.

3 Desktop information

3.1 Vegetation type and Gauteng Conservation Plan (C-Plan)

The site falls within the Tsakane Clay Grassland vegetation type, which is an Endangered vegetation type (Figure 2). No remnants of this vegetation type are present on site according to the National Biodiversity Assessment database (2019).

The site does not fall into any important area according to the Gauteng C-Plan 3.3 (Figure 4), but the entire area to be cleared, as well as a portion of the approved landfill, falls within a Critical Biodiversity Area 1 (CBA 1) area according to the Gauteng C-Plan 4 (Figure 5). CBA 1 areas are areas of high conservation importance due to the presence of important, intact vegetation types and habitats.

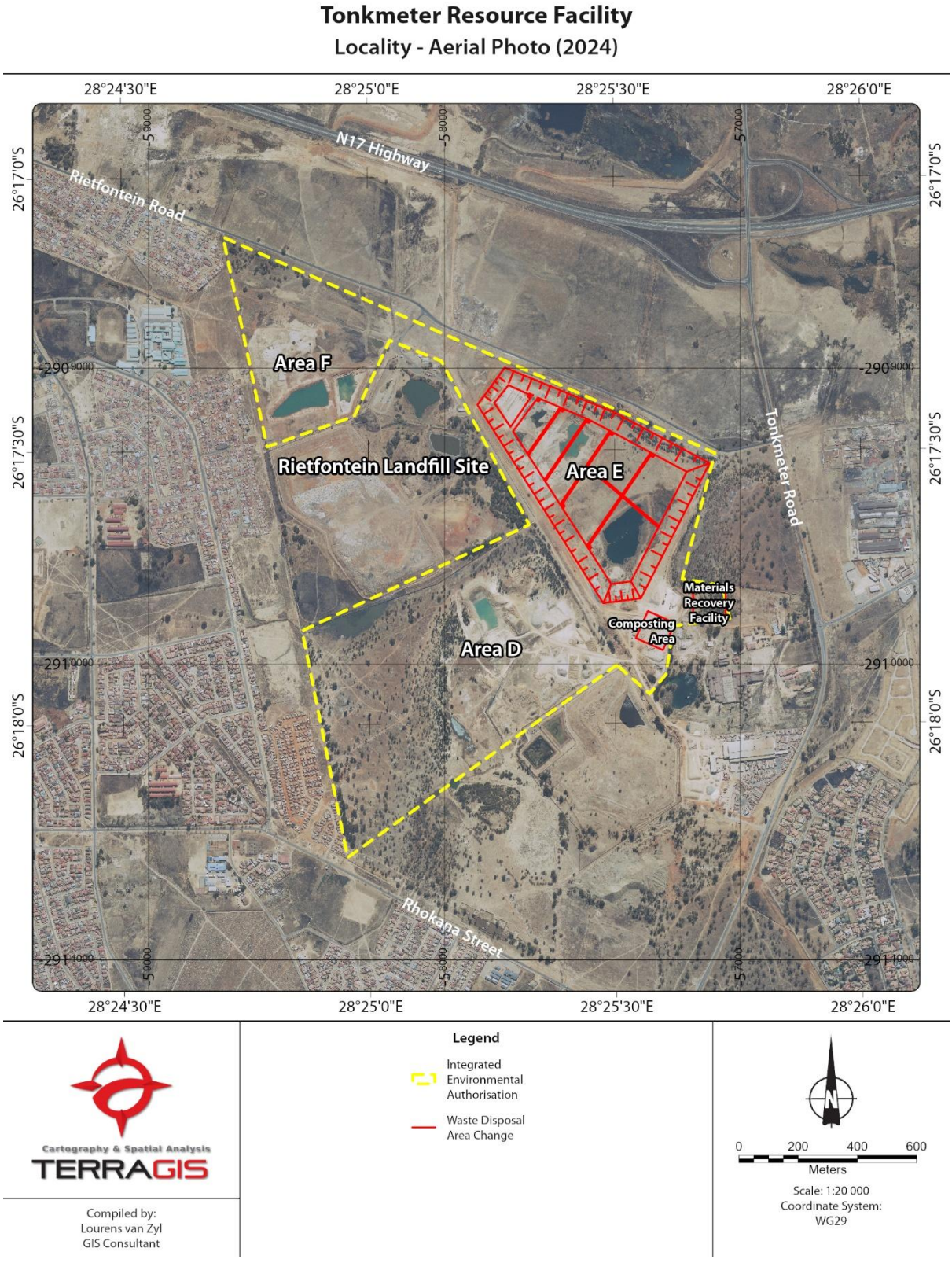


Figure 1: Location of the site.

