Cartography & Spatial Analysis

TERRAGIS

VISUAL IMPACT ASSESSMENT REPORT

Tonkmeter Resource Facility

Compiled

For San Oosthuizen, EcoPartners

By Lourens van Zyl, TerraGIS

August 2026



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1 TERMS OF REFERENCE

An Integrated Environmental Authorisation (IEA) (Gaut: 002/11-12/E0228 & Gaut: 002/11-12/W0016) exists for the Tonkmeter Resource Facility, previously known as the New Tonk Meter Road GLB+ Waste Disposal Facility, permitting a waste management and resource recovery facility on Portions 81 (being subdivided into 222, 223 and 224) of the Farm Rietfontein 128 IR, Springs, within the City of Ekurhuleni Metropolitan Municipality, Gauteng Province, on previously mined and/or disturbed areas.

Tonkmeter (Pty) Ltd, the current IEA holder, is applying for a Waste Management Licence to change the final landfill height and shape of Area E from the current limit of 1 m above natural ground level to 25 m above natural ground level. TerraGIS was appointed by EcoPartners to undertake a Visual Impact Assessment (VIA) of the change in shape and height of Area E on the surrounding area.

The VIA facilitates an understanding of the receiving environment, providing a baseline description, and identifies impacts to the visual environment that may be associated with the proposed change in height and shape of Area E. The study comprises a qualitative assessment of impacts related to the project's activities.

This assessment evaluates the visual impact of Area E at its final, proposed height of 25 m above natural ground level. It should be noted that this height will not be reached immediately upon approval of the amendment, but will be attained progressively over time as waste is deposited within Area E. Assuming a throughput of 15 000 tonnes per month, Area E is expected to reach its final 25 m height over a period of approximately 38.5 years (based Rayten's Climate Change model assumptions). The visual impacts assessed in this report therefore represent the cumulative, long-term end-state of the development, rather than an immediate or short-term condition; the visual impact experienced by receptors is expected to increase incrementally over this extended period as the landform is progressively raised.

2 PROJECT DESCRIPTION

2.1 Scope of work

The scope of work for the VIA was as follows:

- Provide a description of the existing visual characteristics of the surrounding environment where development is to take place;
- Determine the extent to which the proposed development will be visible;
- Determine any potential visual impacts; and
- Recommend possible mitigation measures to minimize potential impacts.

2.2 APPROACH

The approach included the following:

- Determine the setting, visual character and the sense of place of the area surrounding the project. Define the extent of the affected visual environmental, the viewing distance and the critical views/visual receptors that may be affected by the proposed project;
- Evaluate the potential impacts of the proposed activity on the inherent scenic value of the landscape by collecting data during a site visit which allows for a comprehensive description and evaluation of the receiving environment;
- Determine, describe and illustrate the physical characteristics of the project components;
- Determine the Visual Absorption Capacity (ability of the landscape to accommodate the proposed project from a visual perspective);
- Complete an assessment of the potential impacts in order to determine the significance thereof; and
- Present mitigation measures that can be considered to reduce the visual impact of the proposed development.

2.3 ASSUMPTIONS AND LIMITATIONS

- The assessment reflect the best judgement of TerraGIS considering the information available at the time of preparation. The analyses contained in this report has been developed from information provided by EcoPartners, government agencies and other third parties. This information is not within the control of TerraGIS and TerraGIS has not audited such information and makes no representations as to the validity or accuracy thereof; and
- The assessment has been based on the project description provided by EcoPartners. Changes to this project description may influence the assessment and the proposed mitigation measures.

2.4 INFORMATION AND DATA SOURCES

- Layout plan compiled by Peter Legg Geo Environmental Consultants dated 21/07/2026;
- Elevation Model downloaded from ESRI;
- Vegetation data from SANBI, BGIS;
- Terrain data from Department of Agriculture, Land Reform and Rural Development, AGIS;
- Protected Areas data from Department Forestry, Fisheries & the Environment, EGIS; and
- Land Cover data from Department Forestry, Fisheries & the Environment, EGIS.

2.5 LEGISLATION AND GUIDELINES

The Guideline for Involving Visual and Aesthetic Specialists in EIA Processes (Oberholzer, 2005) was developed by the CSIR for the Western Cape Provincial Government's Department of Environmental Affairs and Development Planning to provide guidance and general good practice for specialist visual input into Environmental Impact Assessment (EIA) processes in South Africa. Although developed specifically for the Western Cape, the guideline is applied extensively across South Africa as a national best-practice reference for visual impact assessment, and is used as a guide for this assessment.

The guideline classifies proposed developments into five categories, ranging from low-intensity (Category 1) to high-intensity (Category 5) land uses, summarised below.

Category 1: e.g., nature reserves, nature-related recreation, camping, picnicking, trails and minimal visitor facilities.

Category 2: e.g., low-key recreation / resort / residential type development, small-scale agriculture / nurseries, narrow roads and small-scale infrastructure.

Category 3: e.g., low-density resort / residential type development, golf or polo estates, low to medium-scale infrastructure.

Category 4: e.g., medium density residential development, sports facilities, small-scale commercial facilities / office parks, one-stop petrol stations, light industry, medium-scale infrastructure.

Category 5: e.g., high-density township / residential development, retail and office complexes, industrial facilities, refineries, treatment plants, power stations, wind energy farms, power lines, freeways, toll roads, largescale infrastructure generally. Large-scale development of agricultural land and commercial tree plantations. Quarrying and mining activities with related processing plants.

Given its scale and nature, the proposed increase in height and change in shape of Area E is classified as a Category 5 development, consistent with the "large-scale infrastructure" and "quarrying and mining activities with related processing plants" descriptors as the site is itself situated on previously mined and disturbed land used for waste disposal and resource recovery.

The guideline further provides an expected level of visual impact by cross-referencing the development category against the scenic, cultural and historical sensitivity of the receiving environment, as set out in Table below.

Type of environment	Type of development (Low to high intensity)				
	Category 1 Development	Category 2 Development	Category 3 Development	Category 4 Development	Category 5 Development
Protected/wild areas of international, national, or regional significance	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected	Very high visual impact expected
Areas or routes of high scenic, cultural, historical significance	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected
Areas or routes of medium scenic, cultural or historical significance	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected
Areas or routes of low scenic, cultural, historical significance / disturbed	Little or no visual impact expected	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected
Disturbed or degraded sites / run-down urban areas / wasteland	Little or no visual impact expected	Little or no visual impact expected	Little or no visual impact expected	Minimal visual impact expected	**Moderate visual impact expected**

3 EXPERTISE OF THE SPECIALIST

Lourens van Zyl completed a BSc at the University of Pretoria. He has 19 years' experience in Geographic Information Systems. His project experience includes the management and compilation of large spatial datasets in order to facilitate the production of thematic maps and spatial analysis.

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4 DECLARATION OF INDEPENDENCE

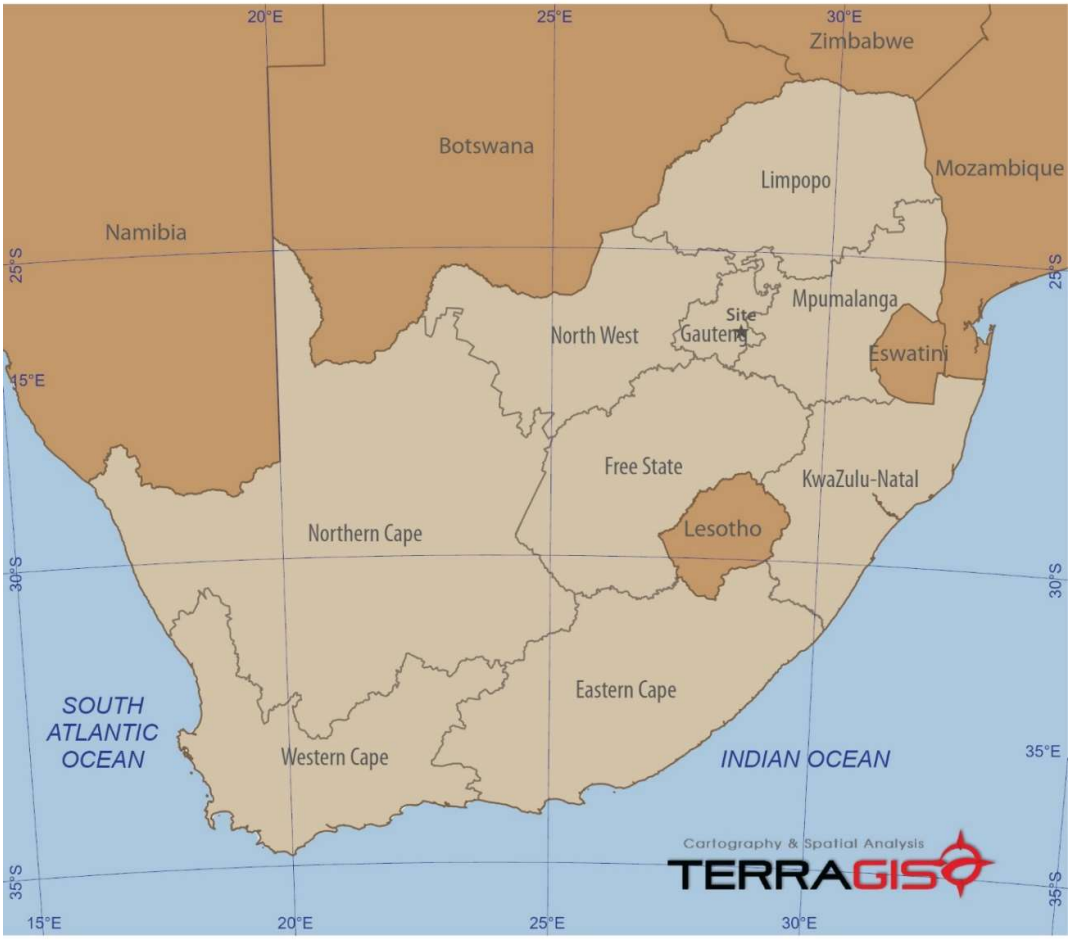
TerraGIS is an independent consulting firm with no interest in the project other than to fulfil the contract between the client and the consultant for delivery of professional environmental services as stipulated in the terms of reference.