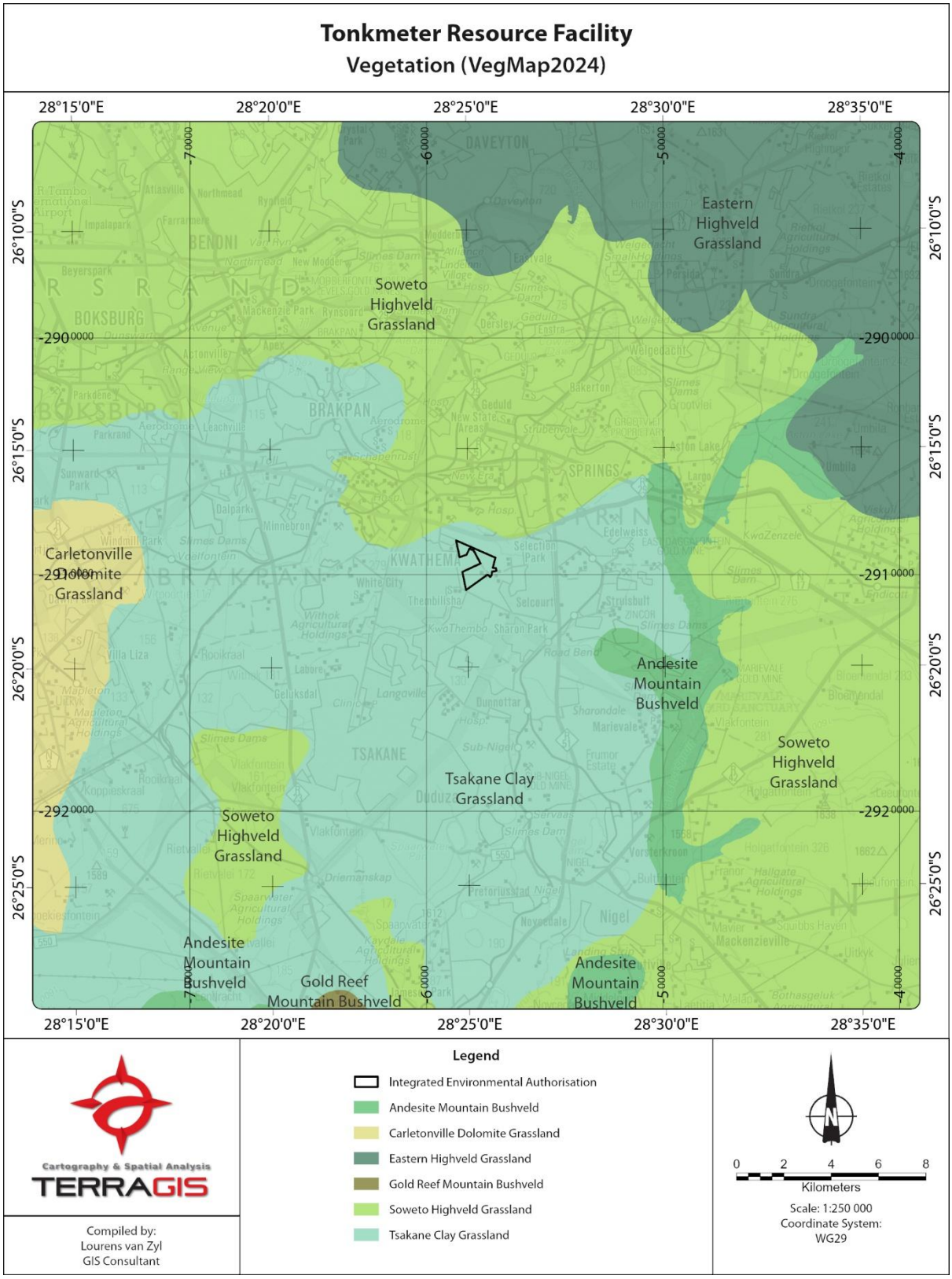


Figure 2: Vegetation units on site according to the NBA.

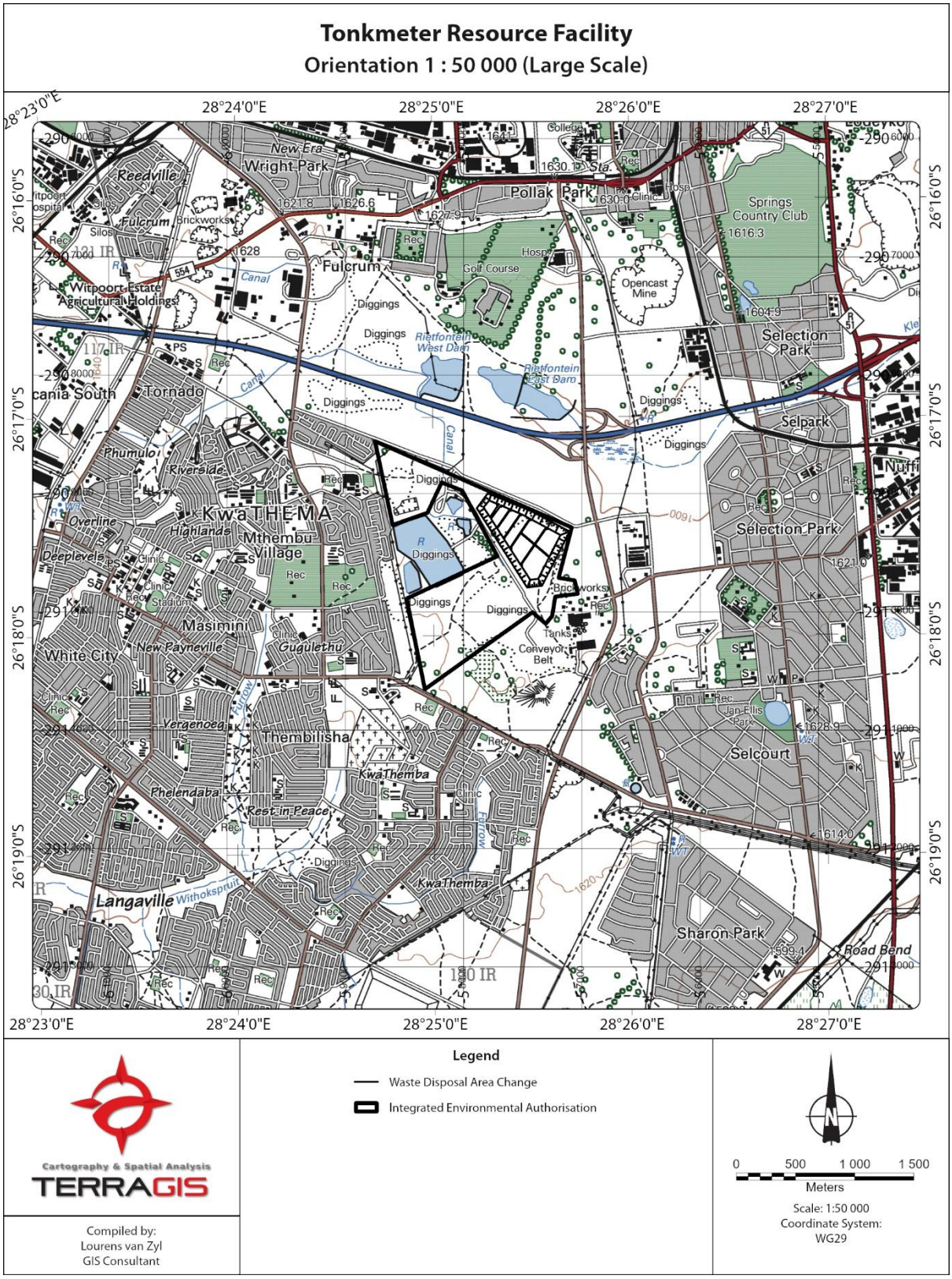


Figure 3: The site on the 2628AB topographical map of the site.

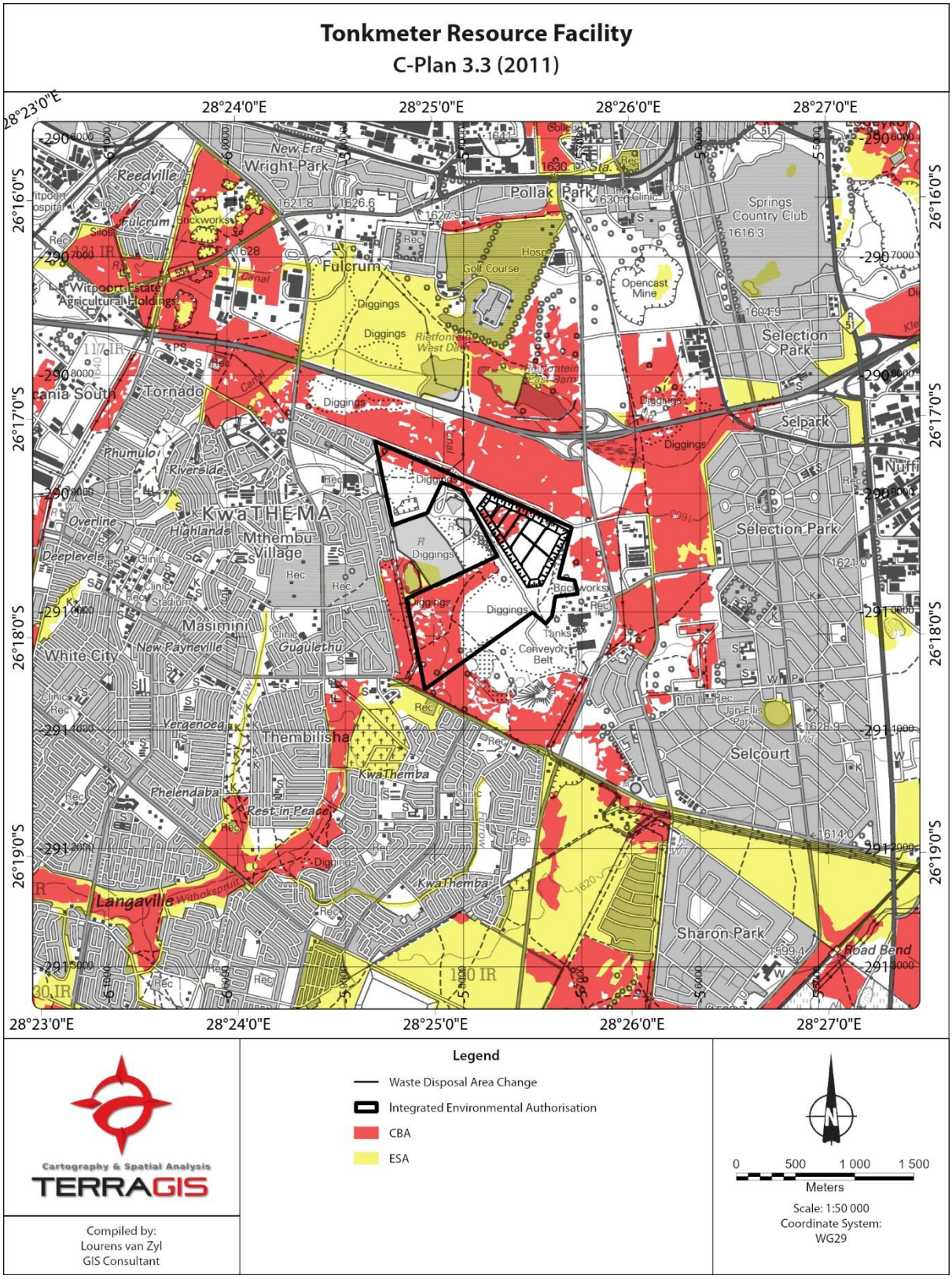


Figure 4: Areas of conservation importance according to the Gauteng C-Plan 3.3.