5 PROJECT OVERVIEW

5.1 Administrative Boundaries

The site is located in the town of Springs within the Ekurhuleni Metropolitan Municipality, Gauteng Province of South Africa.

Tonkmeter Resource Facility
Administrative Regions



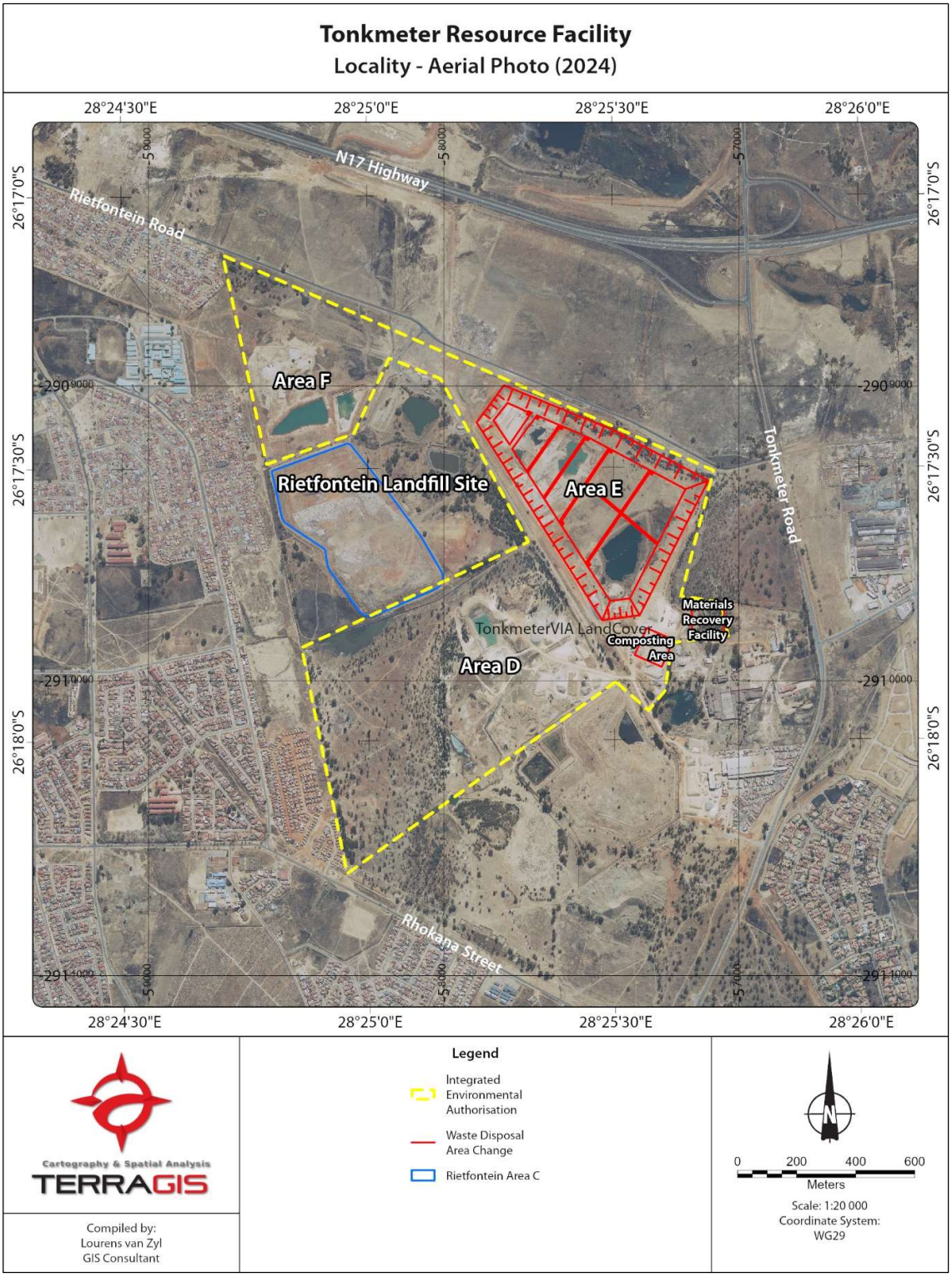


Gauteng District Municipalities

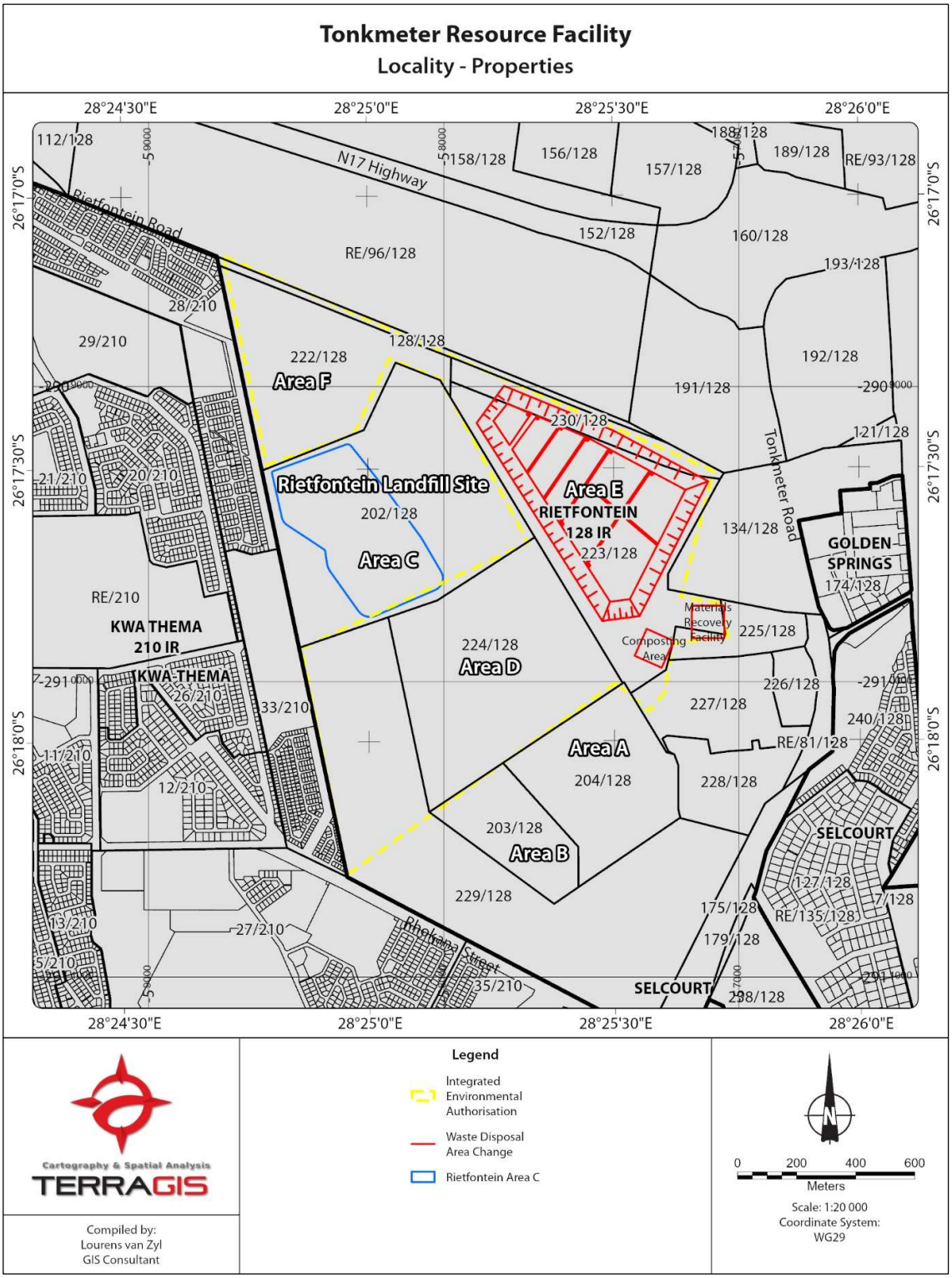


Gauteng Local Municipalities

5.2 Locality


Tonkmeter Resource Facility
Locality - Aerial Photo (2024)
28°24'30"E
28°25'0"E
28°25'30"E
28°26'0"E
26°17'0"S
26°17'30"S
26°18'0"S
N17 Highway
Rietfontein Road
Tonkmeter Road
Rhokana Street
Area F
Area E
Area D
Rietfontein Landfill Site
Materials Recovery Facility
Composting Area
TonkmeterVIA LandCover
Legend
Integrated Environmental Authorisation
Waste Disposal Area Change
Rietfontein Area C
Cartography & Spatial Analysis
TERRAGIS
Compiled by:
Lourens van Zyl
GIS Consultant
0 200 400 600
Meters
Scale: 1:20 000
Coordinate System:
WG29

5.3 Cadastre


Tonkmeter Resource Facility
Locality - Properties
28°24'30"E
28°25'0"E
28°25'30"E
28°26'0"E
26°17'0"S
26°17'30"S
26°18'0"S
N17 Highway
Rietfontein Road
Tonkmeter Road
Rietfontein Landfill Site
Area A
Area B
Area C
Area D
Area E
Area F
RIETFONTEIN 128 IR
KWA THEMA 210 IR
KWA-THEMA
GOLDEN SPRINGS
SELCOURT
Materials Recovery Facility
Composting Area
Rhelana Street
112/128
158/128
156/128
157/128
188/128
189/128
RE/93/128
152/128
160/128
RE/96/128
193/128
28/210
29/210
222/128
128/128
192/128
191/128
230/128
121/128
21/210
220/210
202/128
223/128
134/128
174/128
RE/210
224/128
225/128
226/128
227/128
33/210
26/210
240/128
RE/81/128
204/128
228/128
12/210
203/128
229/128
127/128
RE/135/128
179/128
13/210
27/210
5/210
35/210
238/128
Legend
Integrated Environmental Authorisation
Waste Disposal Area Change
Rietfontein Area C
Cartography & Spatial Analysis
TERRAGIS
Compiled by:
Lourens van Zyl
GIS Consultant
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0 200 400 600
Meters
Scale: 1:20 000
Coordinate System:
WG29

5.4 Project Features

Physical dimensions of the proposed infrastructure are of critical relevance to the VIA. The height of the infrastructure has a direct impact on its resulting visual exposure. Secondary to height the size of the overall footprint can further add to the total visual disturbance.