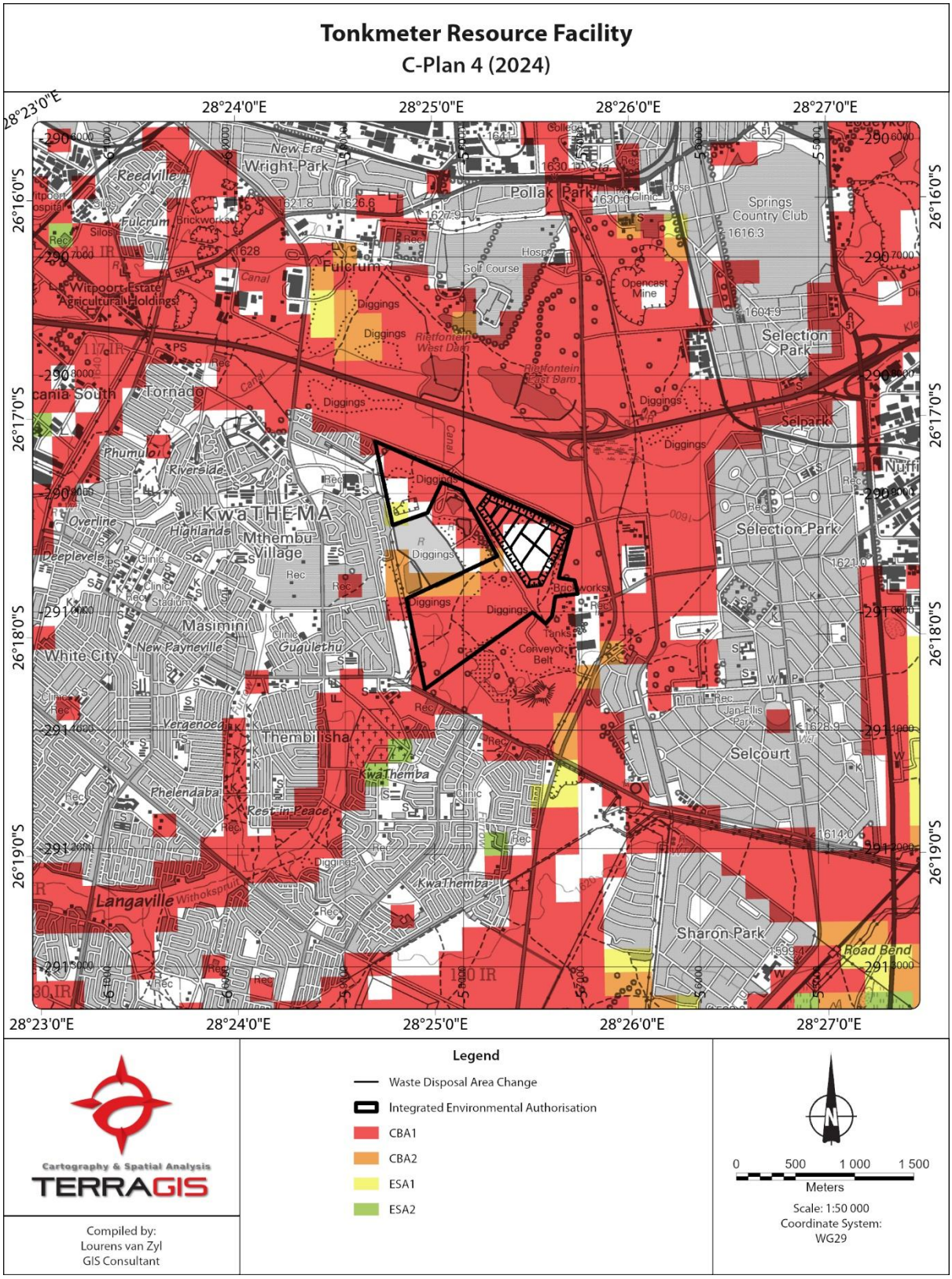


Figure 5: Areas of conservation importance according to the Gauteng C-Plan 4.

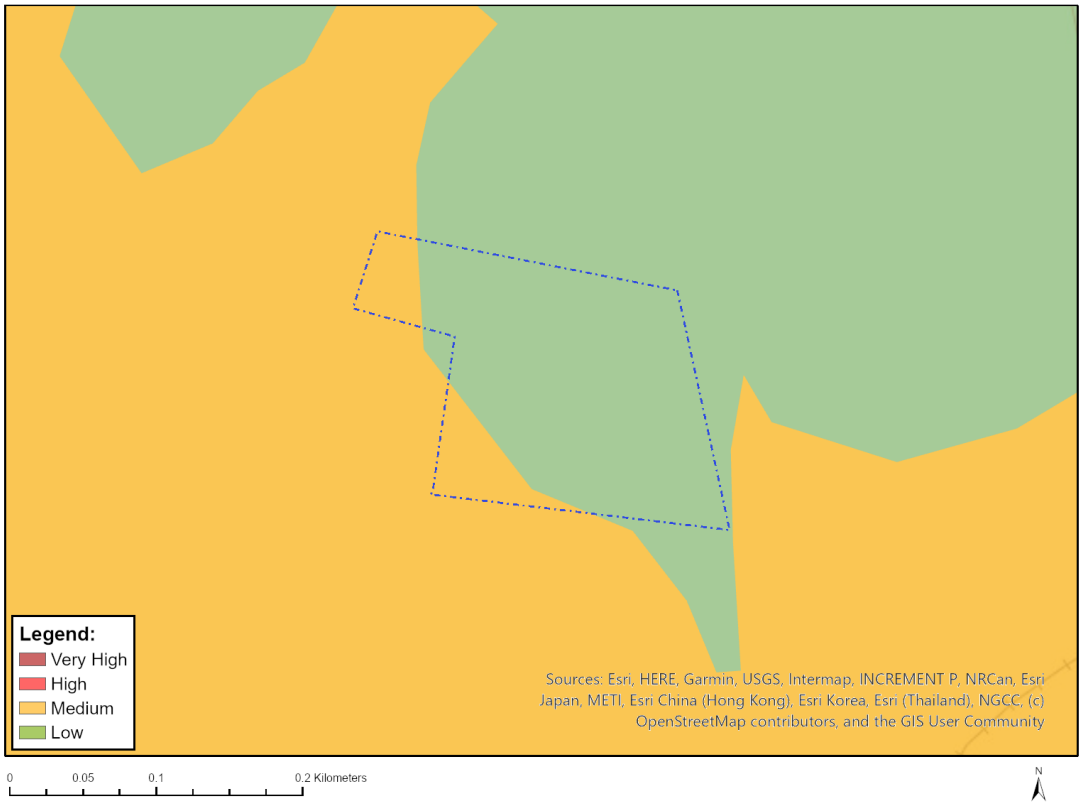


Figure 6: Map of the relative plant species theme sensitivity from the screening tool report.



Figure 7: Map of the relative terrestrial biodiversity theme sensitivity from the screening tool report.

3.2 Annotations on the National Web-Based Environmental Screening Tool

Regulation 16(1)(v) of the Environmental Impact Assessment Regulations, 20145 (EIA Regulations) provides that an applicant for Environmental Authorisation is required to submit a report generated by the Screening Tool as part of its application. On 5 July 2019, the Minister of Environmental Affairs, Forestry and Fisheries published a notice in the Government Gazette giving notice that the use of the Screening Tool is compulsory for all applicants to submit a report generated by the Screening Tool from 90 days of the date of publication of that notice.

The Screening Tool is intended to allow for pre-screening of sensitivities in the landscape to be assessed within the EA process. This assists with implementing the mitigation hierarchy by allowing developers to adjust their proposed development footprint to avoid sensitive areas. The Screening Tool report will indicate the (preliminary) environmental sensitivities that intersect with the proposed development footprint as defined by the applicant as well as the relevant Protocols.

As the Screening Tool contains datasets that are mapped at a national scale, there may be areas where the Screening Tool erroneously assigns, or misses, environmental sensitivities because of mapping resolution and a high paucity of available and accurate data. Broad-scale site investigations will provide for an augmented and site-specific evaluation of the accuracy and 'infilling' of obvious and large-scale inaccuracies. Information extracted from the National Web-based Environmental Screening Tool (Department of Environmental Affairs, 2020), indicated that the study site holds a **medium sensitivity** in terms of the plant species theme due to the possible presence of:

- *Khadia beswickii*

The terrestrial biodiversity theme indicated a **very high** sensitivity for the site due to:

- CBA 1;
- Endangered Tsakane Clay Grassland vegetation type

4 Methods

4.1 Vegetation Assessment

Aerial photographs of the site were investigated, and habitat units identified. The site was visited on 4 September 2026. The vegetation in each of the habitat units on site was recorded and the site was searched for Red Data species and habitat for these species.