Infrastructure	Height (m AGL) - Worst Case Scenario
Landfill Area E	25
Landfill Area C (Rietfontein)	10

Tonkmeter is applying to amend the design of Area E. The footprint of Area E will remain unchanged, but the application seeks to revise the final landform shape and to increase the authorised final height from the current limit of 1 m above natural ground level to 25 m above natural ground level.

The site is situated immediately adjacent to the City of Ekurhuleni's Rietfontein Municipal Landfill, an existing waste disposal facility already authorised to a height of 10 m above natural ground level. As this adjacent facility already contributes to the existing visual baseline of the area, the additional visual impact attributable specifically to the proposed change in shape and height of Area E should be assessed against this existing baseline, rather than against an assumed pre-development condition in which no landfill structure of comparable height is present.

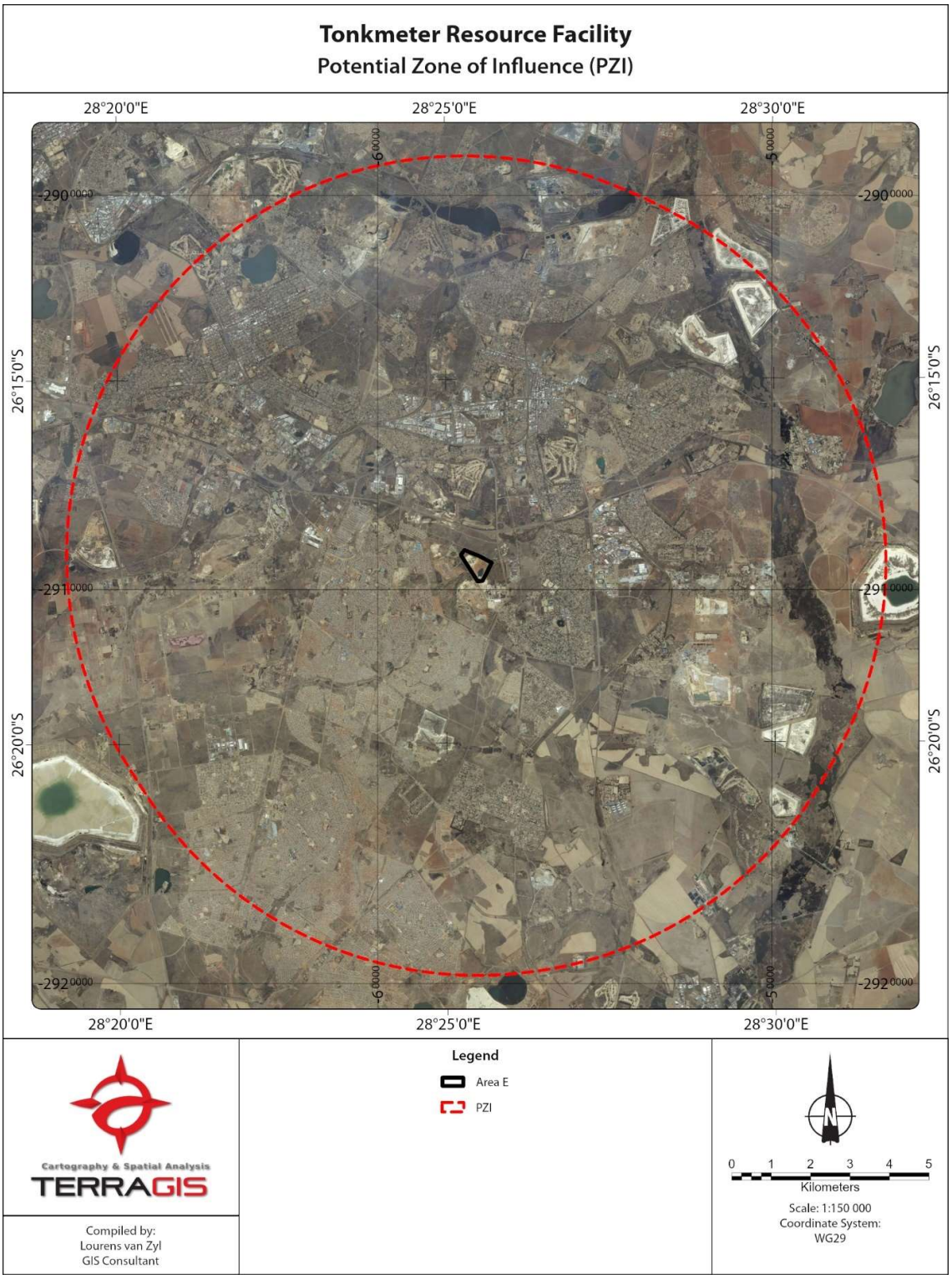






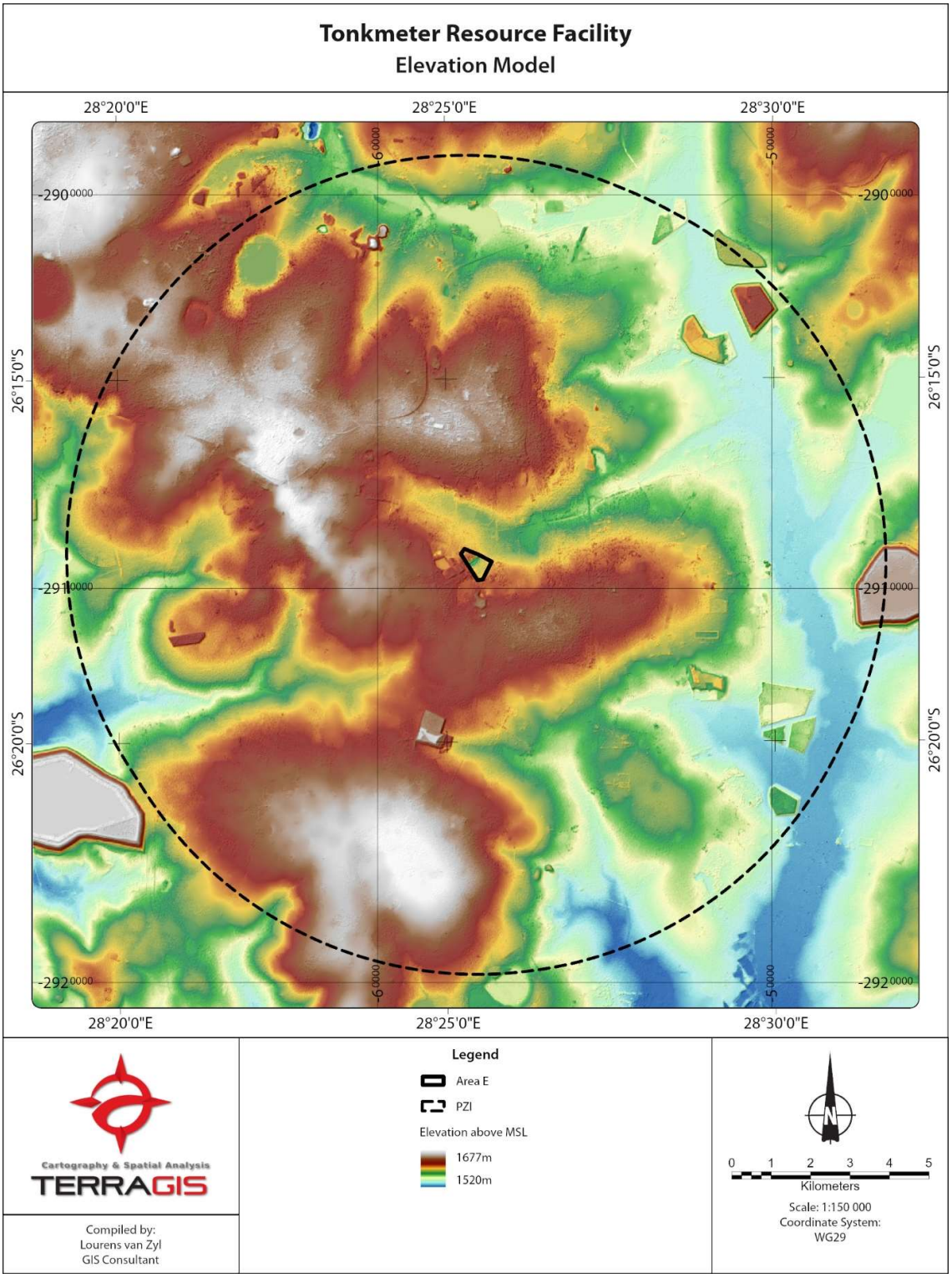
5.5 Potential Zone of Influence (PZI)

A potential of zone influence (PZI) is defined as the radius from the site infrastructure which the visual impact of the most visible features will be significant. A Standard PZI was established at 10 km following the methodology of Oberholzer (2005). This is a worst-case scenario buffer distance anything beyond that is considered visually insignificant owing to the proximity factor.