4.2 Assessment of Ecological Importance

The "Guidelines for the implementation of the Terrestrial Fauna and Terrestrial Flora Species Protocols for environmental impact assessments in South Africa" (SANBI, 2020), provides a standardised method for the assessment of site-specific ecological importance (SEI) in relation to a proposed study site (including the footprint and project related activities). This assessment of ecological importance does not replace the output of the National, web-based Environmental Screening Tool or provincial 'Biodiversity Sector Plans' (or 'Conservation Plans') such as the Gauteng Conservation Plan but it rather compliments these resources with a more site-specific ecological assessment that is linked to the study area and the proposed project footprint and activities.

Site Ecological Importance (SEI) is one of the most important components of a specialist ecological study as it provides the basis for assessing the significance of potential project related impacts on the receiving environment.

SEI is considered to be a function of the biodiversity importance (BI) of the receptor (e.g. species of conservation concern, the vegetation/fauna community or habitat type) and its resilience to impacts (receptor resilience [RR]) as follows:

SEI = BI + RR

BI in turn is a function of conservation importance (CI) and the functional integrity (FI) of the receptor as follows:

BI = CI + FI

The guidelines (SANBI, 2020) define Conservation Importance as 'the importance of a site for supporting biodiversity features of conservation concern present, e.g. populations of IUCN threatened (CR, EN and VU) and Near Threatened species (NT), Rare species, range-restricted species, globally significant populations of congregatory species, and areas of threatened ecosystem types, through predominantly natural processes". The criteria for categorising CI are presented in Table 1.

Table 1: Criteria for determining Conservation Importance of a receptor (SANBI, 2020).

Conservation Importance	Fulfilling Criteria
Very High	Confirmed or highly likely occurrence of CR, EN, VU or Extremely Rare or Critically Rare species that have a global EOO of < 10 km^2.
	Any area of natural habitat of a CR ecosystem type or large area (> 0.1 % of the total ecosystem type extent) of natural habitat of EN ecosystem type
	Globally significant populations of congregatory species (>10% of global population)

High	Confirmed or highly likely occurrence of CR, EN, VU species that have a global Extent of Occurrence of > 10 km2. IUCN threatened species (CR, EN, VU) must be listed under any criterion other than A. If listed as threatened only under Criterion A, include if there are less than 10 locations or < 10 000 mature individuals remaining.
	Small area (>0.01% but < 0.1 % of the total ecosystem type extent) of natural habitat of EN ecosystem type or large area (> 0.1 %) of natural habitat of VU
	Presence of Rare species
	Globally significant populations of congregatory species (>1% but <10% of global population)
Medium	Confirmed or highly likely occurrence of populations of NT species, threatened species (CR, EN, VU) listed under A criterion only and which have more than 10 locations or more than 10 000 mature individuals.
	Any area of natural habitat of threatened ecosystem type with status of VU
	Presence of range-restricted species
	> 50 % natural habitat with potential to support SCC
Low	No confirmed or highly likely populations of Species of Conservation Concern
	No confirmed or highly likely populations of range-restricted species
	< 50 % of natural habitat with limited potential to support SCC
Very Low	No confirmed and highly unlikely populations of SCC
	No confirmed and highly unlikely populations of range-restricted species
	No natural habitat remaining

The guidelines (SANBI, 2020) define Functional Integrity (FI) as "a measure of the ecological condition of the impact receptor as determined by its remaining intact and functional area, its connectivity to other natural areas and the degree of current persistent ecological impacts". The criteria for categorising FI are presented in Table 2.

Table 2: Criteria for Functional Integrity (FI).

Functional Integrity	Fulfilling Criteria
Very High	Very large (>100 ha) intact area for any conservation status of regional vegetation type or >5 ha for CR regional vegetation types
	High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches
	No or minimal current ecological impacts with no signs of major past disturbance (e.g., ploughing)
High	Large (>20 ha but <100 ha) intact area for any conservation status of regional vegetation type or >10 ha for EN regional vegetation types
	Good habitat connectivity with potentially functional ecological corridors and a regularly used road network between intact habitat patches
	Only minor current ecological impacts (e.g., few livestock utilising area) with no signs of major past disturbance (e.g., ploughing) and good rehabilitation potential
Medium	Medium (>5 ha but <20 ha) semi-intact area for any conservation status of regional vegetation type or > 20 ha for VU regional vegetation types
	Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches

	Mostly minor current ecological impacts with some major impacts (e.g., established population of alien and invasive flora) and a few signs of minor past disturbance; moderate rehabilitation potential
Low	Small (>1 ha but <5 ha) area
	Almost no habitat connectivity but migrations still possible across some transformed or degraded natural habitat; a very busy used road network surrounds the area. Low rehabilitation potential
	Several minor and major current ecological impacts
Very Low	Very small (<1 ha) area
	No habitat connectivity except for flying species or flora with wind-dispersed seeds.
	Several major current ecological impacts

Biological Integrity (BI) is derived from a simple matrix of CI and FI as follows (Table 3):

Table 3: Biodiversity Importance matrix.

Biodiversity Importance		**Conservation Importance**				
		Very High	High	Medium	Low	Very Low
Functional Integrity	Very High	Very High	Very High	High	Medium	Low
	High	Very High	High	Medium	Medium	Low
	Medium	High	Medium	Medium	Low	Very Low
	Low	Medium	Medium	Low	Low	Very Low
	Very Low	Medium	Low	Very Low	Very Low	Very Low

The guidelines (SANBI, 2020) define Receptor Resilience (RR) as "the intrinsic capacity of the receptor to resist major damage from disturbance and/or to recover to its original state with limited or no human intervention. The criteria for categorising RR are presented in Table 4.

Table 4: Criteria for Receptor Resilience (RR).