6 DESCRIPTION OF RECEIVING VISUAL ENVIRONMENT

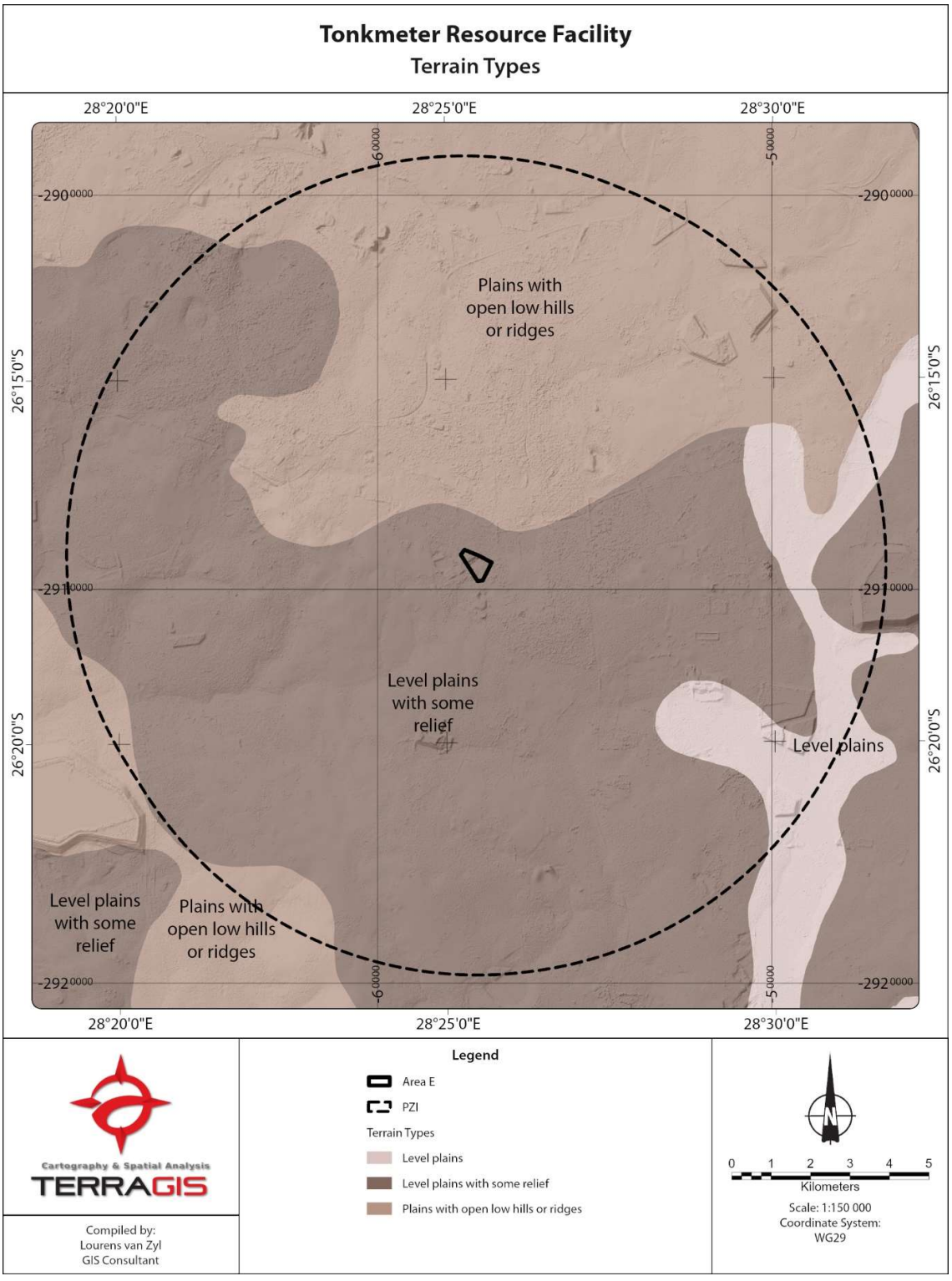
6.1 Topography



The elevation map of the Tonkmeter Resource Facility and surrounding area shows a landscape ranging from approximately 1 520 m to 1 677 m above mean sea level (MSL), as indicated by the colour-graduated legend (blue/green representing lower elevations, through yellow and orange, to brown and white representing the highest elevations).

Area E, located centrally within the mapped extent, lies within a mid-elevation zone (represented predominantly in yellow-to-light-orange tones), situated notably lower than the prominent high-elevation features evident elsewhere within the Potential Zone of Influence (PZI).

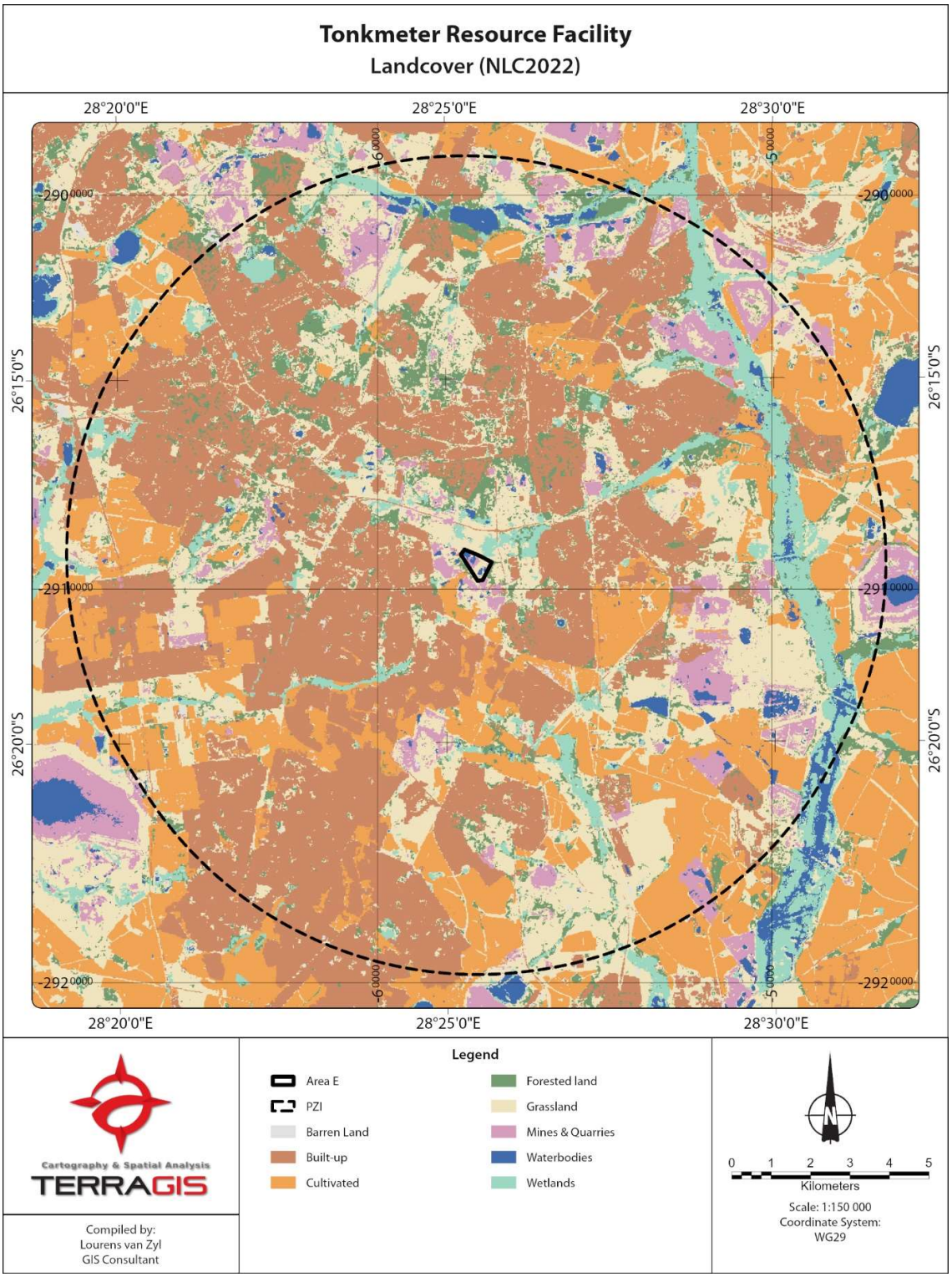
Within the PZI, two substantial areas of markedly higher elevation (shown in white and dark brown, indicating the upper end of the elevation range) flank Area E to the north-west and to the south. By contrast, elevation decreases progressively to the east of Area E, with lower-lying terrain (blue and light-green tones) extending towards and beyond the eastern edge of the PZI.



According to data from the Department of Agriculture, the terrain surrounding Area E is classified into three categories: level plains, level plains with some relief, and plains with open low hills or ridges. Area E is situated within a zone of "level plains with some relief," bordered to the north by "plains with open low hills or ridges" and to the south-west by a further area of the same classification. "Level plains" occur in the south-west and east of the PZI.

This positioning — between two areas of higher relief to the north and south-west — indicates that the "low hills and ridges" and "some relief" flanking Area E are likely to contribute meaningfully to visual screening from those directions.

6.2 Land Cover



Landcover within the PZI is dominated by built-up areas and cultivated land, interspersed with grassland. Scattered mines and quarries occur throughout the PZI, including in proximity to Area E, consistent with the area's mining history. Waterbodies and wetlands are present, most notably

along a watercourse running north–south through the eastern portion of the PZI. Smaller patches of forested land and barren land occur throughout, and are not dominant in extent.