Receptor Resilience	**Fulfilling Criteria**
Very High	Habitat that can recover rapidly (~ less than 5 years) to restore > 70 % of the original species composition and functionality of the receptor functionality, or species that have a very high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a very high likelihood of returning to a site once the disturbance or impact has been removed
High	Habitat that can recover relatively quickly (~ 5-10 years) to restore > 70 % of the original species composition and functionality of the receptor functionality, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a high likelihood of returning to a site once the disturbance or impact has been removed
Medium	Will recover slowly (~more than 10 years) to restore > 70 % of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a moderate likelihood of returning to a site once the disturbance or impact has been removed
Low	Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~less than 50 % of the original species composition and functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that

	have a low likelihood of returning to a site once the disturbance or impact has been removed
Very Low	Habitat that is unable to recover from major impacts, or species that are unlikely to remain at a site even when a disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed

Upon the successful determination of both BI and RR as described above, it is possible to evaluate Site Ecological Importance (SEI) from the final matrix as follows (Table 5):

Table 5: Site Ecological Importance matrix.

SEI		Biodiversity Importance				
		Very High	High	Medium	Low	Very Low
Receptor Resilience	Very Low	Very High	Very High	High	Medium	Low
	Low	Very High	Very High	High	Medium	Very Low
	Medium	Very High	High	Medium	Low	Very Low
	High	High	Medium	Low	Very Low	Very Low
	Very High	Medium	Low	Very Low	Very Low	Very Low

Table 6 summarises the SEI receptors in the context of the proposed development activities.

Table 6: Guidelines for interpreting Site Ecological Importance (SEI) of receptors in the context of the proposed development activities.

Site Ecological Importance	Interpretation in relation to proposed development activities
Very High	Avoidance mitigation - No destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e., last remaining populations of species, last remaining good condition patches of ecosystems/unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
High	Avoidance mitigation wherever possible. Minimization mitigation – changes to project infrastructure design to limit the amount of habitat impacted; limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Medium	Minimization & restoration mitigation - development activities of medium impact acceptable followed by appropriate restoration activities
Low	Minimization & restoration mitigation - development activities of medium to high impact acceptable followed by appropriate restoration activities
Very Low	Minimization mitigation - development activities of medium to high impact acceptable and restoration activities may not be required

4.3 Impact Assessment

The Impact Assessment for the vegetation will therefore be completed using the methods described below.

The Impact Assessment took the nature, extent, intensity, duration and probability of the impacts into consideration to determine the significance of the impact. Scores were allocated as follows:

Extent:

- Footprint: 1
- Site: 2
- Local: 3
- Regional: 4
- National: 5

Intensity:

- Low: 2
- Low-Medium: 4
- Medium: 6
- Medium-High: 8
- High: 10

Duration:

- Short term: 1
- Short to Medium term: 2
- Medium term: 3
- Long term: 4
- Permanent: 5

Probability:

- Improbable: 1
- Possible: 2
- Likely: 3
- Highly likely: 4
- Definite: 5

Significance:

The significance is calculated using the following formula: Significance = (Extent + Duration + Intensity) x Probability. The scoring indicates the significance of the impact as follows:

- 0-9: No Impact
- 10-24: Low
- 25-49: Medium
- 50-74: Medium to High
- 75-89: High
- 90-100: Extreme

5 Results

5.1 Vegetation

5.1.1 Description

The vegetation on site is transformed and dominated by alien and invasive plant species. The soil in the unit is also very disturbed, with several ditches constructed on site at some time in the past, as well as pits/excavations in portions of the sites. Broken bricks are embedded in the soil in several locations of the site. All of the disturbances on site appear very old, with the exception of a concrete channel constructed as part of the landfill activities.

The vegetation is dominated by *Eucalyptus camaldulensis* trees, most of which were cut down near ground level in the past and coppiced. The other species recorded on site include several alien and invasive species and the few indigenous species are either common and widespread or pioneer species associated with disturbance. The species diversity on site is very poor and the vegetation on site does not have any resemble the Tsakane Clay Grassland vegetation type. The vegetation is completely transformed.



Figure 8: Transformed vegetation present at the proposed location for the clearing of vegetation.

Table 7: Plant species recorded on site during the site visit.

Species	Growth form	Indigenous / Alien	Indicator
Acacia decurrens	Tree	Class 2	Disturbance
Asclepias fruticosa	Shrub	Indigenous	Disturbance

Species	Growth form	Indigenous / Alien	Indicator
Cestrum aurantiacum	Tree	Class 1b	Disturbance
Cirsium vulgare	Forb	Class 1b	Disturbance
Conyza bonariensis	Forb	Alien	Disturbance
Eragrostis species	Grass	Indigenous	Widespread
Eucalyptus camadulensis	Tree	Class 1b	Disturbance
Imperata cylindrica	Grass	Indigenous	Facultative wetland / Disturbance
Pennisetum clandestinum	Grass	Alien	Disturbance
Plantago lanceolata	Forb	Alien	Disturbance
Searcia lancea	Tree	Indigenous	Widespread
Sida cordifolia	Forb	Indigenous	Widespread
Solanum pseudocapsicum	Forb	Class 1b	Disturbance
Sonchus oleraceus	Forb	Alien	Disturbance
Sporobolus africana	Grass	Indigenous	Widespread
Tagetus minuta	Forb	Alien	Disturbance
Taraxacum officinale	Forb	Alien	Disturbance
Themeda triandra	Grass	Indigenous	Widespread
Trifolium species	Forb		Disturbance
Verbena bonariensis	Forb	Class 1b	Disturbance

5.1.2 Invasive species

A list of alien and invasive species has been published in the Government Gazette of 1 August 2014 in the Alien and Invasive Species Regulations (AIS) under the National Environmental Management Biodiversity Act (Act 10 of 2004). Invasive species are divided into the following four categories:

- "Category 1a: Invasive species which must be combatted and eradicated. Any form of trade or planting is strictly prohibited.
- Category 1b: Invasive species which must be controlled and wherever possible, removed and destroyed. Any form of trade or planting is strictly prohibited.
- Category 2: Invasive species, or species deemed to be potentially invasive, in that a permit is required to carry out a restricted activity. Category 2 species include commercially important species such as pine, wattle and gum trees. Plants in riparian areas are Category 1b.
- Category 3: Invasive species which may remain in prescribed areas or provinces. Further planting, propagation or trade, is however prohibited. Plants in riparian areas are Category 1b."