Area E itself lies within a landscape of mixed grassland, cultivated land, and built-up areas, with land immediately surrounding it comprising a mix of grassland and built-up cover.

6.3 Vegetation

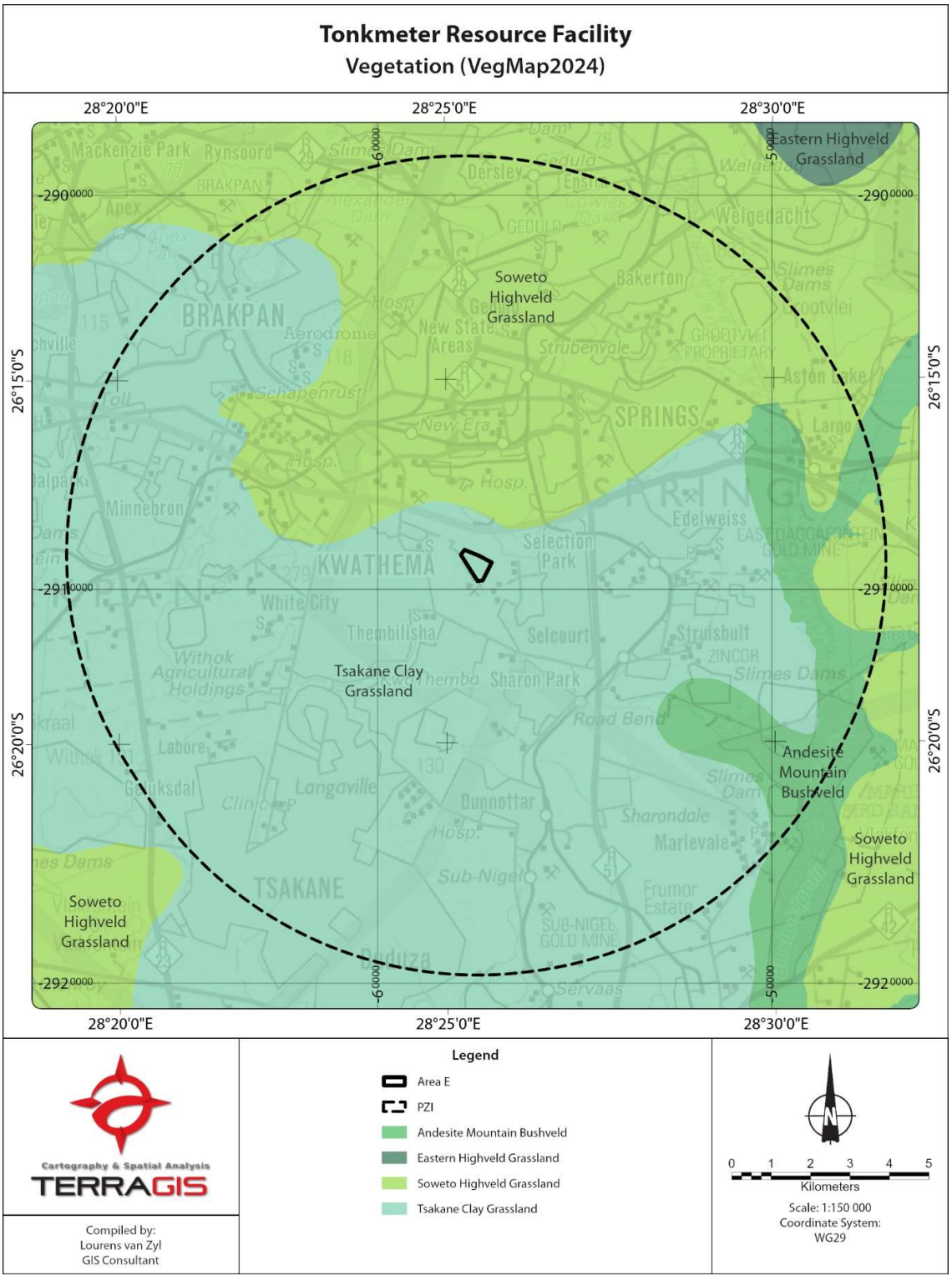
According to the National Vegetation Map of South Africa (Mucina & Rutherford) the natural vegetation of the area comprises almost solely of grasses with the exception of the odd herb and low shrub.

Unfortunately, there are no trees endemic to the area that can be planted for screening purposes.

Exotic trees such as Eucalyptus occurs frequently in the area and indeed on site and effectively screens activities from the outside. If trees occur on the site they need to be identified to determine if legislation such as CARA (Conservation of Agricultural Resources Act (Act 43 of 1983)) or NEMBA (National Environmental Management: Biodiversity Act (Act 10 of 2004)) apply.

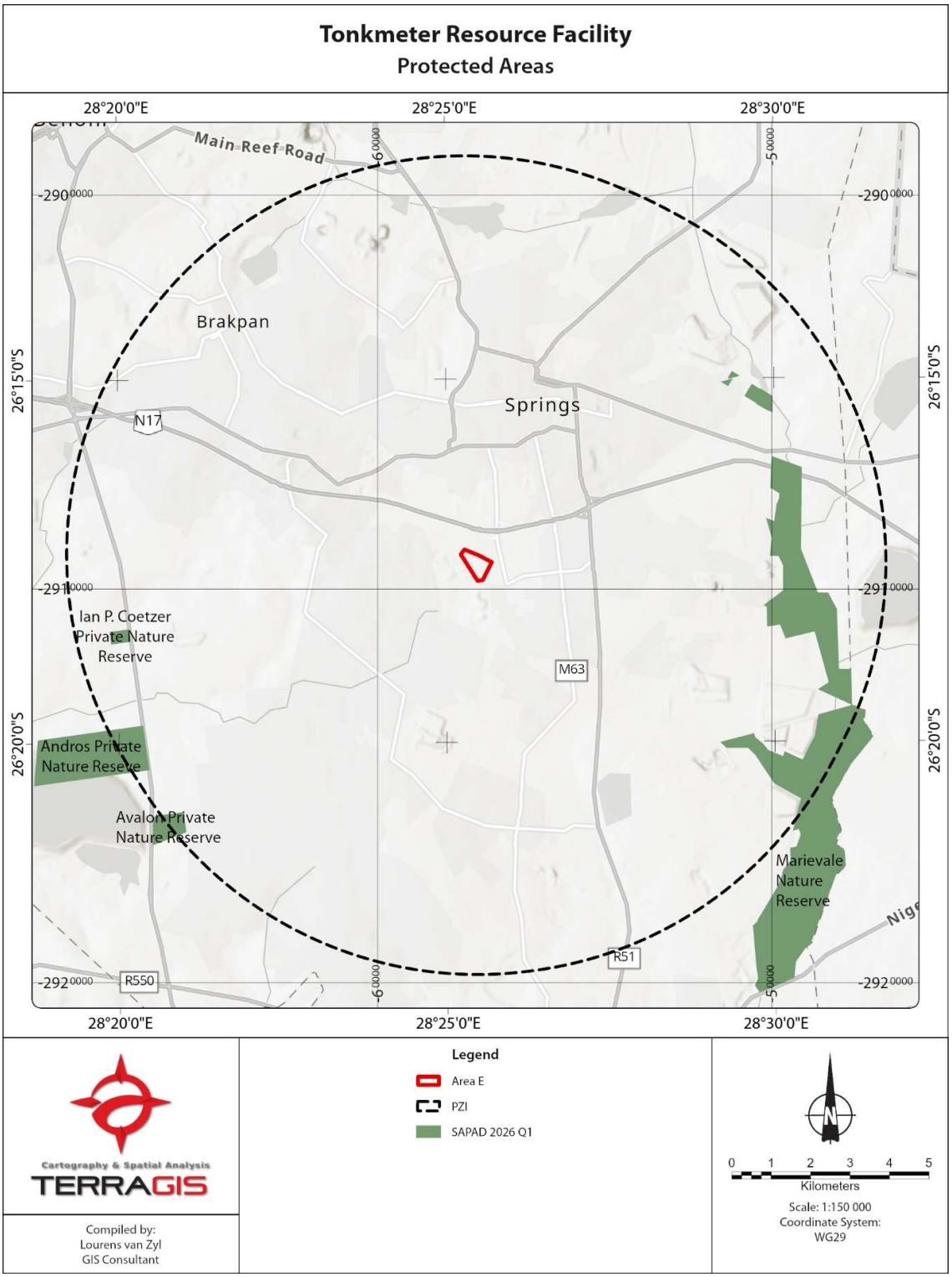


Above grassland can be seen that is located just north of the site, with exotic vegetation and trees in the background



The PZI spans three vegetation types under SANBI's National Vegetation Map (2024). Area E falls within the Tsakane Clay Grassland unit, which occupies the central and southern portion of the PZI, extending broadly across Kwa-Thema, Sharon Park, and Tsakane. To the north, this transitions into Soweto Highveld Grassland, which dominates the northern portion of the PZI around Springs and Brakpan. Andesite Mountain Bushveld occurs in a band along the eastern edge of the PZI.

6.4 Protected Areas



Four nature reserves occur within the PZI. With the exception of the Ian P Coetzer Private Nature Reserve, all nature reserves are situated immediately adjacent to tailings storage facilities, which already exert a negative visual impact on these reserves. Due to the surrounding terrain, Area E will not be visible from the Ian P Coetzer Private Nature Reserve.

6.5 Visual Receptors

Visual receptors are defined as "Individuals, groups or communities who are subject to the visual influence" (Oberholzer, 2005). There are two types of visual receptors namely static and dynamic.

Static visual receptors refer to views from fixed locations.

- Surrounding settlements and residential areas.



- Surrounding businesses.



Dynamic visual receptors refer to motorists. Motorists are generally classified as visual receptors of low sensitivity due to their momentary views and experience of the proposed development. Under normal conditions, views from a moving vehicle are dynamic as the visual relationship between the activities is constantly changing as well as the visual relationship between the activity and the landscape in which they are seen. The view cone for motorists, particularly drivers, is generally narrower than for static viewers. Motorists will therefore show low levels of sensitivity as their attention is focused on the road and their exposure to roadside objects is brief.

- People travelling from Johannesburg to Mpumalanga via the N17.



- People that live and work in the area and use the roads on a daily basis.



6.6 Sense of Place

Central to the concept of sense of place is that the landscape requires uniqueness and distinctiveness. The primary informant of these qualities is the spatial form and character of the natural landscape taken together with the cultural transformations and traditions associated with the historic use and habitation of the area.

This area has a long history of gold mining, and the presence of tailings dams and waste rock dumps is therefore an established and expected feature of the local visual landscape. Landfills, although just as visually intrusive, are not expected features in the landscape.

6.7 Scenic Value

Most of the area within the PZI is heavily impacted by development with very little scenic value.

7 VISUAL IMPACT CONCEPTS AND ASSESSMENT CRITERIA

7.1 Visual Analysis

This section describes the aspects which have been considered in order to assess the intensity of the visual impact on the area. The criterion includes:

- Project visibility (proximity) and exposure;
- Visual absorption capacity; and
- Landscape integrity.

Each of the above-mentioned categories are examined independently. The results are then integrated and interpreted in order to reach an overall visual assessment conclusion. The methodology that has been followed in this project is based on the work of Oberholzer (2005).

7.2 Project Visibility and Exposure

The visual impact of an object in the landscape diminishes as the distance from the object increases. A PZI is defined as the radius from the site infrastructure which the visual impact of the most visible features will be significant. A Standard PZI was established at 10 km following the methodology of Oberholzer (2005). This is a worst-case scenario buffer distance anything beyond that is considered visually insignificant owing to the proximity factor. The visual exposure of the area (viewshed) refers to the geographic area from which the project will be visible. The actual zone of visual influence of the project may be smaller owing to screening by existing trees and buildings. The standard visibility analysis considered the worst-case scenario, using line-of-sight i.e., ignoring trees and other structures and is based on topography alone. This assists the process of identifying possible affected visual receptors and the extent of the affected environment.

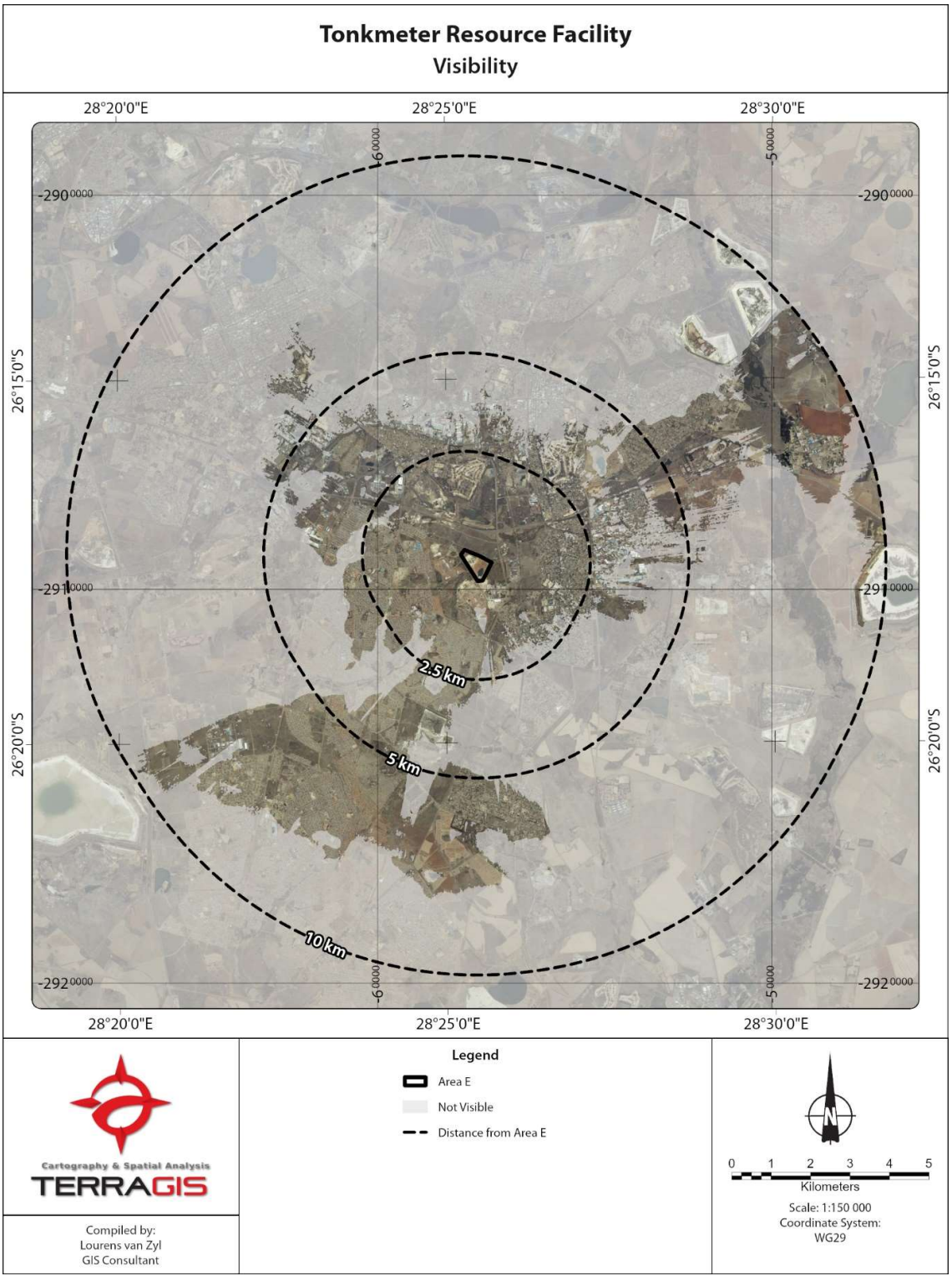
A Geodesic Viewshed Analysis was done with the height of the landfill as discussed previously, and the height of any observers at 1.8m

Visual Exposure Results:

PZI Zone	Zone Area (ha)	Visibility Area (ha)	Percent Coverage	Visual Exposure Impact
0-2.5 km	2 583	2 341	91%	High
2.5-5 km	6 479	2 364	36%	Low to Medium
5-10 km	24 740	4 061	16%	Low
Full PZI	33 802	8 766	26%	Low to Medium

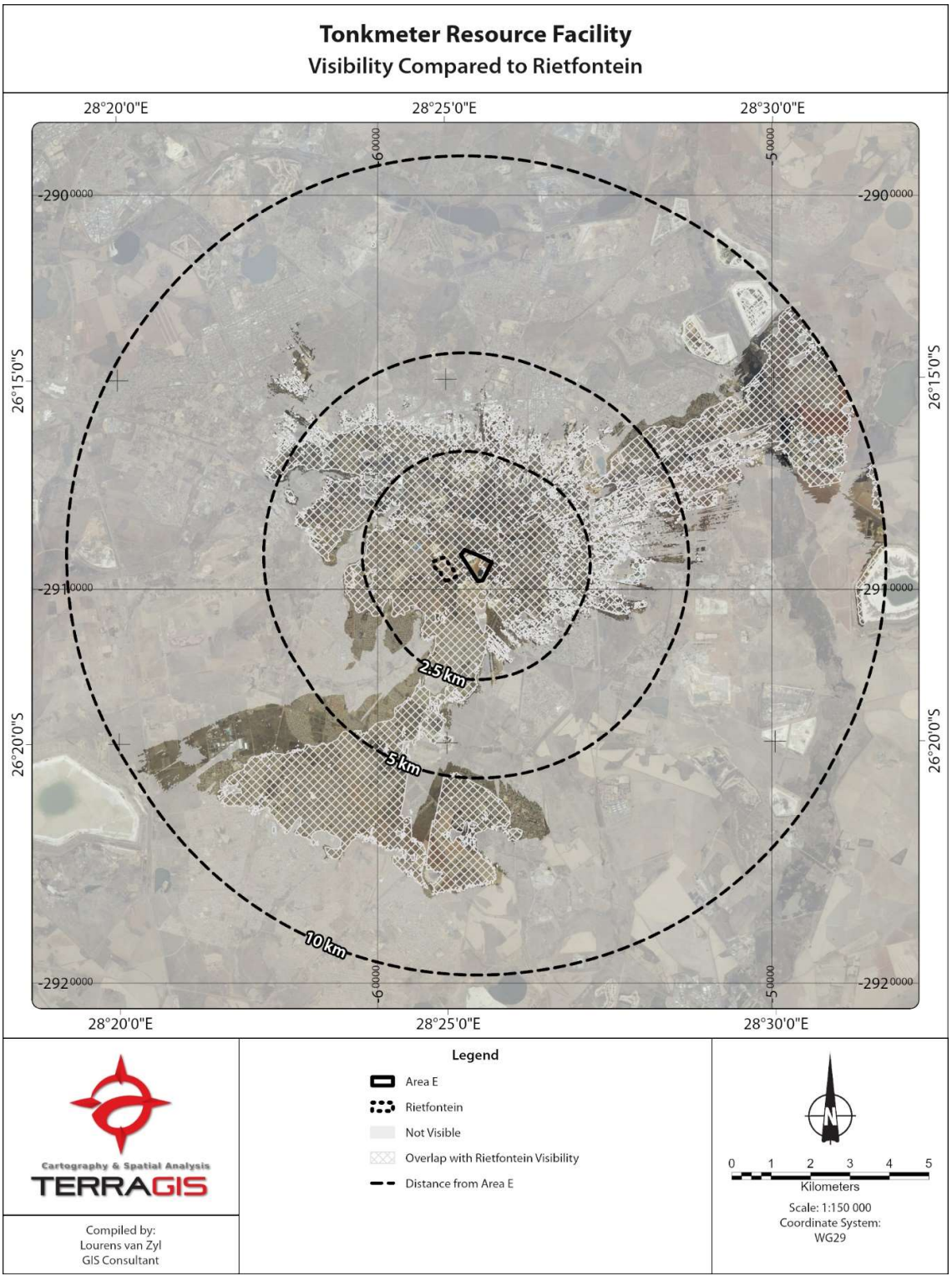
However, when the impact of the Rietfontein Landfill (already authorised) is subtracted, and only the additional impact of Area E is considered, visual exposure impact is much lower as can be seen in table below:

PZI Zone	Zone Area (ha)	Visibility Area (ha)	Percent Coverage	Visual Exposure Impact
0-2.5 km	2 583	272	11%	Low
2.5-5 km	6 479	745	11%	Low
5-10 km	24 740	1 400	6%	Low
Full PZI	33 802	2 417	7%	**Low**



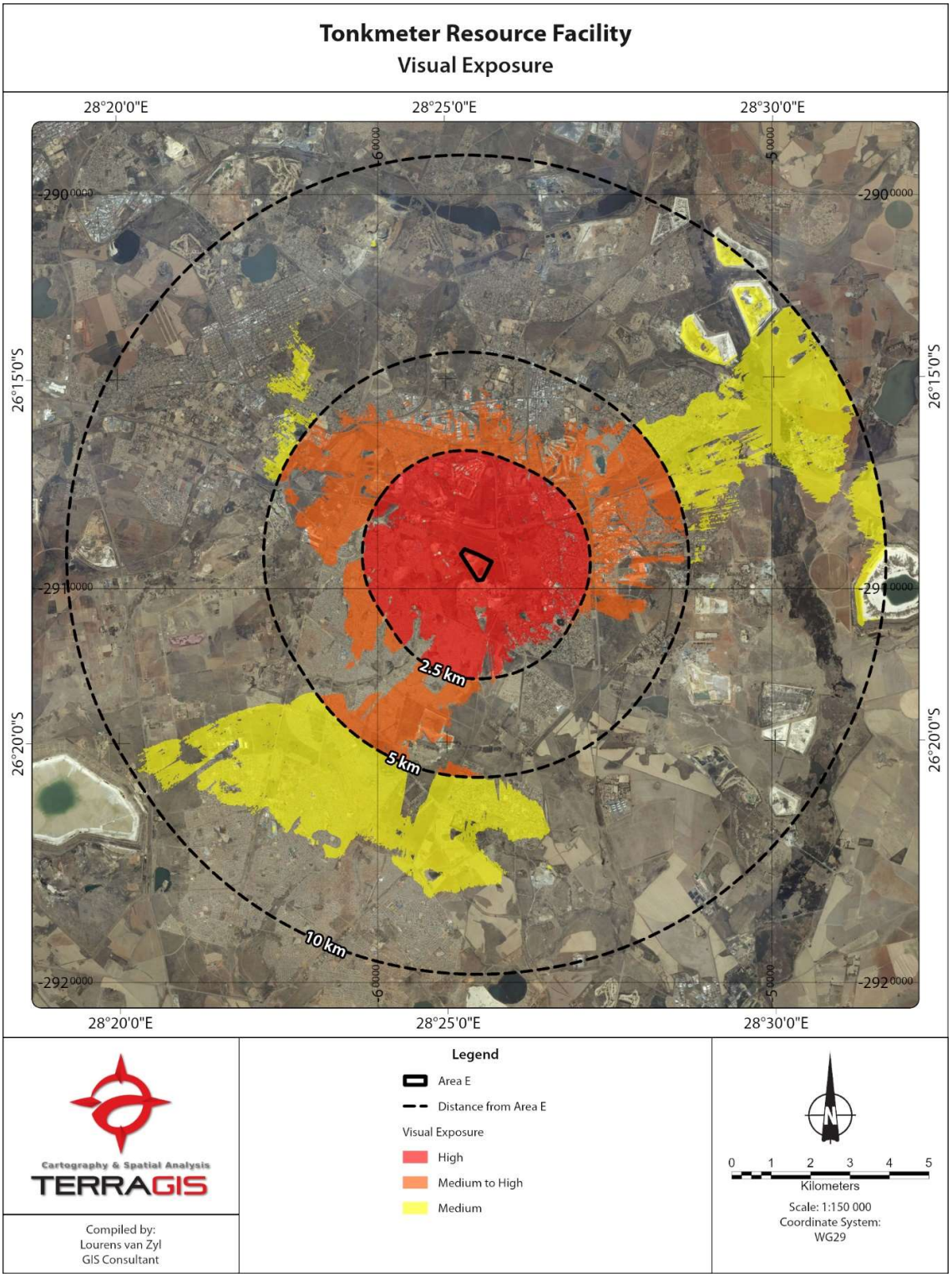
Full visibility of the final proposed height of Area E is shown above.

The visible area is where the aerial imagery can be seen clearly. Non-visible areas are where the imagery is masked with a transparent light grey colour.

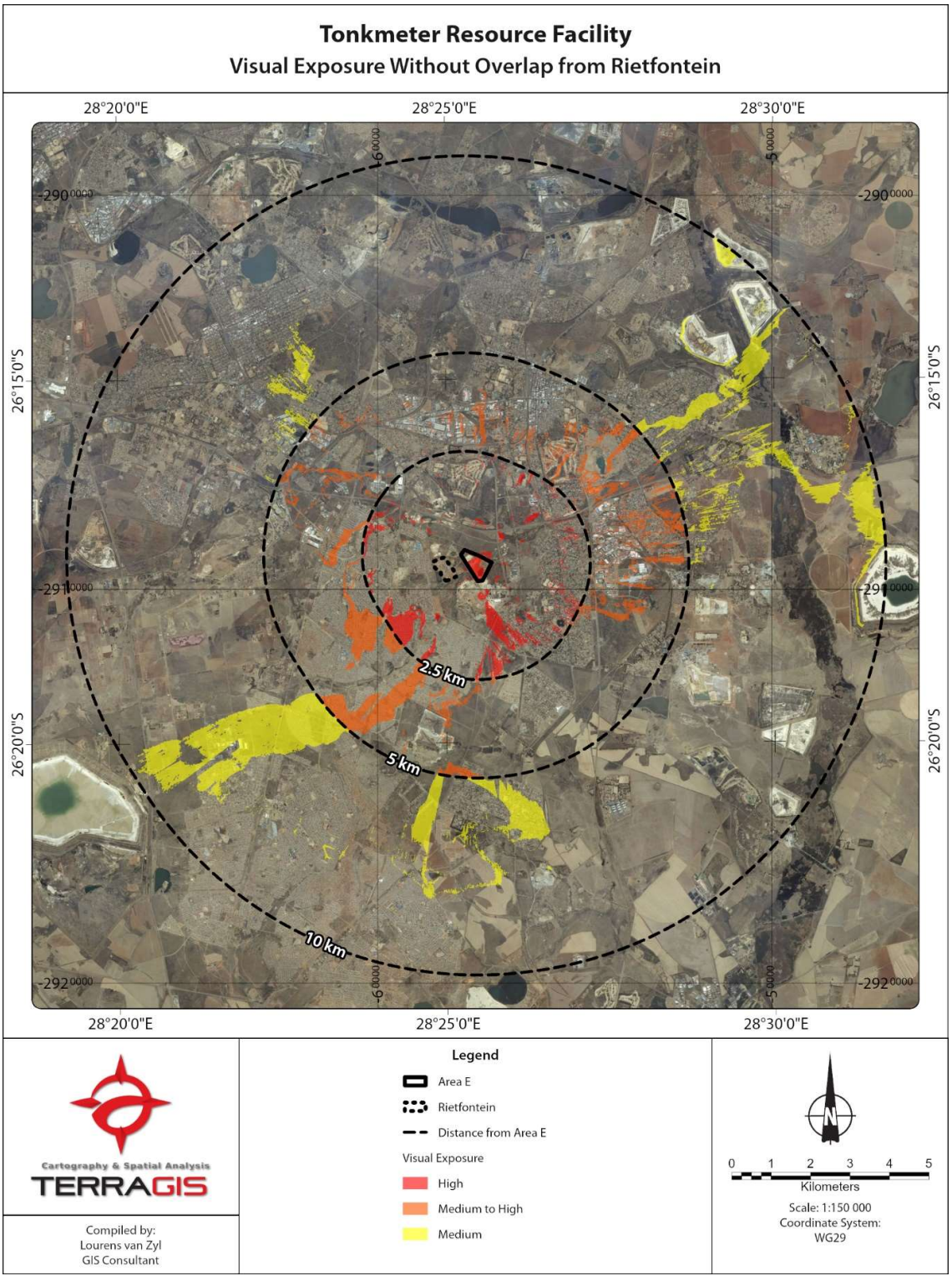


The area hatched above indicates an area already impacted by the neighbouring Rietfontein landfill. The areas visible but not hatched, indicates the area of extra impact not yet approved.

The effect of visual exposure diminishes with distance.



The total visual exposure attributable to Area E shown above.



The visual exposure attributable to Area E once the contribution already accounted for by Rietfontein is excluded.

7.3 Visual Absorption Capacity

Visual Absorption Capacity (VAC) signifies the ability of the landscape to accept additional human intervention without serious loss of character and visual quality or value. VAC is founded on the characteristics of the physical environment which is described in sections below:

- Degree of Visual Screening - A degree of visual screening is provided by landforms, vegetation cover and/or structures such as buildings. For example, a high degree of visual screening is present in an area that is mountainous and is covered with a forest compared to an undulating and mundane landscape covered in grass.
- Terrain Variability - Terrain variability reflects the magnitude of topographic elevation and diversity in slope variation. A highly variable terrain will be recognized as one with great elevation differences and a diversity of slope variation creating talus slopes, cliffs and valleys. An undulating landscape with a monotonous and repetitive landform will be an example of low terrain variability.

The exotic trees present on site provide effective screening of the site's interior:



Certain buildings similarly screen activities located behind them:



The surrounding terrain also contributes significantly to screening internal site activities. This is confirmed by the viewshed analysis:



However, given the substantial proposed height of 25 m, vegetation and landscape features are expected to provide only partial screening.

VAC Results:

Criteria	High VAC (Low Impact)	Moderate VAC (Medium Impact)	Low VAC (High Impact)
The landscape's ability to visually absorb the proposed development	Effective screening by topography and vegetation	**Partial screening by topography and vegetation**	Little screening by topography or vegetation

7.4 Landscape integrity

Landscape integrity refers to the compatibility of the proposed project with the existing landscape or 'sense of place'. The sensitivity of a landscape or visual resource is the degree to which a particular landscape type or area can accommodate change arising from a development, without detrimental effects on its character. Its determination is based upon an evaluation of each key element or characteristic of the landscape likely to be affected. The evaluation will reflect such factors such as its quality, value, contribution to landscape character, and the degree to which the particular element or characteristic can be replaced or substituted (Institute of Environmental Assessment & The Landscape Institute, 1996:87).

A practical example which illustrates this would be constructing a factory in an industrial zone. The area has a high compatibility due to similar developments already present and the landscape integrity remains unaffected. Constructing a similar factory adjacent to a park used for recreational purposes and the opposite will be true. Similarly, a rural area will not automatically be incompatible with large developments such as mine infrastructure. If the countryside is known for its strong mining industry, then a new mine development would be more easily integrated.

This area has a long history of mining activity, and features such as tailings dams and waste rock dumps are therefore an expected part of the landscape. A high landfill site does however not fit into that picture. Although the Rietfontein landfill next door is technically part of the immediate surroundings, the shear height of Area E at the end in year 39, will let it stand out like a sore thumb.

Landscape Integrity Results:

Criteria	Low Compatibility (High Impact)	Moderate Compatibility (Medium Impact)	High Compatibility (Low Impact)
The compatibility of the project to blend with the existing landscape.	**Visually intrudes, or is discordant with the surroundings**	Partially fits into the surroundings, but clearly noticeable	Blends in well with the surroundings

8 THE VISUAL IMPACT

The overall visual impact is determined by assessing the average impact across all three categories:

	Visual Exposure (Visibility)	Visual Absorption Capacity (VAC)	Landscape Integrity	Visual Impact
Proposed Infrastructure (Assuming mitigation is successful)	Low	Medium	High	**Medium**

This overall rating reflects the site's generally low visual exposure once the additional visual contribution already attributable to the adjacent Rietfontein landfill is accounted for, offset by the landscape's medium capacity to absorb the proposed 25 m height through existing vegetation, buildings, and terrain, and by the high landscape integrity of an area whose visual character has already been substantially shaped by historic mining activity. On this basis, and subject to the successful implementation of the mitigation measures recommended in this assessment, the proposed increase in height and change in shape of Area E is assessed as resulting in an overall Medium visual impact.

9 MITIGATION MEASURES

The aim of mitigation is to avoid, reduce, and where possible remedy or offset, any significant negative (adverse) effects on the environment arising from the proposed activity (GLVIA; 2008). In considering measures to effect mitigation, mitigation measures need to be:

- Economically feasible;
- Effective (time allowed for implementation and provision for management/maintenance); and
- Visually acceptable (within the context of the existing landscape).

To address these measures the following principles should be considered:

- Mitigation should be planned to fit into the existing landscape character. They should respect and build upon landscape distinctiveness;
- Mitigation should primarily aim to blend the proposed development into its surroundings and generally reduce its visibility; and
- It should be recognized that many mitigation measures, especially planting/rehabilitation, are not immediately effective.

9.1 Landscaping

The natural vegetation of the area is classified as grassland, and no endemic tree species are suitable for planting as a screening measure. While the exotic trees already present on site assist with screening, their effectiveness is limited given the proposed height of 25 m. A more practical mitigation approach would be to vegetate the slopes of the landform with endemic grass species (greening), and to shape the final landform using curved rather than straight lines, as straight lines tend to appear visually unnatural within the landscape.

Example of side slope greening on adjacent land:

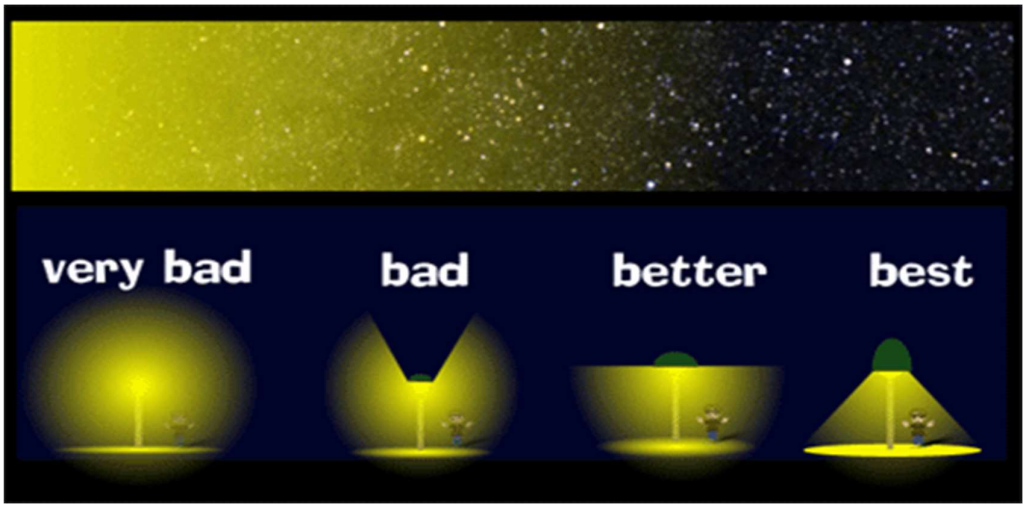


9.2 Access Roads

During construction and operation, access roads will require an effective dust suppression management program, such as regular wetting and/or the use of non-polluting chemicals that will retain moisture in the road surface.

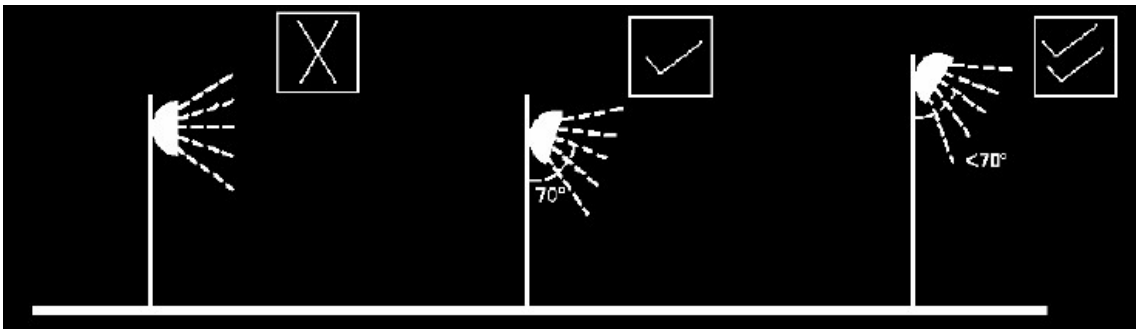
9.3 Light Shielding

Shielding of night lights can greatly reduce the sky glow by ensuring that lights have proper shielding which ensures that light does not spill into the night sky.



9.4 Light Direction

The direction of the main beam of all lights directed towards any potential observer should be at an angle smaller than 70°. Higher mounted lights allow lower main beam angles, which can assist in reducing glare. In areas with low ambient lighting levels, glare can be very obtrusive and extra care should be taken when positioning and aiming lighting equipment.



10 CONCLUSION

The use of already disturbed areas for the development of a landfill site is consistent with sound environmental planning practice, as it avoids the loss of undisturbed land.

The additional visual exposure impact is low once the visual exposure already attributable to the neighbouring, already-authorised Rietfontein Municipal Landfill is accounted for.

Topography especially, as well as vegetation and existing buildings contribute meaningfully to obscuring views of the site; however, given the substantial proposed height of 25 m, screening will only be partial. The visual absorption capacity impact is therefore assessed as medium.

A landfill site is inherently difficult to reconcile with the area's sense of place, and the landscape integrity impact is therefore assessed as high. The fact that Rietfontein Landfill already exist next door does not make its presence any more compatible with the wider area.

This results in an overall visual impact rating of medium, consistent with expectations at the outset of this study.

11 REFERENCES

Institute of Environmental Assessment & The Landscape Institute, 1996. Guidelines for Landscape and Visual Impact Assessment, E & FN Spon, London (117)

IES, Illuminating Engineering Society, The Lighting Handbook, 10th Edition,2011

Landscape Institute and the Institute of Environmental Assessment and Management, 2008, Guidelines for Landscape and Visual Impact Assessment (GLVIA). Second Edition, E & FN Spon Press

Oberholzer, B., 2005, Guideline for involving visual & aesthetic specialists in EIA processes: Edition 1. CSIR Report No ENV-S-C 2005 053 F. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town

South African National Biodiversity Institute (SANBI) (2006–2024) The National Vegetation Map Version 2024 [dataset]. Pretoria: SANBI. Available at: https://bgis.sanbi.org/vegmap. and Department of Forestry, Fisheries and the Environment (DFFE) (2022)

South African National Land Cover 2022 (NLC2022). Pretoria: DFFE.