It is the responsibility of the landowner to control invasive species on site. A list of invasive species recorded on site are included in Table 8.

Table 8: Invasive species recorded on site and adjacent to the site.

Species	Growth form	Indigenous / Alien
Acacia decurrens	Tree	Class 2
Cestrum aurantiacum	Tree	Class 1b
Cirsium vulgare	Forb	Class 1b
Eucalyptus camadulensis	Tree	Class 1b
Solanum pseudocapsicum	Forb	Class 1b
Verbena bonariensis	Forb	Class 1b

5.1.3 Species of conservation importance

No plant species of conservation importance were observed on site during the site visit and none are expected. Due to the transformed nature of the vegetation, it is highly unlikely that species of conservation importance will be present on site or will naturally become established on site. A single threatened plant species, *Khadia beswickii*, is listed in the environmental screening report for the site, but no suitable habitat is available on site for the species.

5.1.4 Sensitivity

Due to the level of disturbance of the grassland, the lack of species of conservation importance and the resilience of the vegetation on the site has a very low ecological importance. The high dominance of alien and invasive species on site significantly decreases the conservation importance of the site.

Table 9: Site Ecological Importance of the various vegetation units on site.

Aspect	Transformed grassland
Conservation Importance (Table 1)	Very low
Functional Integrity (Table 2)	Low
Biodiversity Importance (Table 3)	Very low
Receptor Resilience (Table 4)	High
Site Ecological Importance (Table 5)	Very low

6 Impact assessment

The indicated site is proposed to be cleared for future use of activities associated with the landfill. The current aim is to use the site a Materials Recovery Facility (MRF), however, this may change depending on the needs of the landfill.

Table 10: Impact assessment table for the construction of the proposed clearing of vegetation and the used of the site for a MRF on the indicated location.

Impact	Intensity	Extent	Duration	Severity	Frequency	Probability	Incidence	Risk	Risk rating without mitigation	Risk rating with mitigation
Loss of vegetation and terrestrial habitat	1	1	3	3	3	3	6	18	Low	Low
Loss of protected species	1	1	3	1	1	1	2	2	Low	Low
Habitat fragmentation	1	1	3	5	5	2	7	35	Low	Low
Sedimentation and erosion	1	1	2	3	1	4	5	15	Low	Low
Infestation of alien species	2	2	5	9	3	3	6	54	Medium	Low

Operation Phase										
Impact	**Intensity**	**Extent**	**Duration**	**Severity**	**Frequency**	**Probability**	**Incidence**	**Risk**	**Risk rating without mitigation**	**Risk rating with mitigation**
Loss of vegetation and terrestrial habitat	1	1	3	3	3	3	6	18	Low	Low
Loss of protected species	1	1	3	1	1	1	2	2	Low	Low
Habitat fragmentation	1	1	3	5	5	2	7	35	Low	Low
Sedimentation and erosion	1	1	2	3	1	4	5	15	Low	Low
Infestation of alien species	2	2	5	9	3	3	6	54	Medium	Low

7 Mitigation

7.1 Loss of threatened vegetation and habitat for species of conservation importance

The site falls within the Endangered Tsakane Clay Grassland vegetation type, but the vegetation on site is completely transformed and no longer resembles this vegetation type. The vegetation is dominated by alien and invasive plant species and only a few indigenous plants were observed during the site visit. The dominant tree species on site is *Eucalyptus camaldulensis.* The clearing of the site will therefore not result in the loss of a threatened vegetation type.

The site is listed as a CBA 1 area in the Gauteng C-Plan 4 database. A CBA 1 area is normally an area with undisturbed or slightly disturbed vegetation and with important intact habitat. Due to the significant disturbance on site and the transformation of the site, the classification of the area as a CBA 1 area is incorrect. Although the site may provide habitat for fauna species, the vegetation is completely transformed and no habitat for plant species of conservation importance remain. The removal of the *Eucalyptus camaldulensis* trees and the other listed invasive species from the site is however a requirement under the Alien and Invasive Species Regulations (AIS) under the National Environmental Management Biodiversity Act (Act 10 of 2004). The removal of these species are therefore strongly supported.

Mitigation:

- Apply erosion and sediment control.
- Good vegetation cover must be maintained in all areas not used for infrastructure.
- All hydrocarbons, including fuel and oil must be stored off-site in an area approved for the storage.
- Sufficient rubbish bins must be available on site and clearly marked as such.
- No littering may take place anywhere in the project area.
- No workers may use the natural areas as ablution facilities.
- Vehicles must be in good working condition, with no oil, water or fuel leaks.
- No refuelling may take place on site.
- Any spillages must be reported immediately and dealt with appropriately.
- Spill kits must be available on site in case of accidental spillage.
- All mitigation measures included in this report must be adhered to.

7.2 Infestation by invasive plant species

Invasive plant species tend to establish in and around disturbed areas. The site is dominated by alien and invasive plant species, and the control of invasive species is a requirement of the National Environmental Management: Biodiversity Act.

Mitigation:

- Compile an alien and invasive species control and monitoring plan.
- Populations of invasive species on the landfill site must be controlled.
- The spread of invasive and weedy species from the site must be prevented.
- Clear invasive species seeds from the vehicle tire treads and grills before they leave to site to prevent spreading the seeds to other sites.
- Class 2 invasive plant species may only remain on site if a permit is obtained for the species.

7.3 Erosion & sedimentation

Erosion and sedimentation are associated with disturbed or bare soil and / or altered flow. This is especially relevant to the areas cleared of vegetation, including roads and new construction areas.

Mitigation:

- Monitor the entire site for signs of erosion.
- All erosion features must be rehabilitated as soon as possible.
- Implement sediment fences around erosion prone areas.

7.4 Pollution of the soil and water resources

Construction activities may lead to pollutants such as hydrocarbon and litter entering the water resources. This impact is however fairly easy to mitigate by implementing basic guidelines to prevent the pollution.

Mitigation:

- All hydrocarbons, including fuel and oil must be stored off-site in an area approved for the storage.
- Vehicles must be properly maintained and free of leaks.
- All vehicle maintenance must take place at an approved off-site facility.

8 Conclusion & Recommendation

The following conclusions and recommendations were reached in regard to the site and the proposed clearing of the vegetation on site:

- The vegetation on site is transformed and no longer resembles the Tsakane Clay Grassland vegetation type. The clearing of the vegetation will therefore not result is the loss of a threatened vegetation type.
- The vegetation on site is dominated by alien and invasive plant species, with only a few common indigenous species present.
- The removal of invasive species is a legal requirement under the National Environmental Management Biodiversity Act (Act 10 of 2004).
- The site is proposed to be used for an MRF, but the use of the area may change depending on need.
- The impacts from the proposed clearing of vegetation from the site and the use of the site is anticipated to be low.
- The clearing of the vegetation on site is supported.

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Kyllinga CONSULTING

Addendum A – CV

CURRICULUM VITAE

Name:	**Catharina Elizabeth Venter** trading as Kyllinga Consulting
Position:	Senior Ecologist and Wetland Scientist
Date of Birth:	29 December 1979
Nationality:	South African
Languages:	Afrikaans, English

EDUCATIONAL QUALIFICATIONS

- M.Sc (Botany), University of Pretoria (2003)
- B.Sc Hons (Botany), University of Pretoria (2001)
- B.Sc (Environmental Sciences), University of Pretoria (2000). Majored in Geography and Botany
- Matriculated, Sasolburg High School (1997)

Additional

- Introduction to ArcGIS 1 (2006)
- Bringing your data into ArcGIS (2006)
- Introduction to ArcView 3.x (2003).

FIELDS OF EXPERTISE

- **Ecological Assessment:**
  Ecological Assessments as part of the Environmental Impact Assessment Process

- **Wetland Assessment:**
  Wetland Assessments as part of the Environmental Impact Assessment Process and Water Use Applications, as well as rehabilitation plans for wetlands, including planning or the Working for Wetlands programme. Large scale wetland assessments (catchment scale).

- **GIS:**
  Compilation of maps for submission as part of Environmental Impact Assessment Process. Creating spatial databases and large scale wetland maps (catchment scale). Projection conversions and matching/overlaying different format GIS maps.

- **Environmental Impact Assessment**
  Undertaken numerous Environmental Scoping Reports, as required by the Environment Conservation Act, 1989 (Act 73 of 1989), the National Environmental Management Act, 1998 (Act 107 of 1998), as amended and the Development Facilitation Act, 1995 (Act 67 of 1995). Project experience includes the establishment of various housing typologies, golf courses, commercial and industrial projects, infrastructure development (roads), resorts and/or game lodges as well as filling stations.

- **Public Participation:**
  Undertaken numerous public participation processes, ranging from basic to extensive, as required by relevant environmental legislation.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Professional Natural Scientist (Pr.Sci.Nat) in the fields of Botanical and Ecological Science (Reg no. 400048/08)
- Member of the Botanical Society of South Africa

EMPLOYMENT HISTORY EXPERIENCE

Kyllinga Consulting (July 2015 - present)

Senior Ecologist responsible for wetland and ecological specialist assessments.

Spatial Ecological Consulting (February 2010 – June 2015)

Senior Ecologist responsible for wetland and ecological specialist assessments.

- Wetland Related Assessments

More than 40 wetland assessments conducted between 2010 and 2015.

- Vegetation Assessments

Approximately 16 vegetation assessments between 2010 and 2015.

- Management Plans

Completed two ecological management plans.

MSA Group Services (previously Exigent Environmental CC) (August 2004 – January 2010)

Environmental Scientist responsible for ecological and wetland assessments and the compilation of maps. Also conducted various scoping and EIA applications and EMPRs.

- Ecological Assessments

In excess of 50 ecological assessments conducted between 2004 and 2010, including managing the inclusion of the fauna specialist assessments.

- Wetland Assessments

More than 60 wetland verification projects, wetland delineations and wetland assessments, completed between 2004 and 2010.

- As well as:

Rehabilitation Projects; Fatal Flaw / Screening Assessments; National Department of Agriculture Authorisations; Mining Related Assessments; Private, Public Partnership Projects; Resource Management Plans (RMP); Environmental Management Plans; Environmental Management Programme; Environmental Exemption Processes; Basic Assessments; Environmental Impact Assessments

Part-time employment (2002-2004)

Tutor for botany practicals; Assisting Wildlife management students with Braun-Blanquette analysis; Researcher for a project on the vegetation communities and ecology of the Kruger National Park; Research assistant for the analysis of street trees in Tshwane urban forest; Various part time projects related to vegetation and wetlands

COUNTRIES OF WORK EXPERIENCE

- South Africa
- Lesotho
- Botswana
- Mozambique

PAPERS AND PUBLICATIONS

Co-author and data contributor to: SIEBEN, E. *et al*. The vegetation of inland wetlands with salt-tolerant vegetation in South Africa: description, classification and explanatory environmental factors, submitted to the South African Journal of Botany for review in Feb 2015.

Co-author and data contributor to: SIEBEN, E. *et al*. The herbaceous vegetation of subtropical freshwater wetlands in South Africa: description, classification and explanatory environmental factors, submitted to the South African Journal of Botany for review in Feb 2015.

Co-author and data contributor to: SIEBEN, E. *et al*. The vegetation of grass lawn wetlands of floodplains and pans in semi-arid regions of South Africa: description, classification and explanatory environmental factors, submitted to the South African Journal of Botany for review in Jan 2015.

Co-author of several vegetation descriptions in: MUCINA, L. & RUTHERFORD, M.C. (eds) 2006. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

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Addendum B – Declaration of Independence

Specialist:	Ina Venter, trading as Kyllinga Consulting		
Nature of specialist study compiled:	Vegetation and Wetland Assessment		
Contact person:	Ina Venter		
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E-mail:	Ina.kalinga@gmail.com		
Qualifications & relevant experience:	M.Sc. Botany		
Professional affiliation(s) (if any)	South African National Association of Scientific Professions (400048/08)		

I, CE Venter (Ina) , declare that -

General declaration:

- 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 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 will take into account, to the extent possible, the matters listed in Regulation 8;
- 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 71 and is punishable in terms of section 24F of the Act.



Signature of specialist:

Ina Venter, trading as Kyllinga Consulting

Name of company:

4 September 2026

Date: