

THE PROPOSED DEVELOPMENT OF ERF 2841 TERGNIET, WESTERN CAPE PROVINCE, SOUTH AFRICA

Visual Impact Assessment

Final v_2

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Document prepared for Cape EAPrac (Pty) Ltd
On behalf of Seebouwonings (Pty) Ltd



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LIST OF ACRONYMS

<i>APHP</i>	Association of Professional Heritage Practitioners
<i>BLM</i>	Bureau of Land Management (United States)
<i>BPEO</i>	Best Practicable Environmental Option
<i>CALP</i>	Collaborative for Advanced Landscape Planning
<i>DEM</i>	Digital Elevation Model
<i>DoC</i>	Degree of Contrast
<i>EIA</i>	Environmental Impact Assessment
<i>EMPr</i>	Environmental Management Plan
<i>GIS</i>	Geographic Information System
<i>GPS</i>	Global Positioning System
<i>HWC</i>	Heritage Western Cape
<i>IDP</i>	Integrated Development Plan
<i>IEMA</i>	Institute of Environmental Management and Assessment (United Kingdom)
<i>KOP</i>	Key Observation Point
<i>L VIA</i>	Landscape and Visual Impact Assessment
<i>MAMSL</i>	Metres above mean sea level
<i>NELPAG</i>	New England Light Pollution Advisory Group
<i>PNR</i>	Private Nature Reserve
<i>SDF</i>	Spatial Development Framework
<i>SEA</i>	Strategic Environmental Assessment
<i>VAC</i>	Visual Absorption Capacity

VIA	Visual Impact Assessment
VRM	Visual Resource Management
VRMA	Visual Resource Management Africa
ZVI	Zone of Visual Influence

GLOSSARY OF TECHNICAL TERMS

Technical Terms	Definition (Oberholzer, 2005)
Degree of Contrast	The measure in terms of the form, line, colour and texture of the existing landscape in relation to the proposed landscape modification in relation to the defined visual resource management objectives.
Visual intrusion	Issues are concerns related to the proposed development, generally phrased as questions, taking the form of “what will the impact of some activity be on some element of the visual, aesthetic or scenic environment”.
Receptors	Individuals, groups or communities who would be subject to the visual influence of a particular project.
Sense of place	The unique quality or character of a place, whether natural, rural or urban.
Scenic corridor	A linear geographic area that contains scenic resources, usually, but not necessarily, defined by a route.
Viewshed	The outer boundary defining a view catchment area, usually along crests and ridgelines. Similar to a watershed. This reflects the area, or the extent thereof, where the landscape modification would probably be seen.
Visual Absorption Capacity	The potential of the landscape to conceal the proposed project.
Technical Term	Definition (USDI., 2004)
Key Observation Point	Receptors refer to the people located in the most critical locations, or key observation points, surrounding the landscape modification, who make consistent use of the views associated with the site where the landscape modifications are proposed. KOPs can either be a single point of view that an observer/evaluator uses to rate an area or panorama, or a linear view along a roadway, trail, or river corridor.
Visual Resource Management	A map-based landscape and visual impact assessment method development by the Bureau of Land Management (USA).
Zone of Visual Influence	The ZVI is defined as ‘the area within which a proposed development may have an influence or effect on visual amenity.’

Table 1. Specialist declaration of independence.

All intellectual property rights and copyright associated with VRM Africa’s services are reserved, and project deliverables, including electronic copies of reports, maps, data, shape files and photographs, may not be modified or incorporated into subsequent

reports in any form, or by any means, without the written consent of the author. Reference must be made to this report, should the results, recommendations or conclusions in this report be used in subsequent documentation. Any comments on the Visual Impact Assessment (VIA) must be put in writing. Any recommendations, statements or conclusions drawn from, or based upon, this report, must make reference to it.

This document was completed by Silver Solutions 887 cc trading as VRM Africa, a Visual Impact Study and Mapping organisation located in George, South Africa. VRM Africa cc was appointed as an independent professional visual impact practitioner to facilitate this VIA. I, Stephen Stead, hereby declare that VRM Africa, an independent consulting firm, has no interest or personal gains in this project whatsoever, except receiving fair payment for rendering an independent professional service.




Stephen Stead
APHP accredited VIA Specialist

1 DFFE SPECIALIST REPORTING REQUIREMENTS

1.1 Specialist declaration of independence

Table 2. Specialist declaration of independence

<p>All intellectual property rights and copyright associated with VRM Africa's services are reserved, and project deliverables, including electronic copies of reports, maps, data, shape files and photographs, may not be modified or incorporated into subsequent reports in any form, or by any means, without the written consent of the author. Reference must be made to this report, should the results, recommendations or conclusions in this report be used in subsequent documentation. Any comments on the draft copy of the Visual Impact Assessment (VIA) must be put in writing. Any recommendations, statements or conclusions drawn from, or based upon, this report, must make reference to it.</p> <p>This document was completed by Silver Solutions 887 cc trading as VRM Africa, a Visual Impact Study and Mapping organisation located in George, South Africa. VRM Africa cc was appointed as an independent professional visual impact practitioner to facilitate this VIA. I, Stephen Stead, hereby declare that VRM Africa, an independent consulting firm, has no interest or personal gains in this project whatsoever, except receiving fair payment for rendering an independent professional service.</p>  <p>Stephen Stead <i>APHP accredited VIA Specialist</i></p>

1.2 Specialist report requirements in terms of Appendix 6 of the EIA Regulations (2014), as amended in 2017

Table 3: Specialist report requirements table

A specialist report prepared in terms of the Environmental Impact Regulations of 2014 (as amended in 2017) must contain:	Relevant section in report
Details of the specialist who prepared the report	Stephen Stead, owner / director of Visual Resource Management Africa. steve@vrma.co.za Cell: 0835609911
The expertise of that person to compile a specialist report including a curriculum vitae	Registration with Association of Professional Heritage Practitioners
A declaration that the person is independent in a form as may be specified by the competent authority	Table 1

A specialist report prepared in terms of the Environmental Impact Regulations of 2014 (as amended in 2017) must contain:	Relevant section in report
An indication of the scope of, and the purpose for which, the report was prepared	Terms of Reference
A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change	Baseline Assessment
A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Methodology
Details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternative;	Baseline Visual Inventory
An identification of any areas to be avoided, including buffers	Visual Resource Management Classes
A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	VRM Map
A description of any assumptions made and any uncertainties or gaps in knowledge;	Assumptions and Limitations
The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment	7 May 2022. Seasonal influences are not relevant.
A description of the findings and potential implications of such findings on the impact of the proposed activity or activities	Visual Impact Assessment
Any mitigation measures for inclusion in the EMPr	Environmental Management Plan
Any conditions for inclusion in the environmental authorisation	See mitigations in EMP.
Any monitoring requirements for inclusion in the EMPr or environmental authorisation	NA
A reasoned opinion as to whether the proposed activity or portions thereof should be authorised	Opportunities and Constraints
Regarding the acceptability of the proposed activity or activities; and	Conclusion
If the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	It is the recommendation that the proposed development should be authorised WITH MITIGATION for the key reasons motivated in the Executive Summary.
A description of any consultation process that was undertaken during the course of carrying out the study	Pending EIA

A specialist report prepared in terms of the Environmental Impact Regulations of 2014 (as amended in 2017) must contain:	Relevant section in report
A summary and copies if any comments that were received during any consultation process	Pending EIA
Any other information requested by the competent authority.	Pending EIA

1.3 DFFE Screening Tool Site Sensitivity Verification

In terms of Part A of the Assessment Protocols published in GN 320 on 20 March 2020, site sensitivity verification is required relevant to the DFFE Screening Tool. As the property is located within the urban edge, no landscape issues were flagged in the Screening Tool. As the area is located in a tourist area where landscapes are being used as a visual resource, visual input into the proposed development was a requirement. A detailed Site Sensitivity Verification was undertaken with survey points documenting the existing landscape context. The site photographs and sensitivity rating table can be viewed in Annexure A.

2 EXECUTIVE SUMMARY

Visual Resource Management Africa CC (VRMA) was appointed by Cape EAPrac (Pty) Ltd to undertake a Visual Impact Assessment on the proposed residential development of Tergniet Erf 2841 in Mossel Bay Municipality for Seebouwonings (Pty) Ltd (Proponent).

CONCLUSION

The Scoping Phase findings were that while the area does have scenic value, the residential development of the adjacent Tergniet built environment does defined the sense of place. As the area does fall within the Mossel Bay Urban Edge and is identified for development, the preliminary finding is that sensitive development of the site is unlikely to significantly degrade local visual resources. It is important to note that the visual resources associated with the site are being used for tourism and are located adjacent to the R102 that does have some value as a tourist view corridor. Mitigation was recommended that would include retaining the conservation vegetation area as much as possible as this helps to break up the ribbon development currently characterising Tergniet, as well as retaining some vegetation around the development area. This 5 - 10m buffer on the surrounding access roads should exclude structural development, but could be retained as garden space, with a Home Owners Association requirement for planning and planting of some medium sized indigenous trees along the road. Thru View fencing would be preferred to brick to allow continued views to the vegetation.

The finding of this landscape and visual impact assessment, is that the proposed development will be a preferred over the No-go status quo option. The following reasons are presented as motivation:

- In terms of regional and local planning fit for landscape and visual related themes, the expected visual/ landscape policy fit of the landscape change is rated High.
- Local zone of visual influence with some visually buffering from urban residential receptors to the west of the property.
- Continuation of the existing nodal development precedent of clustered development surrounded by conservation worthy nature areas.
- No loss of significant landscapes that are being used as visual resources.
- Retaining the status quo would result in limited economic benefit to the local area and a continued management plan to ensure that regrowth of the alien trees does not take place.
- Medium Negative visual impact significance for short-term construction with mitigation.
- Low Positive visual impact significance for long-term operation with mitigation.

The recommendation of this assessment is that the proposed development should be authorised with mitigation as is unlikely to result in a significant loss of landscape or visual resources. However, as the area is an important tourist destination and the surrounding roads would carry tourist traffic, mitigation should be a condition of approval.

METHODOLOGY

Visual Resource Management

The methodology for determining landscape significance is based on the United States Bureau of Land Management's Visual Resource Management (VRM) method (USDI., 2004). This GIS-based method allows for increased objectivity and consistency by using standard assessment criteria to classify the landscape type into four VRM Classes, with Class I being the most valued and Class IV, the least. The Classes are derived from *Scenic Quality*, *Visual Sensitivity Levels*, and *Distance Zones*. Specifically, the methodology involved: site survey; review of legal framework; determination of Zone of Visual Influence (ZVI); identification of Visual Issues and Visual Resources; assessment of Potential Visual Impacts; and formulation of Mitigation Measures.

POLICY FIT: High Positive

In terms of the *local and regional planning* of the Mossel Bay Final Spatial Development Framework, the proposed project is located within of the Mossel Bay Local Municipality Urban Edge as mapped on the following pages. No development restrictions were placed regarding the property, with the area marked for 'medium density' development. The only cautionary aspect of the local planning that does have relevance to the property relates to impacts to view corridors. The R102 and Fynbos Road would carry tourist traffic and should be considered as tourist view corridors. In terms of regional and local planning fit for landscape and visual related themes, the expected visual/ landscape policy fit of the landscape change is rated High.

ZONE OF VISUAL INFLUENCE: Local

The visible extent, or viewshed, is "the outer boundary defining a view catchment area, usually along crests and ridgelines" (Oberholzer, 2005). In order to define the extent of the possible influence of the proposed project, a viewshed analysis was undertaken from the proposed site at a specified height above ground level.

The extent of the Zone of Visual Influence is defined as Local in extent and rated Local for the following reasons:

- Due to the dune topography, the viewshed is essentially linear in shape, extending along the coastal region of the bay but constrained to the 2km distance.
- Due the higher visual absorption capacity created by the built nature of the western suburban areas as well as the topographic screening to the north and east, the expected ZVI is likely to be much smaller that the mapped viewshed.
- The ZVI is likely to be contained to the 500m distance, with the 100m reflecting a Very High Exposure, and the 500m distance a High Exposure.

VISUAL ABSORPTION CAPACITY Medium

Land use is a crucial factor in determining landscape character, especially regarding the Visual Absorption Capacity (VAC) of the landscapes. Oberholzer defines VAC as the potential of the landscape to conceal the proposed project (Oberholzer, 2005). i.e.

- High VAC – e.g., effective screening by vegetation and structures.
- Moderate VAC - e.g., partial screening by vegetation and structures.
- Low VAC - e.g., little screening by vegetation or structures.

Of relevance to the project is that the vegetation of the site does have visual and landscape significance, with the eastern portions of the property more suitable for development with restrictions. The built nature of the local landscape does set a precedent for nodal

development context, with the urban areas to the west of the property increasing the visual absorption capacity for urban developments. As the remaining non-alien vegetation is pioneer thicket species, the moderate height of the vegetation could offer some visual screening. Due to the nodal development precedent, the urban landscapes to the west as well as the potential for partial screening from the thicket vegetation, the visual absorption capacity is rated Medium.

RECEPTORS AND KOPS: Multiple Urban Receptors and 3 KOPs

Key Observation Points (KOPs) are the people (receptors) located in strategic locations surrounding the property that make consistent use of the views associated with the site where the landscape modifications are proposed. As the area is urban, numerous receptors are located within the ZVI in High Exposure distance zoned.

The following receptors were located within the expected ZVI:

- R102 Westbound
- Tergniet Beach Access Road
- See Plaas Guest House.

SCENIC QUALITY: Medium

The vegetation has value and with thicket type trees located on the western portion of the property adds to the Garden Route sense of place. These high value areas of natural vegetation have been excluded from the development footprint. Landform of the dune does increase the scenic quality to some degree. The south facing dune slopes that are interesting but not exceptional. There are no permanent water features on this portion of the property, but small, seasonal wetlands are located in the lower lying areas that are outside of the development footprint. These areas do not have a dominant visual presence but do add to the local scenic quality. Adjacent landscapes are rated medium to high with close proximity to the sea as well as large areas of open space and cultural modification on the site are minimal and do not detract from the local landscape character.

RECEPTOR SENSITIVITY: Medium to High

The Type of Users would include residential and tourist receptors with high visual exposure to the R102 increasing the potential for receptor sensitivity to landscape change. Within this peri-urban landscape, public Interest in maintaining scenic quality is rated Medium to Low as the built nature of Tergniet is well established. Adjacent Users do include tourist as well as tourist destinations (Seeplaas Guest House), and as such are likely to experience higher levels of sensitivity to landscape change detracting from the Garden Route sense of place. The urban residents of Tergniet have partial views of the landscape, viewed from an existing urban fabric and as such are likely to be less sensitive to landscape change. The property does not have any special zoning and the conservation worthy areas have been excluded from the development footprint.

VISUAL RESOURCE MANAGEMENT ASSESSMENT

The BLM has defined four Classes that represent the relative value of the visual resources of an area and are defined making use of the VRM Matrix:

- i. **Classes I and II** are the most valued.
- ii. **Class III** represent a moderate value.
- iii. **Class IV** is of least value

Class I (No-go)

- Rivers / streams and associated flood lines buffers identified as significant in terms of the WULA process.
- Wetlands identified as significant in terms of the WULA process.
- Ecological areas (or plant species) identified as having a high significance.
- Heritage area identified as having a high significance.
- **The seasonal wetland area.**
- **Natural vegetation areas (Conservation worthy).**
- **High Exposure Road Buffers.**

To ensure that the current peri-urban landscape context is retained, and continuous ribbon development does not occur along the R102 road, these areas should be excluded from the development. The No-Go option is preferred should development take place in these areas.

Class II (Not recommended)

- **Not applicable.**

Due to the moderate scenic quality and medium to high receptor sensitivity to landscape change, no Class II areas that should be conserved were identified on site.

Class III (Suitable with mitigation)

- **Peri-urban vegetation degraded.**

The dominant characteristic of the area is that of a peri-urban landscape, with the current lack of development contributing to this sense of place. Partial development on the property would be suitable with mitigation that would allow for the retaining of the identified significant indigenous vegetation, with planting of more trees around the proposed structures to meet the Class III visual objectives.

Class IV (Suitable without mitigation)

- **Not applicable.**

Due to the need to retain the existing sense of place along the R102 road, no Class IV areas were identified on the site as intensive development without mitigation would detract from the tourist views accessing the beach via the Fynbos Road.

LANDSCAPE AND VISUAL IMPACT SIGNIFICANCE

Visual Significance	Medium to High -Ve	Low +Ve
<i>Motivation</i>	Without mitigation, there is potential that the development will be visually dominating and will degrade the R102 Road gateway, setting a negative precedent for intensive development along the road. With mitigation, and further tree and shrub plantings within the road buffers, the area has the potential to become a potential positive asset to the local landscape. The existing nodal development that characterises the area will be repeated and continuous ribbon development along the R102 will be less visually dominant to the road receptors.	

Cumulative Effects	Medium -Ve	Low -Ve
<i>Motivation</i>	Without mitigation, there is some potential for setting a negative precedent for intensive development along the R102 Road and degrading the gateway views into Fynbos road. The further loss of trees and vegetation will limit the potential for medium-term screening. With mitigation, it is unlikely that the long-term landscape degradation will result in local landscape degradation. It is possible that the proposed development will result in an expansion of the development to the west on adjacent property. This would need to be addressed in future planning and future EIAs.	

PRELIMINARY MITIGATIONS MEASURES

Landscape Element	Mitigation	Motivation
R102 sense of place	10m property boundary buffer No-go for structural development	To ensure that the Mossel Bay Municipality requirement that view corridors are protected, a buffer on the R102 and Fynbos roads is required. Whiles these areas can be included in the erven, they should be excluded from structural development and used for visual screening as part of the large landscape plan that is governed by the Home Owners Association.
Fynbos road sense of place	5m property boundary buffer No-go for structural development	

3 INTRODUCTION

Visual Resource Management Africa CC (VRMA) was appointed by Cape EAPrac (Pty) Ltd to undertake a Visual Impact Assessment on the proposed residential development of Tergniet Erf 2841 in Mossel Bay Municipality for Seebouwonings (Pty) Ltd (Proponent). The property is located in the Mossel Bay Local Municipality with the Garden Route District Municipality.

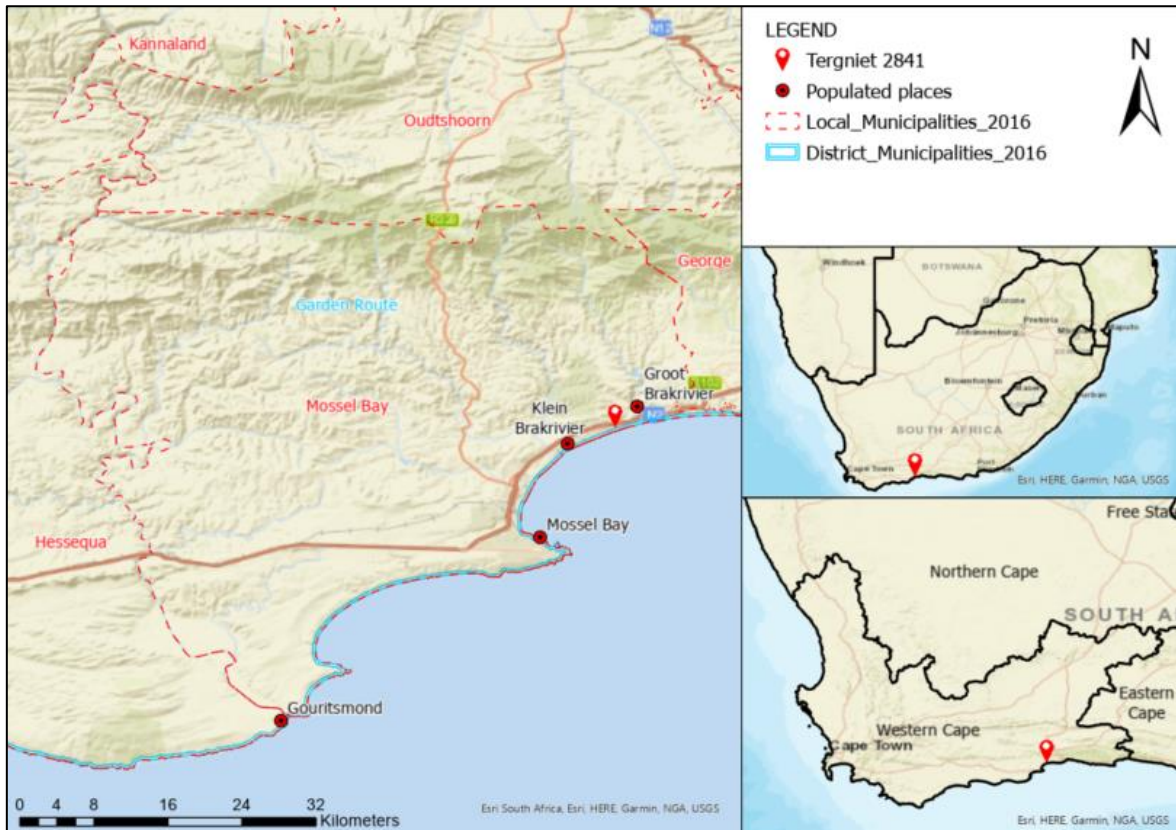


Figure 1: National and regional locality map.

3.1 Terms of Reference

The scope of this study is to cover the entire proposed project area. The broad terms of reference for the study are as follows:

- Collate and analyse all available secondary data relevant to the affected proposed project area. This includes a site visit of the full site extent, as well as of areas where potential impacts may occur beyond the site boundaries.
- Specific attention is to be given to the following:
 - Quantifying and assessing existing scenic resources/visual characteristics on, and around, the proposed site.
 - Evaluation and classification of the landscape in terms of sensitivity to a changing land use.
 - Determining viewsheds, view corridors and important viewpoints in order to assess the visual impacts of the proposed project.
 - Determining visual issues, including those identified in the public participation process.
 - Reviewing the legal framework that may have implications for visual/scenic resources.

- Assessing the significance of potential visual impacts resulting from the proposed project for the construction, operation and decommissioning phases of the proposed project.
- Assessing the potential cumulative impacts associated with the visual impact.
- Generate photomontages of the proposed landscape modification.
- Identifying possible mitigation measures to reduce negative visual impacts for inclusion into the proposed project design, including input into the Environmental Management Programme report (EMPr).

3.2 Study Team

Contributors to this study are summarised in the table below.

Table 4: Authors and contributors to this report.

Aspect	Person	Organisation / Company	Qualifications
Landscape and Visual Assessment (author of this report)	Stephen Stead MSc Geography, 2023 (UKZN, Pietermaritzburg)	VRMA	<ul style="list-style-type: none"> • Accredited with the Association of Professional Heritage Practitioner and • 16 years of experience in visual assessments including renewable energy, Power lines, roads, dams across southern Africa. • Registered with the Association of Professional Heritage Practitioners since 2014.

3.3 Visual Assessment Approach

The full methodology used in the assessment can be found in Annexure B, with this section outlining the key elements of the assessment process. The process that VRM Africa follows when undertaking a VIA is based on the United States Bureau of Land Management's (BLM) Visual Resource Management method (USDI., 2004). This mapping and GIS-based method of assessing landscape modifications allows for increased objectivity and consistency by using standard assessment criteria.

- *“Different levels of scenic values require different levels of management. For example, management of an area with high scenic value might be focused on preserving the existing character of the landscape, and management of an area with little scenic value might allow for major modifications to the landscape. Determining how an area should be managed first requires an assessment of the area’s scenic values”.*
- *“Assessing scenic values and determining visual impacts can be a subjective process. Objectivity and consistency can be greatly increased by using the basic design elements of form, line, colour, and texture, which have often been used to describe and evaluate landscapes, to also describe proposed projects. Projects that repeat these design elements are usually in harmony with their surroundings; those that don’t create contrast. By adjusting project designs so the elements are repeated, visual impacts can be minimized” (USDI., 2004).*

Baseline Phase Summary

The VRM process involves the systematic classification of the broad-brush landscape types within the receiving environment into one of four VRM Classes. Each VRM Class is associated with management objectives that serve to guide the degree of modification of the proposed site. The Classes are derived by means of a simple matrix with the three variables being the scenic quality, the expected receptor sensitivity to landscape change, and the distance of the proposed landscape modification from key receptor points. The Classes are not prescriptive and are utilised as a guideline to determine visual carrying capacity, where they represent the relative value of the visual resources of an area. Classes I and II are the most valued, Class III represents a moderate value; and Class IV is of least value. The VRM Classes are not prescriptive and are used as a guideline to determine the carrying capacity of a visually preferred landscape as a basis for assessing the suitability of the landscape change associated with the proposed project.

Table 5: VRM Class Matrix table

		VISUAL SENSITIVITY LEVELS								
		High			Medium			Low		
SCENIC QUALITY	A (High)	II	II	II	II	II	II	II	II	II
	B (Medium)	II	III	III/IV*	III	IV	IV	IV	IV	IV
	C (Low)	III	IV	IV	IV	IV	IV	IV	IV	IV
DISTANCE ZONES		Fore/middle ground	Background	Seldom seen	Fore/middle ground	Background	Seldom seen	Fore/middle ground	Background	Seldom seen

* If adjacent areas are **Class III** or lower, assign **Class III**, if higher, assign **Class IV**

The visual objectives of each of the classes are listed below:

- The Class I objective is to preserve the existing character of the landscape and the level of change to the characteristic landscape should be very low and must not attract attention. Class I is assigned when a decision is made to maintain a natural landscape.
- The Class II objective is to retain the existing character of the landscape and the level of change to the characteristic landscape should be low. The proposed development may be seen but should not attract the attention of the casual observer, and should repeat the basic elements of form, line, colour and texture found in the predominant natural features of the characteristic landscape.
- The Class III objective is to partially retain the existing character of the landscape, where the level of change to the characteristic landscape should be moderate. The proposed development may attract attention, but should not dominate the view of the casual observer, and changes should repeat the basic elements found in the predominant natural features of the characteristic landscape; and
- The Class IV objective is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the landscape can be high, and the proposed development may dominate the view and be

the major focus of the viewer's (s') attention without significantly degrading the local landscape character.

Impact Phase Summary

To determine impacts, a degree of contrast exercise is undertaken. This is an assessment of the expected change to the receiving environment in terms of the form, line, colour and texture, as seen from the surrounding Key Observation Points. This determines if the proposed project meets the visual objectives defined for each of the Classes. If the expected visual contrast is strong, mitigation recommendations are to be made to assist in meeting the visual objectives. To assist in the understanding of the proposed landscape modifications, visual representation, such as photomontages or photos depicting the impacted areas, can be generated. There is an ethical obligation in the visualisation process, as visualisation can be misleading if not undertaken ethically.

3.4 VIA Process Outline

The following approach was used in understanding the landscape processes and informing the magnitude of the impacts of the proposed landscape modification. The table below lists a number of standardised procedures recommended as a component of best international practice.

Table 6: Methodology Summary table

Action	Description
Site Survey	The identification of existing scenic resources and sensitive receptors in and around the study area to understand the context of the proposed development within its surroundings to ensure that the intactness of the landscape and the prevailing sense of place are taken into consideration.
Project Description	Provide a description of the expected project, and the components that will make up the landscape modification.
Reviewing the Legal Framework	The legal, policy and planning framework may have implications for visual aspects of the proposed development. The heritage legislation tends to be pertinent in relation to natural and cultural landscapes, while Strategic Environmental Assessments (SEAs) for renewable energy provide a guideline at the regional scale.
Determining the Zone of Visual Influence	This includes mapping of viewsheds and view corridors in relation to the proposed project elements, in order to assess the zone of visual influence of the proposed project. Based on the topography of the landscape as represented by a Digital Elevation Model, an approximate area is defined which provides an expected area where the landscape modification has the potential to influence landscapes (or landscape processes) or receptor viewpoints.
Identifying Visual Issues and Visual Resources	Visual issues are identified during the public participation process, which is being carried out by others. The visual, social or heritage specialists may also identify visual issues. The significance and proposed mitigation of the visual issues are addressed as part of the visual assessment.
Assessing Potential Visual Impacts	An assessment is made of the significance of potential visual impacts resulting from the proposed project for the construction, operational and decommissioning phases of the project. The rating of visual

Action	Description
	significance is based on the methodology provided by the Environmental Assessment Practitioner (EAP).
Formulating Mitigation Measures	Possible mitigation measures are identified to avoid or minimise negative visual impacts of the proposed project. The intention is that these would be included in the project design, the Environmental Management Programme report (EMPr) and the authorisation conditions.

3.5 Impact Assessment Methodology

The following impact criteria were used to assess visual impacts. The criteria were defined by the Western Cape *DEA&DP Guideline for involving Visual and Aesthetic Specialists in EIA Processes* (Oberholzer, 2005).

Table 7. DEA&DP Visual and Aesthetic Guideline Impact Assessment Criteria table.

Criteria	Definition
<u>Extent</u>	The spatial or geographic area of influence of the visual impact, i.e.: <ul style="list-style-type: none"> • <i>site-related</i>: extending only as far as the activity. • <i>local</i>: limited to the immediate surroundings. • <i>regional</i>: affecting a larger metropolitan or regional area. • <i>national</i>: affecting large parts of the country. • <i>international</i>: affecting areas across international boundaries.
<u>Duration</u>	The predicted life-span of the visual impact: <ul style="list-style-type: none"> • <i>short term</i>, (e.g., duration of the construction phase). • <i>medium term</i>, (e.g., duration for screening vegetation to mature). • <i>long term</i>, (e.g., lifespan of the project). • <i>permanent</i>, where time will not mitigate the visual impact.
<u>Intensity</u>	The magnitude of the impact on views, scenic or cultural resources. <ul style="list-style-type: none"> • <i>low</i>, where visual and scenic resources are not affected. • <i>medium</i>, where visual and scenic resources are affected to a limited extent. • <i>high</i>, where scenic and cultural resources are significantly affected.
<u>Probability</u>	The degree of possibility of the visual impact occurring: <ul style="list-style-type: none"> • <i>improbable</i>, where the possibility of the impact occurring is very low. • <i>probable</i>, where there is a distinct possibility that the impact will occur. • <i>highly probable</i>, where it is most likely that the impact will occur. • <i>definite</i>, where the impact will occur regardless of any prevention measures.
<u>Significance</u>	The significance of impacts can be determined through a synthesis of the aspects produced in terms of their nature, duration, intensity, extent and probability, and be described as: <ul style="list-style-type: none"> • <i>low</i>, where it will not have an influence on the decision. • <i>medium</i>, where it should have an influence on the decision unless it is mitigated. • <i>high</i>, where it would influence the decision regardless of any possible mitigation.

3.6 Assumptions and Uncertainties

- Digital Elevation Models (DEM) and viewsheds were generated using ASTER elevation data (NASA, 2009). Although every effort to maintain accuracy was undertaken, as a result of the DEM being generated from satellite imagery and not being a true representation of the earth's surface, the viewshed mapping is approximate and may not represent an exact visibility incidence. Thus, specific features identified from the DEM and derive contours (such as peaks and conical hills) would need to be verified once a detailed survey of the project area has taken place.
- The use of open-source satellite imagery was utilised for base maps in the report.
- Some of the mapping in this document was created using Bing Maps, Open-Source Map, ArcGIS Online and Google Earth Satellite imagery.
- The project deliverables, including electronic copies of reports, maps, data, shape files and photographs are based on the author's professional knowledge, as well as available information.
- VRM Africa reserves the right to modify aspects of the project deliverables if and when new/additional information may become available from research or further work in the applicable field of practice or pertaining to this study.
- As access to farms and private property is often limited due to security reasons, limiting access to private property in order that photographs from specific locations are taken. 3D modelling is used to reflect the expected landscape change area where applicable.
- Mapping makes use of the SANBI BGIS webmap (SANBI, 2018)
- The slopes analysis is approximate and is subject to detailed survey and detailed slopes analysis.

4 PROJECT DESCRIPTION

The following project information was provided by the client that will be incorporated into the assessment and proposed infrastructure relating to the project. The following table outlines the scope of the project, with reference to the extent, heights, and expects landscape change depiction as provide by the proponent/ architects involved in the project design and development.

Table 8: Project Information Table

PROPONENT SPECIFICATIONS	
Applicant Details	Description
Applicant Name:	Seebouwonings (Pty) Ltd
Property Reference	Erf 2841, Mossel Bay

The project involves the development of a residential estate. The proposed project will include the following infrastructure as outlined in the table on the following page.

Table 9: Project Information table

DEVELOPMENT DETAILS	
Mixed use development	<p>The property is proposed to be developed as follows:</p> <ul style="list-style-type: none">• - 68 group housing erven ± 220m² in size• - 9 erven as private open space - Open Space Zone II.• - 2 erven as utility erven (refuse collection)• - The streets inside the proposed development will all be private streets - Transport Zone III.• - 1 erf for public street purpose - Transport Zone II. This erf is required for the re-alignment of• the access road to Souwesia and the Ottosrus Small Holdings.



Figure 2: Photographic examples of proposed massing and colour.



Figure 3. 3D block models of proposed development and architectural look and feel.

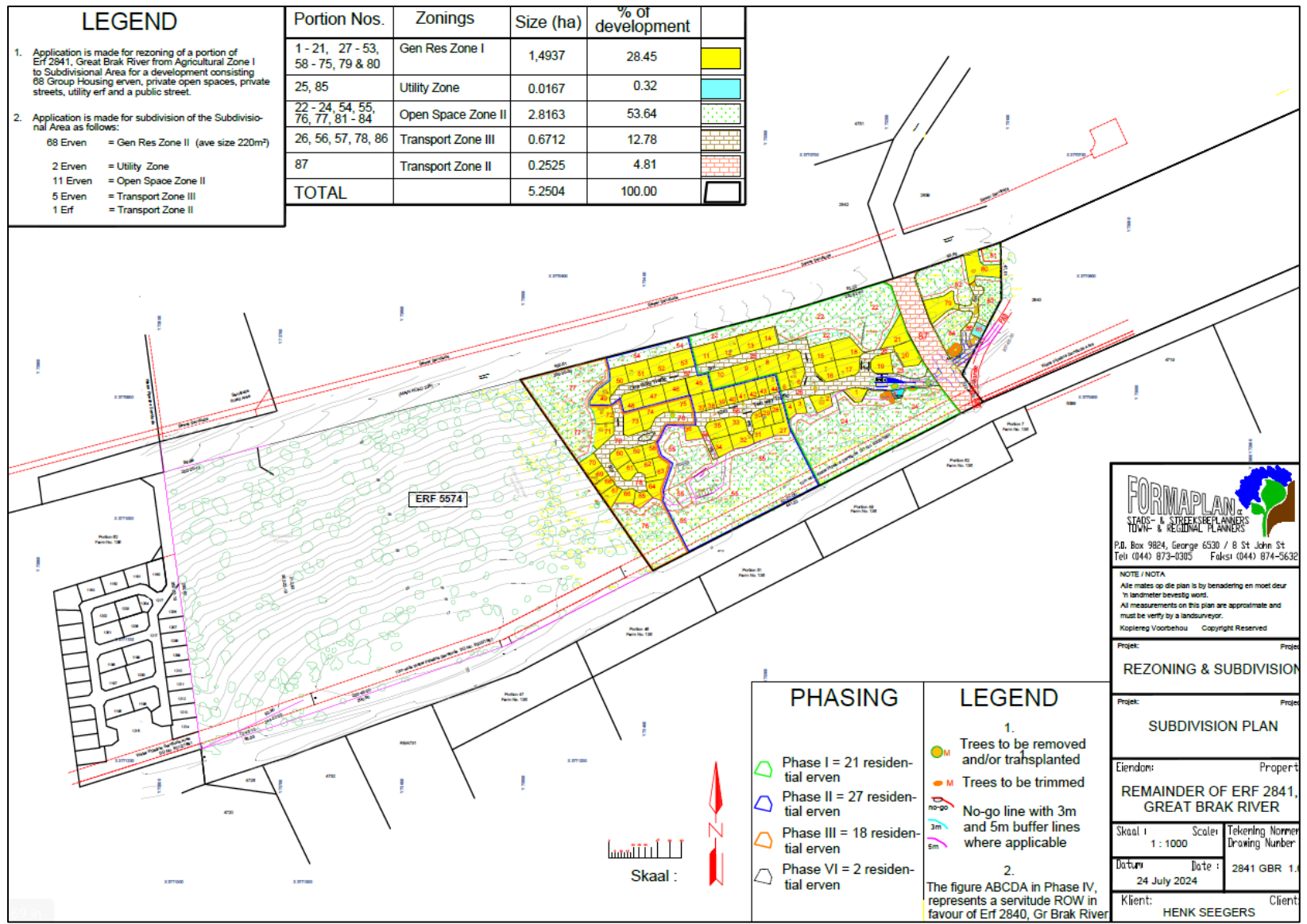


Figure 4: Proposed layout plan map.



Figure 5: Proposed layout plan.

5 LEGAL FRAMEWORK

In order to comply with the Visual Resource Management requirements, it is necessary to relate the proposed landscape modification in terms of international best practice in understanding landscapes and landscape processes. The proposed project also needs to be evaluated in terms of 'policy fit'. This requires a review of International, National and Regional best practice, policy and planning for the area to ensure that the scale, density and nature of activities or developments are harmonious and in keeping with the planned sense of place and character of the area.

5.1 International Good Practice

For international good practice in assessment of landscapes, the following documentation is relevant, specifically:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA), Second Edition.

5.1.1 Guidelines for Landscape and Visual Impact Assessment, Second Edition

The Landscape Institute and the Institute of Environmental Management and Assessment (United Kingdom) have compiled a book outlining best practice in landscape and visual impact assessment. This has become a key guideline for LVIA in the United Kingdom. "The principal aim of the guideline is to encourage high standards for the scope and context of landscape and visual impact assessments, based on the collegiate opinion and practice of the members of the Landscape Institute and the Institute of Environmental Management and Assessment. The guidelines also seek to establish certain principles and will help to achieve consistency, credibility and effectiveness in landscape and visual impact assessment, when carried out as part of an EIA" (The Landscape Institute, 2003);

In the introduction, the guideline states that 'Landscape encompasses the whole of our external environment, whether within village, towns, cities or in the countryside. The nature and pattern of buildings, streets, open spaces and trees – and their interrelationships within the built environment – are an equally important part of our landscape heritage" (The Landscape Institute, 2003: Pg. 9). The guideline identifies the following reasons why landscape is important in both urban and rural contexts, in that it is:

- An essential part of our natural resource base.
- A reservoir of archaeological and historical evidence.
- An environment for plants and animals (including humans).
- A resource that evokes sensual, cultural and spiritual responses and contributes to our urban and rural quality of life; and
- Valuable recreation resources. (The Landscape Institute, 2003).

In terms of international best practice for Landscape and Visual Impact Assessment, no issues pertaining to the above listed landscape resources were identified within the project zone of visual influence.

5.1.2 International Finance Corporation (IFC)

The IFC Performance Standards (IFC, 2012) do not explicitly cover visual impacts or assessment thereof. Under IFC PS 6, ecosystem services are organized into four categories, with the third category related to cultural services which are defined as "the non-

material benefits people obtain from ecosystems” and “may include natural areas that are sacred sites and areas of importance for recreation and aesthetic enjoyment” (IFC, 2012).

However, the IFC Environmental Health and Safety Guidelines for Electric Power Transmission and Distribution (IFC, 2007) specifically identifies the risks posed by power transmission and distribution projects to create visual impacts to residential communities. It recommends mitigation measures to be implemented to minimise visual impact. These should include the siting of powerlines and the design of substations with due consideration to landscape views and important environmental and community features. Prioritising the location of high-voltage transmission and distribution lines in less populated areas, where possible, is promoted.

IFC PS 8 recognises the importance of cultural heritage for current and future generations and aims to ensure that projects protect cultural heritage. The report defines Cultural Heritage as “(i) tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values; (ii) unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls” (IFC, 2012). The IFC PS 8 defines Critical Heritage as “one or both of the following types of cultural heritage: (i) the internationally recognized heritage of communities who use or have used within living memory the cultural heritage for long-standing cultural purposes; or (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation” (IFC, 2012).

Legally protected cultural heritage areas are identified as important in the IFC PS 8 report. This is for “the protection and conservation of cultural heritage, and additional measures are needed for any projects that would be permitted under the applicable national law in these areas”. The report states that “in circumstances where a proposed project is located within a legally protected area or a legally defined buffer zone, the client, in addition to the requirements for critical cultural heritage, will meet the following requirements:

- Comply with defined national or local cultural heritage regulations or the protected area management plans.
- Consult the protected area sponsors and managers, local communities and other key stakeholders on the proposed project; and
- Implement additional programs, as appropriate, to promote and enhance the conservation aims of the protected area”. (IFC, 2012).

5.1.3 Millennium Ecosystem Assessment

In the Ecosystems and Human Well-being document compiled by the Millennium Ecosystem Assessment in 2005, Ecosystems are defined as being “essential for human well-being through their provisioning, regulating, cultural, and supporting services. Evidence in recent decades of escalating human impacts on ecological systems worldwide raises concerns about the consequences of ecosystem changes for human well-being”. (Millennium Ecosystem Assessment, 2005)

The Millennium Ecosystem Assessment defined the following non-material benefits that can be obtained from ecosystems:

- Inspiration: Ecosystems provide a rich source of inspiration for art, folklore, national symbols, architecture, and advertising.
- Aesthetic values: Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, scenic drives, and the selection of housing locations.
- Sense of place: Many people value the “sense of place” that is associated with recognised features of their environment, including aspects of the ecosystem.
- Cultural heritage values: Many societies place high value on the maintenance of either historically important landscapes (“cultural landscapes”) or culturally significant species; and
- Recreation and ecotourism: People often choose where to spend their leisure time based in part on the characteristics of the natural or cultivated landscapes in a particular area. (Millennium Ecosystem Assessment, 2005)

The Millennium Ecosystem Assessment Ecosystems and Human Well-being: Synthesis report indicates that there has been a “rapid decline in sacred groves and species” in relation to spiritual and religious values, and aesthetic values have seen a “decline in quantity and quality of natural lands”. (Millennium Ecosystem Assessment, 2005)

5.2 National & Provincial Legislation and Policies

In order to comply with the Visual Resource Management requirements, it is necessary to clarify which National and Regional planning policies govern the proposed development area to ensure that the scale, density and nature of activities or developments are harmonious and in keeping with the sense of place and character of the area as mapped in **Error! Reference source not found.** below.

- DEA&DP Visual and Aesthetic Guidelines.
- Regional and Local Municipality Planning and Guidelines.

Table 10: List of key planning informants to the project

Theme	Requirements
Province	Western Cape
District Municipality	Garden Route
Local Municipality	Mossel Bay

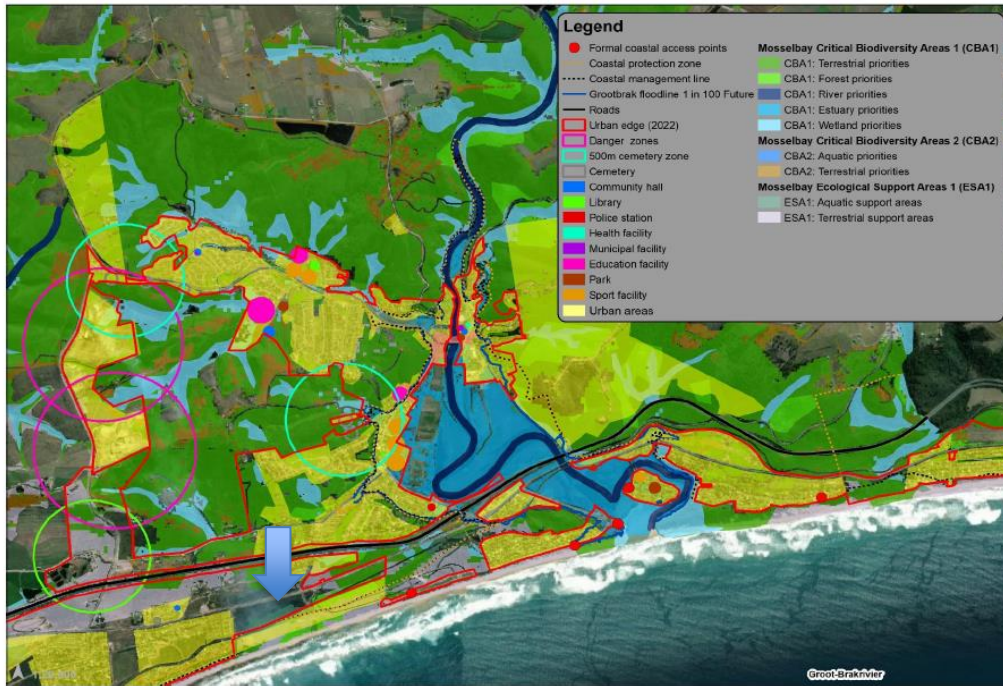


Figure 20: Groot Brak River status quo

Figure 6. Mossel Bay Municipality SDF Figure 20 with the proposed development site identified by the blue arrow.

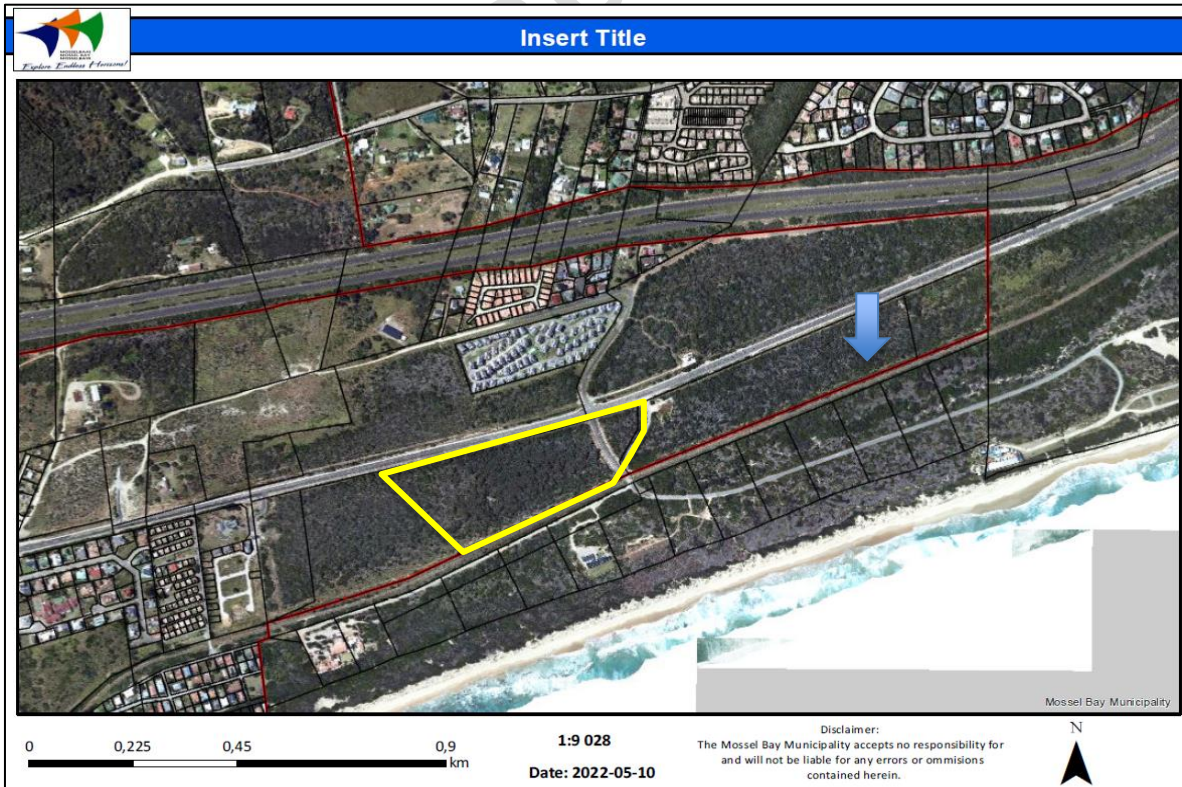


Figure 7. Extract from Mossel Bay Municipality with the proposed development site mapped within of the Urban Edge with the urban edge marked by the blue arrow.

5.2.1 DEA&DP Visual and Aesthetic Guidelines

Reference to the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) Guideline for involving visual and aesthetic specialists in Environmental Impact Assessment (EIA) processes is provided in terms of southern African best practice in Visual Impact Assessment. The report compiled by Oberholzer states that the Best Practicable Environmental Option (BPEO) should address the following:

- Ensure that the scale, density and nature of activities or developments are harmonious and in keeping with the sense of place and character of the area. The BPEO must also ensure that development must be located to prevent structures from being a visual intrusion (i.e., to retain open views and vistas).
- Long term protection of important scenic resources and heritage sites.
- Minimisation of visual intrusion in scenic areas.
- Retention of wilderness or special areas intact as far as possible.
- Responsiveness to the area's uniqueness, or sense of place." (Oberholzer, 2005)

5.2.2 Conservation Planning

A review of the proclaimed conservation areas database found that no Nature Reserves were located within the proposed development zone of visual influence.

5.2.3 Local and Regional Planning

The following tables list key regional and local planning that has relevance to the project pertaining to landscape-based tourism, and residential projects.

Table 11: District Planning reference table relevant to the project.

Garden Route District Municipality IDP (Garden Route District Municipality Draft Reviewed 2020-2021 IDP)		
Theme	Requirements	Page
Urban Development	The following strategic policy shifts shall therefore guide all future planning and development undertaken in the Garden Route District <ul style="list-style-type: none"> • Urban-rural interconnectivity enhanced 	53
Coastal and Estuary Management	<ul style="list-style-type: none"> • Establishment of coastal hazard overlay zones and setback lines. • Research best practice regarding responding to repeated coastal inundation in high-risk areas. • Protecting and rehabilitating existing dune fields as coastal buffers / ecological infrastructure; 	309
Tourism	<ul style="list-style-type: none"> • The Southern Cape coastal belt has been identified as a significant leisure, tourism, lifestyle and retirement economic destination, driven largely by the quality of life and climatic advantages of the region. 	115
	<ul style="list-style-type: none"> • The district's profound natural, scenic and landscape beauty contributes to its appeal as a popular tourism destination. Tourism plays a key role in the economy of the district, which is linked to the retail, wholesale, catering and accommodation sector 	117
Landscape	<ul style="list-style-type: none"> • Keeping the natural environment, wetlands, lakes and rivers in a pristine condition is key to future security in the future of the region. The natural and cultural landscapes of the district add to 	116

Garden Route District Municipality IDP (Garden Route District Municipality Draft Reviewed 2020-2021 IDP)		
Theme	Requirements	Page
	the identity and aesthetic appeal of the region. They are also large contributors to tourism. Therefore, the natural and cultural landscapes must be preserved in the district. The diverse heritage, landscape and ecological assets of the region need to be protected Leverage tourism, historical and natural assets in the region.	
	<ul style="list-style-type: none"> maintain the natural attributes of coastal landscapes and seascapes, and to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable. 	124

Table 12: Local Planning reference table relevant to the project.

Mossel Bay Municipality SDF (Mossel Bay Municipality, 2022)		
Theme	Requirements	
Urban Development	<ul style="list-style-type: none"> Development densities will undoubtedly increase in the future as more land is developed and more people settle permanently. It is likely, unless there is a radical change to the urban development pattern, that further growth will continue to erode the character and environmental quality that attracted people to this area in the first place to prevent an eventual scenario where only the views of the sea will remain. It will be particularly important to retain as much as possible of the current large green open areas and agricultural land. 	
Tourism	<ul style="list-style-type: none"> During the past few years, the demographics of the residents of the area have changed from mainly holiday visitors to more permanent residents. This is due to the so-called 'semi-gration' that is taking place from up-country households moving to the South Cape. Factors such as the cost of living in the larger towns and choice of living place contribute to this trend. 	
Landscape	<ul style="list-style-type: none"> The Midbrak area is a sensitive area with wetlands and flood lines and the estuary of the Klein Brak River located in the area. The area is bordered or adjacent to the coastal zone and open space network. Expansion of the urban footprint along the coastline is not permitted, except for the Souwesia area. Encroachments onto the open space network is not permitted except for limited infrastructure provision. Building plan approval for buildings on erven adjacent to the coast and open space network must discourage encroaching into the said areas by allowing enough garden space between the buildings and the property boundaries adjacent to the coast and open space network. The open space network in the Midbrak area is an asset to the community and must be conserved for future generation. 	
Scenic corridors	<ul style="list-style-type: none"> Any development or construction proposal that will impact view corridors, ridgelines, cultural landscape assets and existing vistas must be considered with caution and evaluated in terms of the cumulative impact on the broader environment. 	

Mossel Bay Municipality SDF (Mossel Bay Municipality, 2022)	
Theme	Requirements
Biodiversity offsets	<ul style="list-style-type: none"> The concept of bio-diversity off-sets as discussed in par 3.2.6 in the SQ and in Policy 4D, is proposed to be implemented in the urban core areas where it aimed to achieve higher densities (Aalwyndal, Louis Fourie Corridor, Tergniet area etc.).
	<p>POLICY 4D</p> <ul style="list-style-type: none"> Biodiversity Offsets can be used as a tool to establish an efficient and sustainable Urban Form. Non sustainable sensitive biodiversity which does not form part of the open space/conservation network can be considered for development subject to biodiversity offsets. The creation of biodiversity offset areas outside the future scenario urban edge must be prioritized to facilitate biodiversity offsets. The establishment of the mentioned offset areas should be done in areas where it will promote the creation of biodiversity conservation networks. Creative funding and management partnerships of the offset areas should be developed in partnership between the public and private sectors. Offsets are only applicable where considerable impact on sustainable environmental sensitive areas will occur due to development.
Urban Core	<ul style="list-style-type: none"> The two areas in purple comprise of Kwanonqaba, Aalwyndal, Louis Fourie corridor in Mossel Bay and the Tergniet, Greenhaven, Wolwedans area that will become the main high-density residential and mixed-use centres of the future built environment, as well as providing most of the job opportunities and social facilities.
Parcel 64 (ID number for relevant area)	<ul style="list-style-type: none"> Medium Density Residential Size 60 ha Approx yield: 900
	<ul style="list-style-type: none"> The main Urban Expansion is a result of Urban Expansion Areas 60 and 64. Both expansion areas have approved areas but also areas with no approved development rights
Services	<ul style="list-style-type: none"> Expansion of all the bulk and link infrastructure in the area is necessary to accommodate especially Urban Expansion area 60 and 64.

5.3 Policy Fit

Policy fit refers to the degree to which the proposed landscape modifications align with International, National, Provincial and Local planning and policy.

In terms of *international best practice*, there were no significant cultural/ landscape resources found on the site or immediate surrounds that are flagged by international landscape guidelines.

In terms of the *local and regional planning* of the Mossel Bay Final Spatial Development Framework, the proposed project is located within of the Mossel Bay Local Municipality Urban Edge as mapped on the following pages. No development restrictions were placed regarding the property, with the area marked for 'medium density' development. The only

cautionary aspect of the local planning that does have relevance to the property relates to impacts to view corridors. The R102 and Fynbos Road would carry tourist traffic and should be considered as tourist view corridors. In terms of regional and local planning fit for landscape and visual related themes, the expected visual/ landscape policy fit of the landscape change is rated High.

6 BASELINE VISUAL INVENTORY

6.1 Local Landscape Context

Landscape character is defined by the U.K. Institute of Environmental Management and Assessment (IEMA) as the 'distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement'. It creates the specific sense of place or essential character and 'spirit of the place' (IEMA, 2002). This section of the VIA identified the main landscape features that define the landscape character.

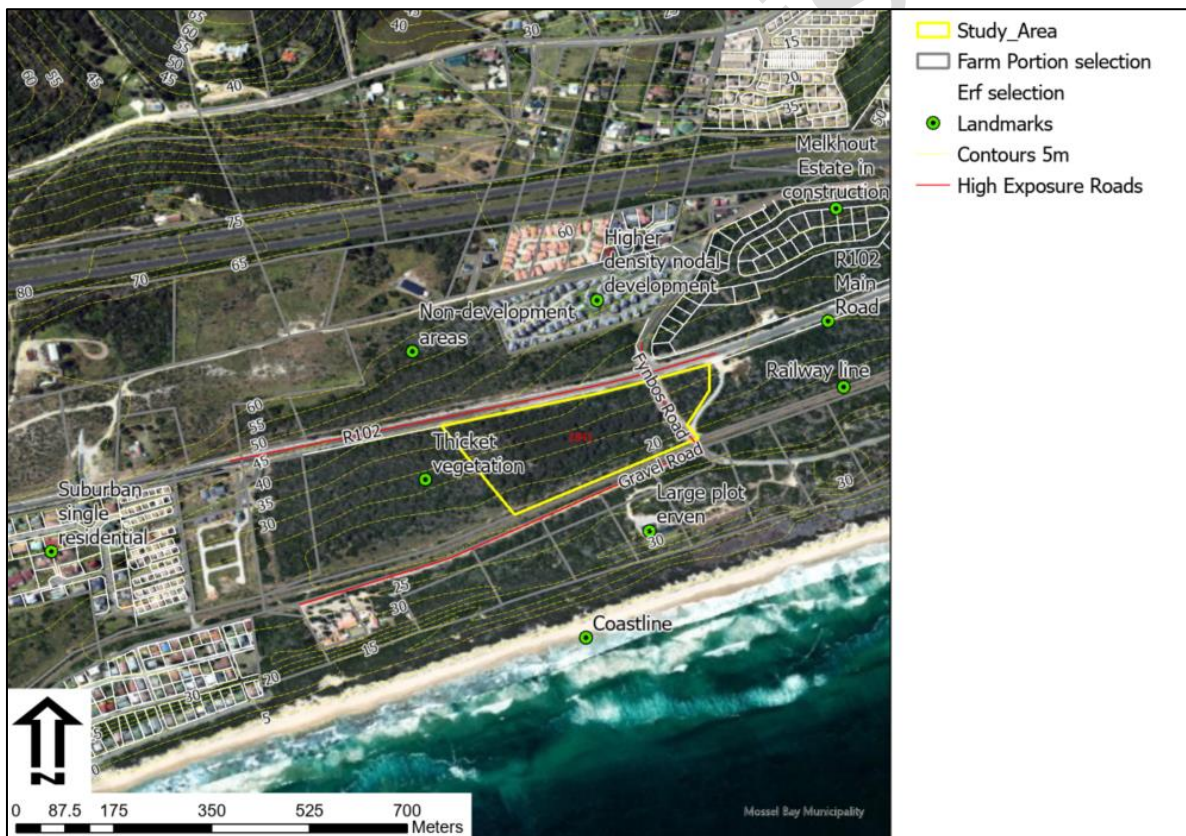




Figure 8. Local landscape themes map.

As mapped in Figure 8 above, the key landscape themes within the Foreground / Middle Ground (6km) distance are tabled below:

Table 13:Key Landscape Themes

Theme	Description
West of Property	<p>To the west of the site the landscape is dominated by mainly single storey single residential suburban type dwellings. Located on medium size plots, they create a medium density development area. With the larger plots, some vegetation is retained for shade trees that does influence the local sense of place.</p> <p>View west from the lower eastern portion of the property towards the Tergniet single residential suburban areas located on either side of the shallow valley.</p>
	
South of Property	<p>Further south, in an area located outside the urban edge, are larger plots that are utilized for single residential/ tourism. Economic value is added to these large plots due to close proximity, clear views of the Indian Ocean located south of these plots. The beach area is not included in the project Zone of Visual Influence.</p> <p>Railway line located to the south of the property.</p>
	
Seeplaas Resort as seen from the property viewed to the south	



East of Property

To the east of the property the landscape is defined by a lack of development. As this area is located outside of the MBM urban edge, this 'nature' area sense of place is likely to be retained. A similar nature land use is also created to the north, with much of the area not developed currently. This is changing, with the inclusion of the proposed Milkwood Development, as well as the existing St Ellen development.



North of Property

Also located to the north of the property is the R102 Main Road that connects Grootbrak Rivier in the east, to the Tergniet, Kleinbrak Rivier suburban areas. An important aspect to consider is the relevance of this road as a tourist view corridor. While most of the route has been strongly associated with development, the portion adjacent to the property and to the east still reflects natural vegetation on the verges. This does add value to the local sense of place, reducing the intensity of the urban development landscape. While this not supported in the MBM SDF, this is an aspect that should be incorporated into the design.

View taken from the R102 westwards towards the property (left side) with the St Ellen Estate development set back from the road on the right.



6.2 Visual Absorption Capacity

Land use is a crucial factor in determining landscape character, especially regarding the Visual Absorption Capacity (VAC) of the landscapes. Oberholzer defines VAC as the potential of the landscape to conceal the proposed project (Oberholzer, 2005). i.e.

- High VAC – e.g., effective screening by vegetation and structures.
- Moderate VAC - e.g., partial screening by vegetation and structures.
- Low VAC - e.g., little screening by vegetation or structures.

Vegetation type is a large factor in determining the scenic quality of the site in terms of colour and texture, as well as influencing the local ability of the landscape to absorb the landscape change if larger trees species or prolific vegetation is located on the site or within the local region. The map below outlines the vegetation type based on BGIS mapping (South African National Biodiversity Institute, 2018).

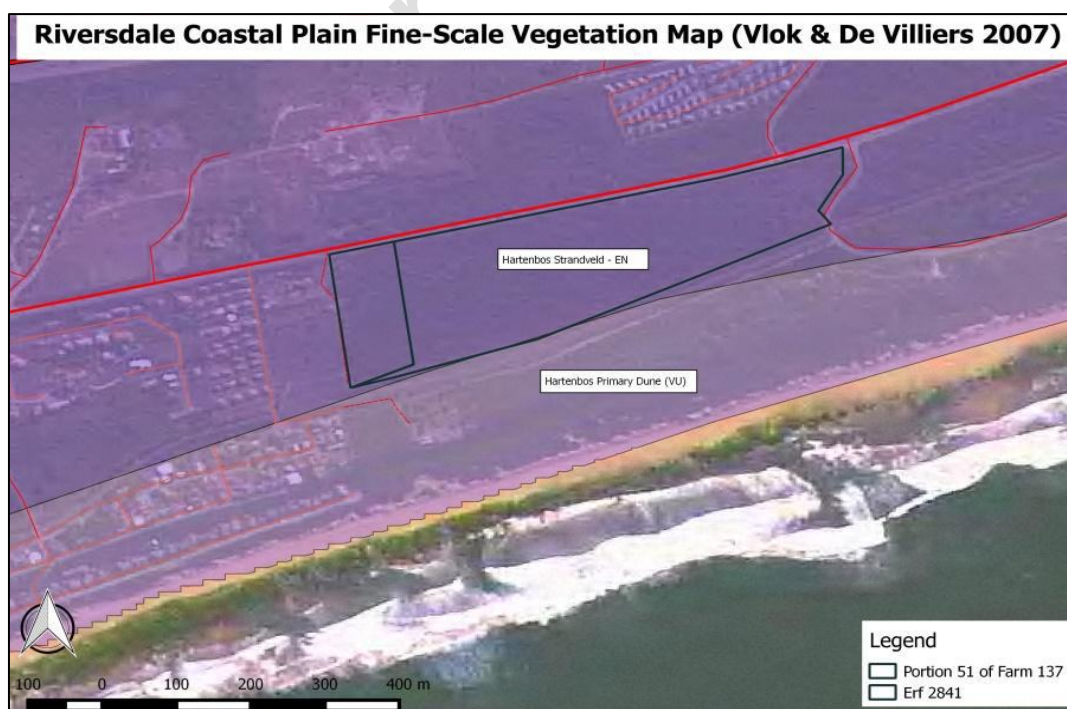


Figure 9. BGIS Biome and Vegetation Type Map (South African National Biodiversity Institute, 2018)

The following draws from the findings of the botanical study undertaken by Jan Vlok from Regalis Environmental Services CC. Vlok indicates that while the South African Vegetation map indicates the vegetation type to be Canca Limestone Fynbos (status = Least Concern), the Regional Vegetation is more accurate with the actual vegetation species consisting of Hartenbos Strandveld with status endangered.

Vlok states that due to the lack of fire over a period of 40 years, most of the fynbos became moribund and was displaced with early pioneers of thicket vegetation. “The original occurrence of thicket bush-clumps is still marked by the occurrence of large Milkwood trees (*Sideroxylon inerme*), but many seedlings of these trees have also established in the original fynbos vegetation. Very dense stands of the alien Australian Myrtle (*Leptospermum laevigatum*) established in the eastern part of the proposed development area, with few indigenous species surviving in their understory. Second and third generation establishment of the Myrtle is present, indicating that little fynbos propagules will remain in the soil where the Myrtle form dense stands. Some Prickly pear (*Opuntia ficus-indica*) and Rooikrans (*Acacia cyclops*) is also present, but they do not form dense stands and could be eradicated fairly easily” (Vlok, 2019). Of relevant to the project is that two sensitive areas are present on the proposed development area:

- the dune slack area in which the seasonal wetland is present (the wetland is located within the ESA1 area)
- and the area in which healthy *Euchaetis albertiniana* (status = Endangered) populations are present. (Vlok, 2019)

These sensitive areas are mapped below as per Map 5 in the report.



Figure 10. The sensitive areas within the proposed development area are indicated in yellow and blue as per Map 5 in the Vlok report. (Vlok, 2019)

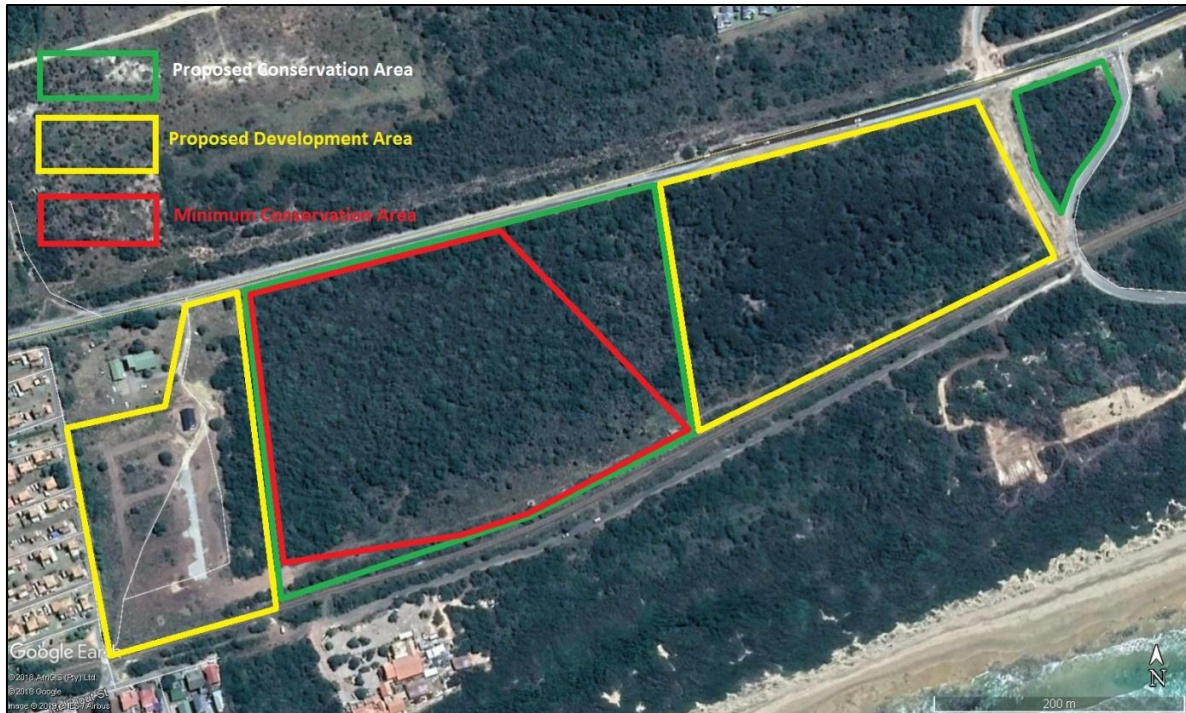


Figure 11. Vlok Map 7 with the minimum conservation area to be rezoned as Open Space III is indicated in red. (Vlok, 2019)

The following recommendations from the Vlok report have relevance to the landscape physiographic rating units as mapped below:

- Retain a minimum of 5.5 ha as open space on the western portion of the property that includes the southern wetland area at the base of the shallow valley.
- Establish a fire break of about 20 m wide along the western- and eastern boundaries of the conservation area.
- Before any development takes place, burn the entire conservation area during late summer or early autumn (end January- end March).
- Eradicate all the alien vegetation that will establish after the burn.
- Retain all the larger Milkwood trees (stem diameter > 20 cm at breast height) within the proposed development area. (Vlok, 2019)

Of relevance to the project is that the vegetation of the site does have visual and landscape significance, with the eastern portions of the property more suitable for development with restrictions. The built nature of the local landscape does set a precedent for nodal development context, with the urban areas to the west of the property increasing the visual absorption capacity for urban developments. As the remaining non-alien vegetation is pioneer thicket species, the moderate height of the vegetation could offer some visual screening. Due to the nodal development precedent, the urban landscapes to the west as well as the potential for partial screening from the thicket vegetation, the visual absorption capacity is rated Medium.

6.3 Landscape Topography

Landform is a key variable informing the aesthetic nature of the landscape within the VRM methodology. The viewshed is strongly associated with the regional topography where topographic screening from undulating terrain would restrict views of the proposed landscape change. The site-specific characteristics are also analysed by gradient analysis to determine if any steep slopes are located on the proposed development site.

6.3.1 Regional Landscape Topography

Making use of the NASA STRM digital elevation model, profile lines were generated for the area within 3km on either side of the project area. The map depicting the regional elevation profile lines can be view on the following page. The viewshed is strongly associated with the regional topography and as such this topic is addressed before the viewshed analysis.

General topography features a series of low, historic dunes located to the north of the ocean. The property is located on the south facing slopes of the secondary dune. The high point is the tertiary dune located approximately 1km to the north of the property with a height of 255 mamsl. The main landscape influence from the dune topography is due to the long, east-west dunes formations, creating a linear routing alignment for roads and suburban layouts.

The South to North Profile clearly depicts the three dune profiles with the property located in the mid to lower portion of the secondary dune. As a result of the topographic screening to the north from high ground, views to the north are restricted. As a result of the smaller dune to the south, views from the beach area are topographically screened. The West to East Profile is very similar but reflects a more gradual profile due to the profile line running along the dune face. This is likely to result in some expansion of the viewshed within the small valley created between the primary and secondary dunes.

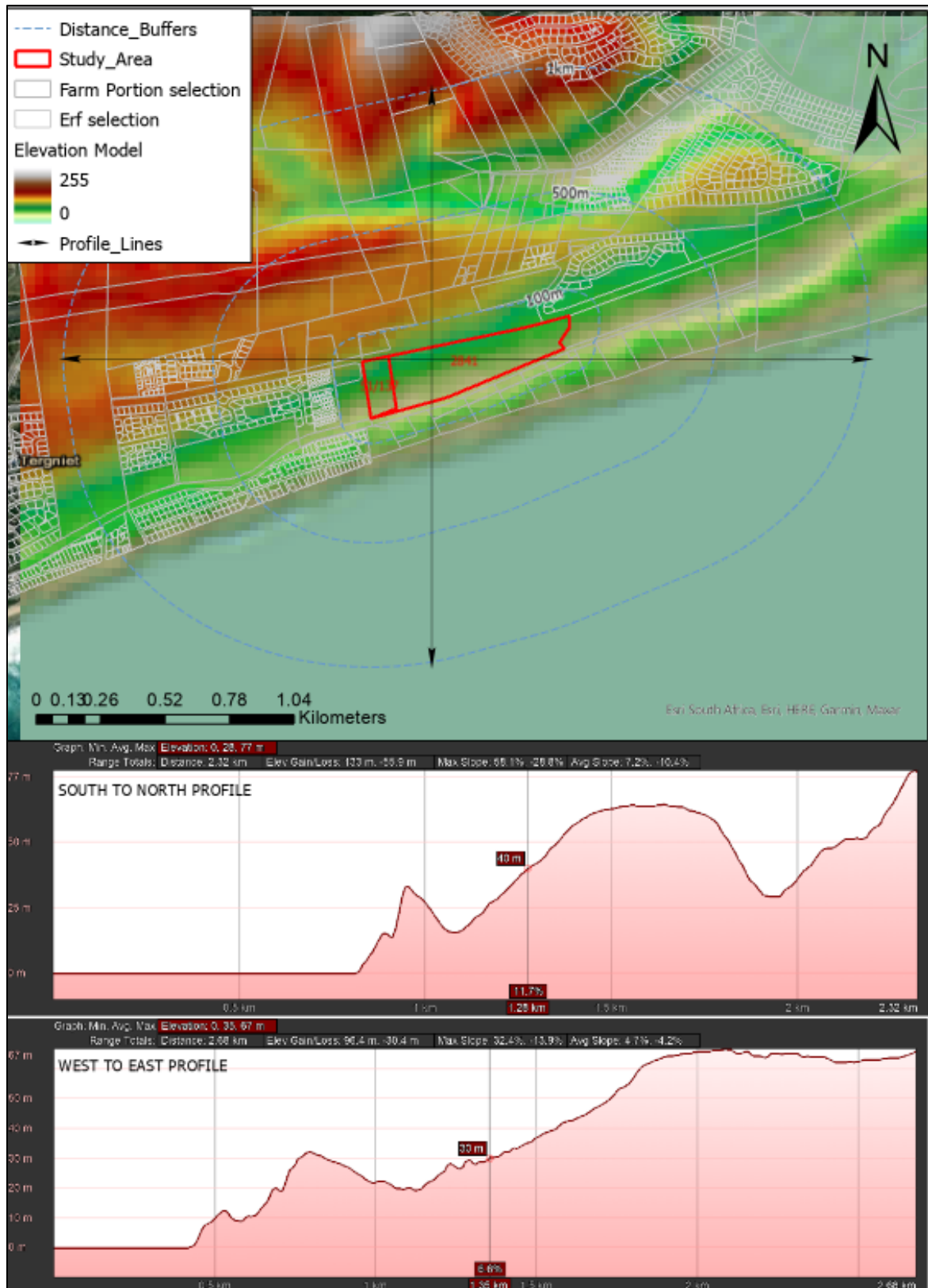


Figure 12: Regional elevation and East to West and North to South profiles map.

6.3.2 Key local topographic features and site slopes analysis

To ensure that significant landforms related to steep slopes are not located on the site or surrounds, a slopes analysis was undertaken. To ensure that significant landforms related to steep slopes are not located on the site or surrounds, a slopes analysis was undertaken.

As the 1 in 4 slopes are referenced in the Draft MBM SDF, a slope analysis was undertaken. No steep slope areas greater than 25% were found on the property. Associated with the topography is the seasonal wetland located in the small valley area in the southern portion of the property As mapped in Figure 13 below,

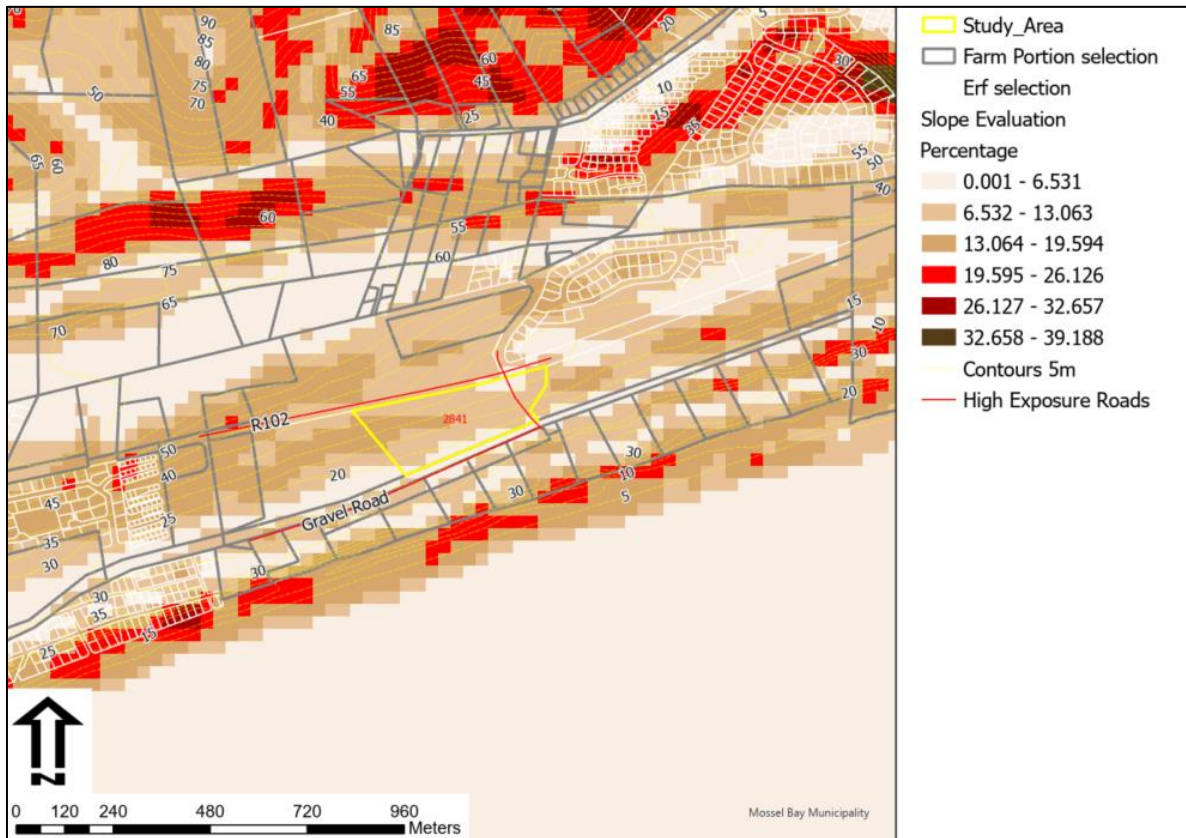


Figure 13: Key topographic features map.

6.4 Project Zone of Visual Influence

The visible extent, or viewshed, is “the outer boundary defining a view catchment area, usually along crests and ridgelines” (Oberholzer, 2005). In order to define the extent of the possible influence of the proposed landscape change, a viewshed analysis was undertaken from the proposed site at a specified height above ground level. This is to assess the **theoretical extent** where the proposed landscape change could be visible from. This theoretical viewshed excludes vegetation, structural development as well as distance from the location where atmospheric influence would reduce visual clarity over increasing distance. The viewshed analysis makes use of open-source NASA ASTER Digital Elevation Model data (NASA, 2009).

Based on the theoretical viewshed and the site visit appraisal of the nature of the landscape, an assessment of the **Zone of Visual Influence (ZVI)** is made. The ZVI is the area where the proposed landscape change is most likely to be noticed by the casual observer, taking the site visit into account where vegetation, existing development and distance is taken into consideration. This is a subjective appraisal but informed by the viewshed and the other factors mentioned.

6.4.1 Viewshed Analysis

A viewshed analysis was undertaken for the site making use of NASA SRTM 30m Digital Elevation Model data. An Offset value representing the height of the PV panels was used to represent the approximate height of the proposed development as reflected in the table below. The extent of the viewshed analysis was restricted to a defined distance that represents the approximate zone of visual influence (ZVI) of the proposed activities, which takes the scale, and size of the proposed projects into consideration in relation to the natural visual absorption capacity of the receiving environment. The maps are informative only as visibility tends to diminish exponentially with distance, which is well recognised in visual analysis literature (Hull & Bishop, 1988).

Table 14: Proposed Project Heights table

Proposed Activity	Approx. Height (m)	Terrain Model Extent
Dwellings	5m	6km

The viewshed is mapped and can be viewed in Figure 14 on the next page. This depicts the theoretical area where the proposed landscape change could be visible.

The extent of the Zone of Visual Influence is defined as Local in extent and rated Local for the following reasons:

- Due to the dune topography, the viewshed is essentially linear in shape, extending along the coastal region of the bay but constrained to the 2km distance.
- Due the higher visual absorption capacity created by the built nature of the western suburban areas as well as the topographic screening to the north and east, the expected ZVI is likely to be much smaller that the mapped viewshed.
- The ZVI is likely to be contained to the 500m distance, with the 100m reflecting a Very High Exposure, and the 500m distance a High Exposure.

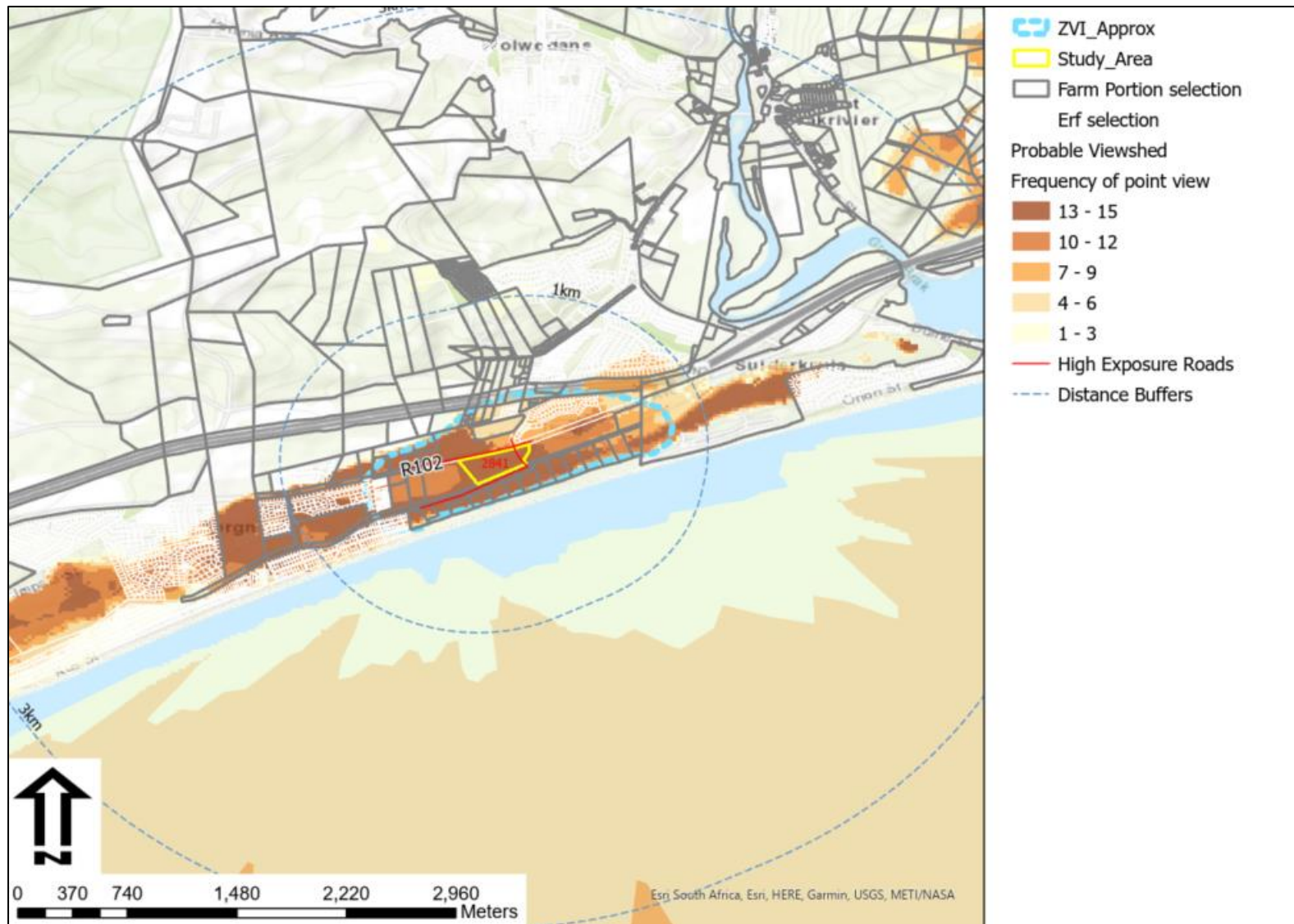


Figure 14: Viewshed analysis map with probable ZVI area mapped with associated landscape change receptors.



Figure 15: Receptor Key Observation Point and Visual Exposure Map.

6.4.2 Receptors and Key Observation Points

As defined in the methodology, KOPs are defined by the Bureau of Land Management as the people (receptors) located in strategic locations surrounding the property that make consistent use of the views associated with the site where the landscape modifications are proposed. The following table identifies the receptors identified within the ZVI, as well as motivates if they have significance and should be defined as KOP. The receptors located within the ZVI, and KOPs view lines are indicated on the map on the following page. As motivated and mapped in **Error! Reference source not found.** below and mapped in Figure 15 on the previous page, the following receptors have been identified as Key Observation Points and should be used as locations to assess the suitability of the landscape change.

Table 15: KOP Motivation table.

Name	Theme	Distance	KOP Status	Motivation
Seeplaas Guest House	Tourism	340m	No	Seeplaas is a tourist destination and has high visual exposure to the proposed development, where the development could influence the local sense of place. The property looks onto the western portion of the property that includes clear views of Tergneit urban residential areas.
Fynbos road	Road	10m	Yes	The Fynbos road is located in Very High exposure to the eastern portion of the property and has clear and slightly elevated views of the development areas. The road allows access to the eastern beach areas of Tergneit.
R102	Road	10m	Yes	The R102 District Road is an important connection road, linking Grootbrak Rivier to the Tergniet areas. The road will carry tourist traffic and has Very High exposure.
Seegenot (Not a KOP)	Residential	400m	No	These residential receptors low intensity views of the property or are strongly associated with higher VAC levels of the suburban built environment. Primary views are also overlooking, or away from the property.
Van Zyl St (Not a KOP)	Residential	400m	No	
St Ellen Estate	Residential	139m	No	While the estate is within very high visual exposure, the dwellings are located on elevated terrain, with the proposed development located below where most of the development would be within the small valley. The St Ellen Estate views to the sea would not be obscured by the proposed development.
Farm 15/136	Residential	160m	No	While within very high visual exposure, the views from the single dwellings are to the south towards the sea view and away from the proposed development located to the north of the property..

7 VISUAL RESOURCE MANAGEMENT

In terms of the VRM methodology, landscape character is derived from a combination of scenic quality, receptor sensitivity to landscape change, and distance of the proposed landscape modification from key receptor points. Making use of the key landscape elements defined in the landscape contextualisation sections above, landscape units are defined which are then rated to derive their intrinsic scenic value, as well as how sensitive people living in the area would be to changes taking place in these landscapes.

7.1 Physiographic Rating Units

The Physiographic Rating Units are the areas within the proposed development area that reflect specific physical and graphic elements that define a particular landscape character. These unique landscapes within the project development areas are rated to assess the scenic quality and receptor sensitivity to landscape change, which is then used to define a Visual Resource Management Class for each of the site's unique landscape/s. The exception is Class I, which is determined based on national and international policy / best practice and landscape significance and as such are not rated for scenic quality and receptor sensitivity to landscape change. Based on the SANBI vegetation mapping and the site visit to define key landscape features, the following broad-brush areas were tabled and mapped in Figure 16 below.

Table 16: Physiographic Landscape Rating Units.

Landscapes	Motivation
Proposed conservation area	The proposed conservation area forms part of the thicket vegetation species defined as the core component of the Moderately transformed by Jan Vlok. While the draft MBM SDF is not supportive of small portions of natural vegetation within the urban edge, this significance of the vegetation would need to be recognised and dealt with in accordance with the recommendations of the botanical specialist.
Moderately transformed thicket	There are smaller parcels of thicket and are moderately transformed. Vlok has indicated that they are suitable for development.
Severely transformed thicket	The eastern portion of the property has a severely transformed vegetation base predominantly defined by alien tree species. This area is defined as suitable for development by Vlok.
View corridor buffers	A 10m buffer from centre of the R102 road was defined to protect the local sense of place of this tourist related view corridor. As the Fynbos road is also likely to carry tourist related traffic to the beach, they were buffered 5m. While there areas can fall within a property erf, they should not be used for structural development. These areas should be utilised for tree screening, retaining existing indigenous trees where they still growing, and planting of further indigenous trees and shrubs where there are none.

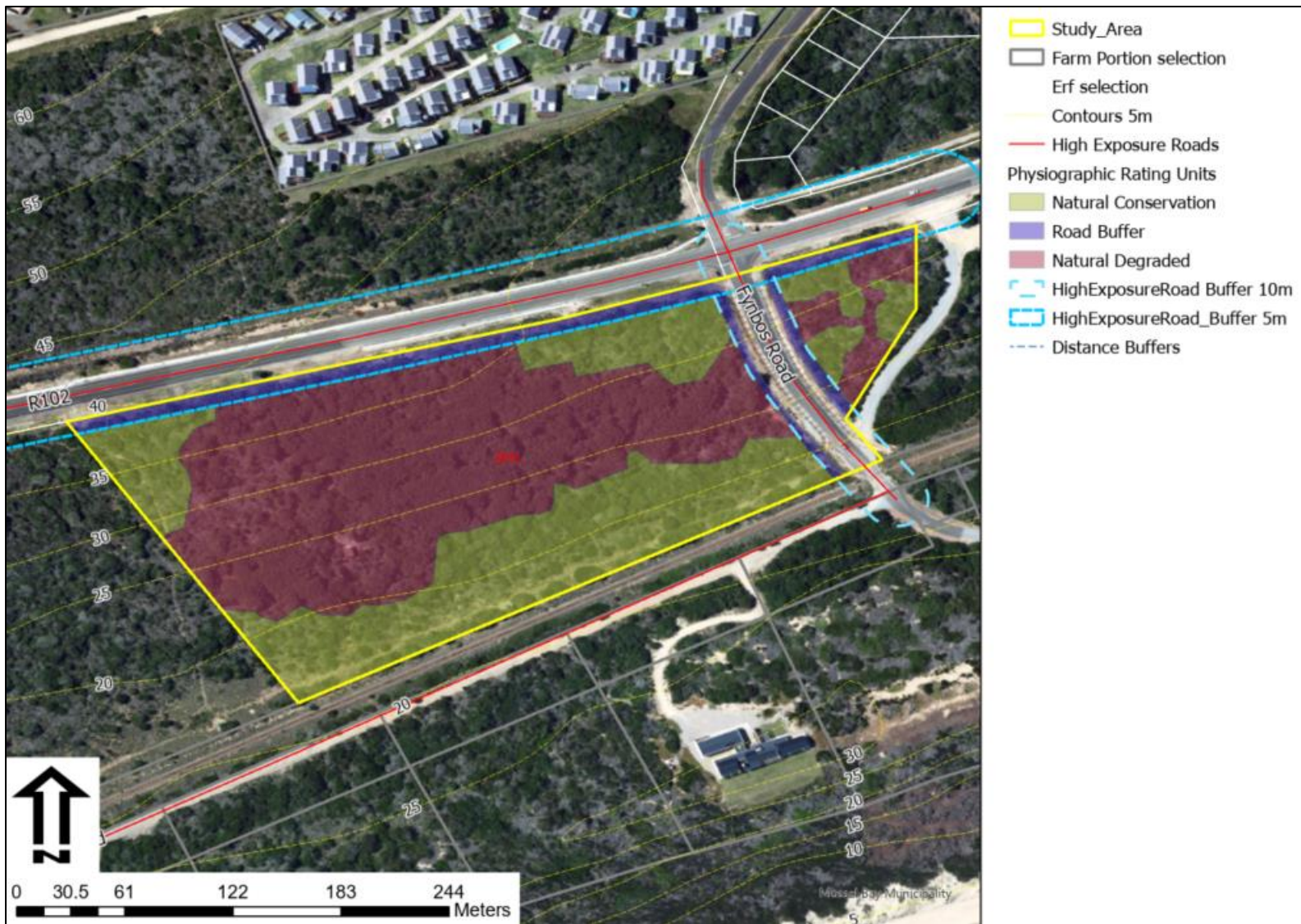


Figure 16: Physiographic Rating Units identified within the defined study area.

Table 17: Scenic Quality and Receptor Sensitivity Rating.

Landscape Rating Units	Scenic Quality									Receptor Sensitivity						VRM		
	A= scenic quality rating of ≥19; B = rating of 12 – 18, C= rating of ≤11									H = High; M = Medium; L = Low								
Attribute	Landform	Vegetation	Water	Colour	Scarcity	Adjacent Landscape	Cultural Modifications	Sum	Rating	Type of Users	Amount of Use	Public Interest	Adjacent Land Uses	Special Areas	Rating	Inventory Class	Management Class	Development Sensitivity
In general, significant Heritage / Ecological / Hydrology. With specific reference to the project: <ul style="list-style-type: none"> • Seasonal wetland • Conservation worthy 	(Class I is not rated)																I	No-Go
Moderately Transformed and Severely Transformed	2	4	0	3	3	4	-1	15	B	M	H	L	H	L	M	III	III	With mitigation

Red colour indicates change in rating from Visual Inventory to Visual Resource Management Classes motivated in the following section.

The **Scenic Quality** scores are totalled and assigned an A (High scenic quality), B (Moderate scenic quality) or C (Low scenic quality) category based on the following split: A= scenic quality rating of ≥19; B = rating of 12 – 18, C= rating of ≤11 (USDl., 2004).

Receptor Sensitivity levels are a measure of public concern for scenic quality. Receptor sensitivity to landscape change is determined by rating the key factors relating to the perception of landscape change in terms of Low to High.

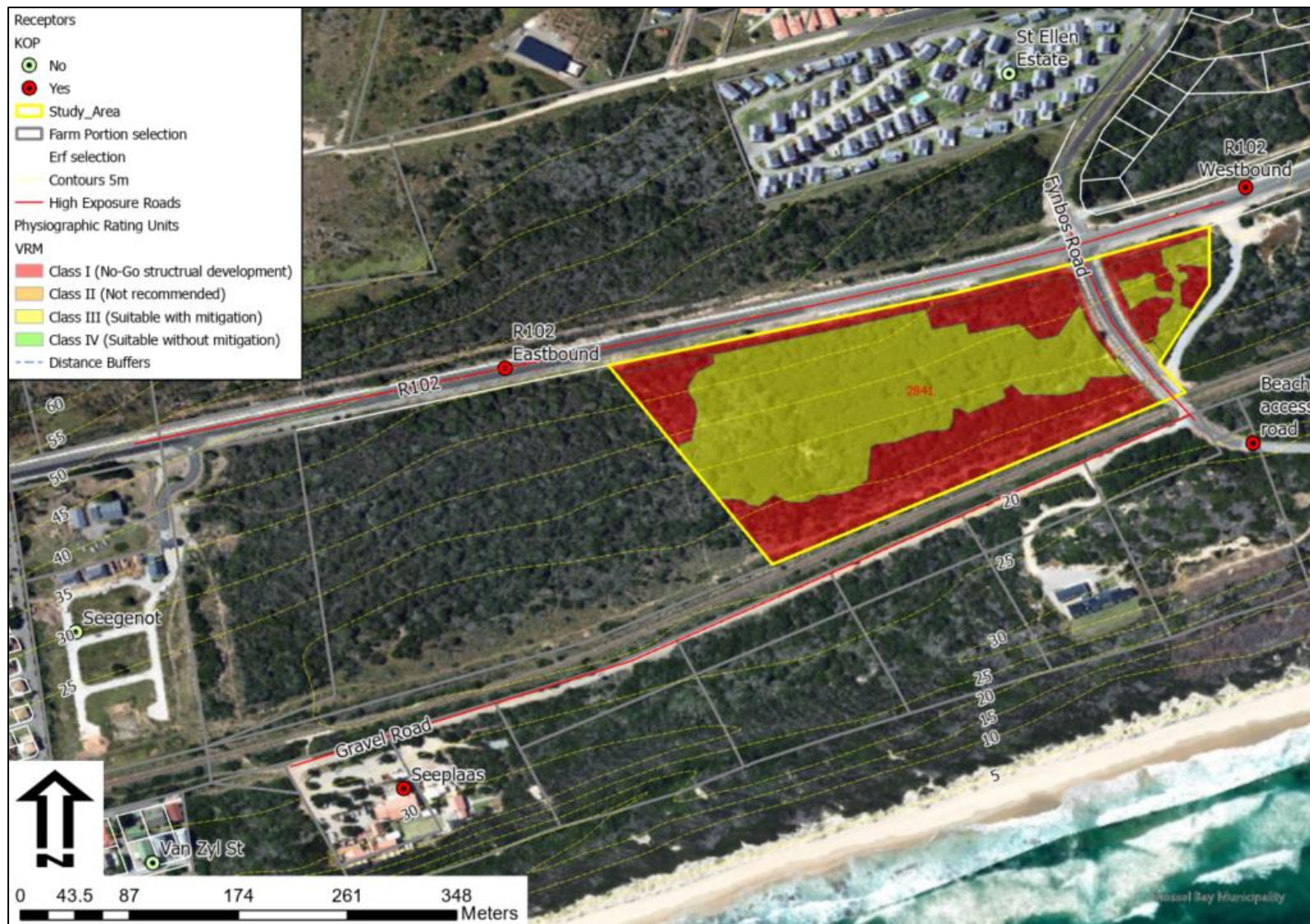


Figure 17: Visual Resource Management Classes and KOP location map.

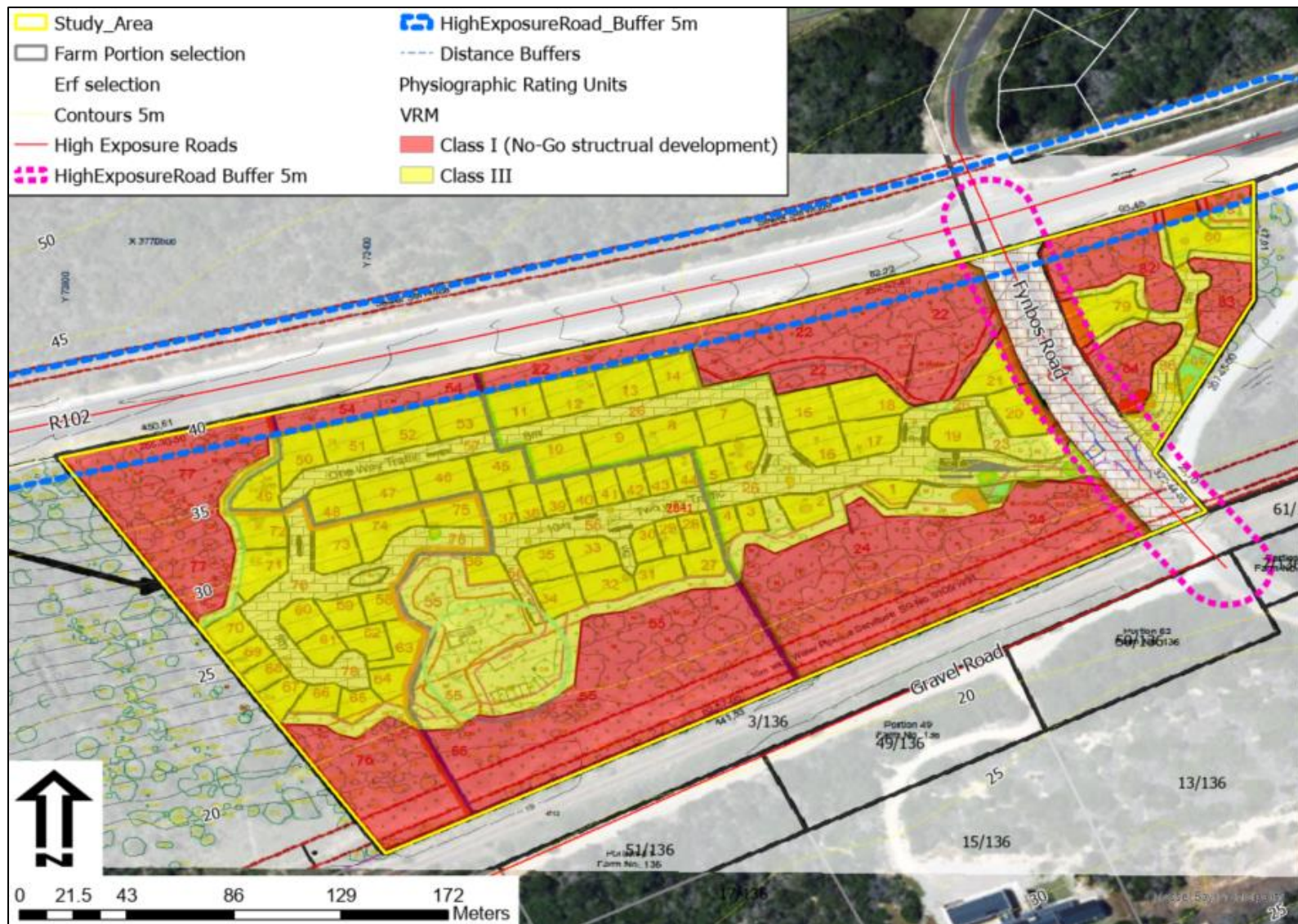


Figure 18: Visual Resource Management Classes overlay onto development plan map.

7.2 Scenic Quality Assessment

The scenic quality is determined making use of the VRM Scenic Quality Checklist that identifies seven scenic quality criteria which are rated with 1 (low) to 5 (high) scale. The scores are totalled and assigned an A (High), B (Moderate) or C (low) based on the following split:

A = scenic quality rating of ≥ 19 (High).

B = rating of 12 – 18 (Medium).

C = rating of ≤ 11 (Low).

Table 18: Scenic Quality Rating table

Landscapes	Rating	Motivation
Landform <i>Topography becomes more of a factor as it becomes steeper, or more severely sculptured.</i>	ML	Landform of the dune does increase the scenic quality to some degree. The south facing dune slopes that are interesting but not exceptional.
Vegetation <i>Primary consideration given to the variety of patterns, forms, and textures created by plant life.</i>	MH	The vegetation has value and with thicket type trees located on the western portion of the property adds to the Garden Route sense of place. These high value areas of natural vegetation have been excluded from the development footprint.
Water <i>That ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration.</i>	L	There are no permanent water features on this portion of the property, but small, seasonal wetlands are located in the lower lying areas that are outside of the development footprint. These areas do not have a dominant visual presence.
Colour <i>The overall colour(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.) are considered as they appear during seasons or periods of high use.</i>	M	Colour are defined by the vegetation and comprises various shades of green from the thicket and does add value to the local sense of place.
Scarcity <i>This factor provides an opportunity to give added importance to one, or all, of the scenic features that appear to be relatively unique or rare within one physiographic region.</i>	M	The transformed areas without indigenous vegetation do not represent a scarce landscape. However, the intact natural vegetation does have value and is rated medium to high for scarcity.
Adjacent Landscapes <i>Degree to which scenery and distance enhance, or starts to influence, the overall impression of the scenery within the rating unit.</i>	MH	Adjacent landscapes are rated Medium to High with close proximity to the sea as well as large areas of open space.
Cultural Modifications <i>Cultural modifications should be considered and may detract from the scenery or complement or improve the scenic quality of an area.</i>	L	Cultural modifications are minimal and do not detract from the landscape character.
Scenic Quality	Medium to High	

The vegetation has value and with thicket type trees located on the western portion of the property adds to the Garden Route sense of place. These high value areas of natural vegetation have been excluded from the development footprint. Landform of the dune does increase the scenic quality to some degree. The south facing dune slopes that are interesting but not exceptional. There are no permanent water features on this portion of the property, but small, seasonal wetlands are located in the lower lying areas that are outside of the development footprint. These areas do not have a dominant visual presence. Adjacent landscapes are rated Medium to High with close proximity to the sea as well as large areas of open space and cultural modification on the site are minimal and do not detract from the local landscape character.

7.3 Receptor Sensitivity Assessment

Receptor sensitivity to landscape change is determined by rating the following factors in terms of Low to High.

Table 19: Receptor Sensitivity Rating table.

Landscapes	Rating	Motivation
Type of Users <i>Visual sensitivity will vary with the type of users, e.g., recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.</i>	M	The Type of Users would include residential and tourist receptors with High Exposure to the R102 increasing the potential for receptor sensitivity to landscape change.
Amount of use <i>Areas seen or used by large numbers of people are potentially more sensitive.</i>	H	The amount of use would include residential and tourist receptors with High Exposure to the R102 increasing the amount of usage
Public interest <i>The visual quality of an area may be of concern to local, or regional, groups. Indicators of this concern are usually expressed via public controversy created in response to proposed activities.</i>	ML	Within this peri-urban landscape, public Interest in maintaining scenic quality is rated Medium to Low as the built nature of Tergniet is well established
Adjacent land Users <i>The interrelationship with land uses in adjacent lands. For example, an area within the viewshed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be as visually sensitive.</i>	H	Adjacent Users do include tourist as well as tourist destinations (Seeplaas Guest House), and as such are likely to experience higher levels of sensitivity to landscape change detracting from the Garden Route sense of place. The urban residents of Tergniet have partial views of the landscape, viewed from an existing urban fabric and as such are likely to be less sensitive to landscape change.
Special Areas Management objectives <i>for special areas such as Natural Areas, Wilderness Areas or Wilderness Study Areas, Wild and Scenic Rivers, Scenic Areas, Scenic Roads or Trails, and Critical Biodiversity Areas frequently require special consideration for the protection of their visual values.</i>	L	The conservation thicket areas is rated High as this does benchmark the remnants of the natural landscape characteristic of the Garden Route. However, the property does not have any special zoning and the conservation worthy areas have been excluded from the development footprint.
Receptor Sensitivity	Medium to High	

Landscapes	Rating	Motivation
<p>The Type of Users would include residential and tourist receptors with High Exposure to the R102 increasing the potential for receptor sensitivity to landscape change. Within this peri-urban landscape, public Interest in maintaining scenic quality is rated Medium to Low as the built nature of Tergniet is well established. Adjacent Users do include tourist as well as tourist destinations (Seeplaas Guest House), and as such are likely to experience higher levels of sensitivity to landscape change detracting from the Garden Route sense of place. The urban residents of Tergniet have partial views of the landscape, viewed from an existing urban fabric and as such are likely to be less sensitive to landscape change. The property does not have any special zoning and the conservation worthy areas have been excluded from the development footprint.</p>		

7.4 Visual Resource Management (VRM) Classes

The BLM has defined four Classes that represent the relative value of the visual resources of an area and are defined in terms of the VRM Matrix as follows:

- i. **Classes I and II** are the most valued
- ii. **Class III** represent a moderate value
- iii. **Class IV** is of least value

7.4.1 VRM Class I

Class I is assigned when legislation restricts development in certain areas. The visual objective is to preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention. A Class I visual objective was assigned to the following features within the proposed development area due to their protected status within the South African legislation:

- Any river / streams and associated flood lines buffers identified as significant in terms of the WULA process.
- Any wetlands identified as significant in terms of the WULA process.
- Any ecological areas (or plant species) identified as having a high significance.
- Any heritage area identified as having a high significance.
- **The seasonal wetland area.**
- **Natural vegetation areas (Conservation worthy).**
- **High Exposure Road Buffers.**

To ensure that the current peri-urban landscape context is retained, and continuous ribbon development does not occur along the R102 road, these areas should be excluded from the development. The No-Go option is preferred should development take place in these areas.

7.4.2 VRM Class II

The Class II objective is to retain the existing character of the landscape and the level of change to the characteristic landscape should be low. The proposed development may be seen but should not attract the attention of the casual observer, and should repeat the basic elements of form, line, colour and texture found in the predominant natural features of the characteristic landscape.

- **Not applicable.**

Due to the moderate scenic quality and medium to high receptor sensitivity to landscape change, no Class II areas that should be conserved were identified on site.

7.4.3 VRM Class III

The Class III objective is to partially retain the existing character of the landscape, where the level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer, and changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. The following landscape was defined as having Class III Visual Objectives where development would be most suitable:

- **Peri-urban vegetation degraded.**

The dominant characteristic of the area is that of a peri-urban landscape, with the current lack of development contributing to this sense of place. Partial development on the property would be suitable with mitigation that would allow for the retaining of the identified significant indigenous vegetation, with planting of more trees around the proposed structures to meet the Class III visual objectives.

7.4.4 VRM Class IV

The Class IV objective is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the landscape can be high, and the proposed development may dominate the view and be the major focus of the viewer's (s') attention without significantly degrading the local landscape character. The following landscape was defined as having Class IV Visual Objectives where development would be most suitable within limitations defined by the urban nature of the zoning:

- **Not applicable.**

Due to the need to retain the existing sense of place along the R102 road, no Class IV areas were identified on the site as intensive development without mitigation would detract from the tourist views accessing the beach via the Fynbos Road.

8 VISUAL IMPACT ASSESSMENT

Impacts are defined in terms of the standardised impact assessment criteria provided by the environmental practitioner. Using the defined impact assessment criteria, the potential environmental impacts identified for the project were evaluated according to severity, duration, extent and significance of the impact. The potential occurrence and cumulative impact (as defined in the methodology) was also assessed. In order to better understand the nature of the severity of the visual impacts, a Contrast Rating exercise was undertaken, assuming the view of the defined Key Observation Point (where photomontages are not provided). As this is an assumption, the findings of the Social Impact Assessment would need to be viewed once they are made available. As this is a Basic Assessment, photomontages were not generated.

8.1 Contrast Rating and Photomontages

As indicated in the methodology, a contrast rating is undertaken to determine if the VRM Class Objectives are met. The suitability of a landscape modification is assessed by comparing and contrasting the existing receiving landscape to the expected contrast that the proposed landscape change will generate. This is done by evaluating the level of change to the existing landscape by assessing the line, colour, texture and form, in relation to the visual objectives defined for the area. To provide decision makers and I&APs with information on the nature of

the landscape change, **photomontages were generated by the architect** from the R102 for eastbound (initial and mid views), as well as westbound (initial view).



Figure 19. Anticipated view from the R102 eastbound initial view.



Figure 20. Anticipated view from the R102 eastbound middle view.



Figure 21. Anticipated view from the R102 westbound.

The following criteria are utilised in defining the degree of contrast (DoC):

- **None:** The element contrast is not visible or perceived.
- **Weak:** The element contrast can be seen but does not attract attention.
- **Moderate:** The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- **Strong:** The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

The Visual Resource Management for the property was defined as Class III. This allows for moderate levels of change, where the objective is to partially retain the existing character of the landscape. Management activities may attract attention but should not dominate the view of the casual observer, and changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Table 20: Contrast Rating Key Observation Points Table.

Key Observation Point	Exposure		Mitigation	Landscape Elements					Visual Objectives Met?
	Distance	Exposure		Form	Line	Colour	Texture	Degree of Contrast	
R102	Sub 50m	Very High	With	M	S	S	S	S	No
			Without	M	M	W	W	MW	Yes

* S = Strong, M = Medium, W = Weak, N = None

Contrast Rating Findings

The main receptor that will make use of the landscapes of the property are those driving along the adjacent R102 Road. Views are from high visual exposure locations where clarity of view would be clear, and the views are not obscured by vegetation. Due to the proliferation of vegetation along the road, clear views of the proposed landscape change would only take place from directly adjacent to the property. Form change is likely to be moderate as the property is located on moderate slopes area where cut and fills are likely to be a dominating visual effect. Without retaining the surrounding natural vegetation on the property, the Line, Colour and Texture contrast is likely to be Strong. This would not meet the Class III visual objectives and the existing peri-urban sense of place effect would be lost and a dominating precedent for development along the R102 Road would be created/ re-enforced.

With mitigation, and the retaining of all the significant vegetation and trees, and planting of further trees and shrubs along the roads and a setback of the structures from the roads, the massing effect created by the proposed development could be reduced to some degree. Further mitigation would be required for security fencing, wall and roof colour, and landscaping for hedges should also be incorporated into the design along Fynbos Road. With mitigation, the Class III visual objective would be met as the proposed activities would attract attention but would not dominate the view of the casual observer, reflecting a similar nodal development that characterises the local area.

8.2 Project Impact Ratings and Motivation

The impact assessment focuses on the combined visual effects of the proposed landscape change. The following phase of development area assessed:

- Construction.
- Operation.
- Decommissioning (Not applicable as the development will become a permanent feature in the landscape).

Cumulative effects for the area assessed are:

- A long-term change in land use setting a precedent for other similar types of residential/ retail development around the property, resulting in a loss of scenic quality of the R102 Road.

8.2.1 Construction Phase Impact Assessment

Table 21: Construction Phase Impacts table

Project phase	Construction Phase			
Impact	Loss of landscape character from construction and development			
Description of impact	<ul style="list-style-type: none"> • Loss of site landscape character due to the removal of vegetation and the construction of the project infrastructure. • Construction and laydown camps on the site. • The movement of large earth moving and building equipment. • Wind-blown dust due to the removal of large areas of vegetation. • Wind-blown litter from the laydown and construction sites. • Movement of larger vehicles along R102 and Fynbos Road. 			
Mitigability	Low	The mitigation will partially reduce the significance of the visual and landscape impacts.		
Key Mitigations	<ul style="list-style-type: none"> • Landscaping plan. • Protection of remaining trees and vegetation. • High Visual Exposure road Nogo setback buffers from property boundary (10m from R102, 5m from Fynbos Road). • Dust management. • Setback of the laydown area. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Negative	
Duration	Short-term	The construction phase is expected to be concluded within 1 year.	Short-term	The construction phase is expected to be concluded within 1 year.
Extent	Local	The visual impact will be locally contained.	Local	The visual impact will be locally contained.
Intensity	High	The construction of the development will be strongly perceived from the R102 Road receptors.	Medium to High	With mitigation, the construction of the development will be perceived from the R102 Road receptors.
Probability	Sure	The site is adjacent to the R102 Road with clear views.	Sure	The site is adjacent to the R102 Road with clear views.

Reversibility	Low	Once construction has started, the impact will not be reversible.	Low	Once construction has started, the impact will not be reversible.
Visual Significance	Medium to High -Ve		Medium -Ve	
<i>Motivation</i>	During construction without mitigation, there is potential that the retained vegetation will be damaged or destroyed. Dust could become a nuisance factor and the construction site/ laydown area can be visually intrusive. With mitigation, the natural vegetation will be protected, dust will be managed, and the layout will set back from the road and less visually intrusive. The construction will, however, be clearly visible and visually intensive to some degree.			
Cumulative Effects	Medium -Ve		Low -Ve	
<i>Motivation</i>	Without mitigation, there is some potential for setting a negative precedent for intensive development along the R102 Road and degrading the tourist views along Fynbos Road. With mitigation, it is unlikely that the short-term landscape degradation will result in local landscape degradation.			

8.2.2 Operational Phase Impact Assessment

Table 22: Operation Phase Impacts Table

Project phase	Operation Phase			
Impact	Loss of landscape character from operation of the development			
Description of impact	<ul style="list-style-type: none"> • Massing effect in the landscape from a medium-scaled landscape modification. • Increased vehicular movement along the road. 			
Mitigability	Medium	The mitigation will reduce the significance of the visual and landscape impacts		
Key Mitigations	<ul style="list-style-type: none"> • Landscaping consolidation. • Lights at night. • Establishment of low hedges along the Fynbos Road of the property to reduce visual intrusion of the parked vehicles. • Restoration and rehabilitation of the High Visual Exposure road Nogo setback buffers from property boundary (10m from R102, 5m from Fynbos Road). • 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Positive	
Duration	Permanent	The development will become a permanent feature in the landscape.	Permanent	The development will become a permanent feature in the landscape.
Extent	Local	The visual impact will be locally contained.	Local	The visual impact will be locally contained.
Intensity	High	The construction of the development will be strongly perceived from the R102 Road receptors.	Medium to High	With mitigation, the construction of the development will be perceived from the R102 Road receptors.

Probability	Sure	The site is adjacent to the R102 Road with clear views.	Sure	The site is adjacent to the R102 Road with clear views.
Reversibility	Low	Once construction has started, the impact will not be reversible.	Low	Once construction has started, the impact will not be reversible.
Visual Significance	Medium to High -Ve		Low +Ve	
<i>Motivation</i>	Without mitigation, there is potential that the development will be visually dominating and will degrade the R102 Road gateway, setting a negative precedent for intensive development along the road. With mitigation, and further tree and shrub plantings within the road buffers, the area has the potential to become a potential positive asset to the local landscape. The existing nodal development that characterises the area will be repeated and continuous ribbon development along the R102 will be less visually dominant to the road receptors.			
Cumulative Effects	Medium -Ve		Low -Ve	
<i>Motivation</i>	Without mitigation, there is some potential for setting a negative precedent for intensive development along the R102 Road and degrading the gateway views into Fybnos road. The further loss of trees and vegetation will limit the potential for medium-term screening. With mitigation, it is unlikely that the long-term landscape degradation will result in local landscape degradation. It is possible that the proposed development will result in an expansion of the development to the west on adjacent property. This would need to be addressed in future planning and future EIAs.			

8.3 Summary of Visual Impact Findings

A summary of the visual impacts assessed in located on the following page. The headings below refer to the identified impact assessment criteria.

Nature of the Impact

During construction phase the nature of the impact will be Negative with and without mitigation. Without mitigation, the Operational Phase is likely to be Medium to High Negative, as landscape degradation will take place. With mitigation, this phase has the potential to be Low to Medium Positive, once the planted trees along the road buffers takes place and landscaping the become established.

Extent of the Impact

The Extent of the expected ZVI is Local with and without mitigation. This is due to valley locality of the property with high ground to the north and south, as well as residential development to the west.

Magnitude of the Impact

Without mitigation, the Magnitude of the impact is likely to be Medium to High Negative. Loss of natural vegetation could take place and an intensive development sense of place could be established at the gateway to the R102 Road. With mitigation, the node of development has the potential to become an interesting local attraction, setting a low positive precedent for development along the road.

Duration of the Impact

Construction Phase is likely to be Short-term, with Operational Phase being a permanent landscape change.

Probability of the Impact

The probability of the impact taking place is rated Sure, as the property is in close proximity to the R102 and Fynbos roads. There will be clear views of the development from the adjacent houses.

Confidence of the Impact

A site visit was undertaken, with a review of planning for the area. The conservation worthy vegetation has been identified and the alien vegetation area cleared so that there is a clear distinction of where the development footprint is. The proposed development is also in alignment with local planning. As such, confidence is rated High.

Reversibility of the Impact

The reversibility of the impact is rated Low as once construction phase begins, the structures will be very difficult to remove. However, this can take place, but the tree-scape will be permanently changed.

Resource Irreplaceability of the Impact

The impact area as a landscape resource is rated Medium. The property does form a gateway view from the Fynbos road that does go through to the beach area, where the existing nature-scape is likely to be well established as a cultural landmark. However, the area is strongly peri-urban, where the local landscape does not reflect significant features or landforms.

Mitigability of the Impact

Mitigation potential Medium to High. The significant vegetation can be retained, allowing some degree of continuation of the tree-scape sense of place. Further tree planting will further enhance the tree-scape heritage.

Cumulative Impact Assessment

Without mitigation, there is some potential for setting a negative precedent for intensive development along the R102 Road and degrading the gateway views into Fynbos Road. A ribbon belt development precedent could also be set in place. With mitigation, it is unlikely that long-term development will result in local landscape degradation. It is possible that the proposed development will result in an expansion of the development to the west on adjacent properties. This would need to be addressed in future planning and future EIAs.

Visual Significance of the Impact

During construction without mitigation, there is potential that the retained vegetation will be damaged or destroyed. Dust could become a nuisance factor and the construction site/ laydown area can be visually intrusive. With mitigation, the natural vegetation areas will be protected, dust will be managed, and the layout will set back from the road and less visually intrusive. The construction will, however, be clearly visible and visually intensive to some degree. Without mitigation, there is potential that the long-term operation of the development will be visually dominating and will degrade the R102 Road gateway, setting a negative precedent for intensive/ ribbon development along the road. With mitigation, and further tree plantings, the area has the potential to become a potential positive asset to the local landscape, reflecting a similar nodal development that is taking place in the region.

9 PRELIMINARY ENVIRONMENTAL MANAGEMENT PLAN

9.1.1 Planning Phase

- Appoint a suitably qualified landscape architect to generate a detailed landscaping plan prior to construction phase that addresses the following:
 - Retaining and maintaining existing climax trees and review of final design such that the encroachment onto the trees will not impact the tree growth.
 - Internal landscaping such that further trees can be incorporated into the design to soften the visual intrusion of the structures and enhance the R102 road and Fynbos road gateway views.
 - Design specific requirements and planning for construction phase such that the landscaping requirements are suitably incorporated and managed with clear identification of No-Go zones around the significant vegetation areas to be retained.
 - The specific No-go structure development areas need to be planted with indigenous trees and shrubs such that there is some visual screening from the R102 and Fynbos road users (10m from boundary for R102, 5m from boundary for Fynbos Road). While these areas can be incorporated in the erven, the management and plantings of these areas should be incorporated in the Home Owners Association as not suitable for structural development and for planting of screening trees and general landscaping.

9.1.2 Construction Phase

- Carefully identify and exclude the natural vegetation areas that are to be retained, allowing for these area to be linked into the design phase landscape plan.
- Dust management for moving vehicles and wind blown dust.
- Set the laydown back from the roads so that they are not a dominating visual feature on areas that will be developed. Screen with green shade cloth (2m high).
- No construction over the weekend or during the night.
- Other security personal, no overnight accommodation for workers.
- Fencing should be black Thru-View without electrical security on top and maximum height of 2m.

9.1.3 Operation Phase

- Landscaping consolidation as per the detailed landscaping plan.
- Establishment of low hedges from indigenous shrubs such as *Carissa bispinosa* (pruned 1m height) to reduce visual intrusion of the security fencing, and along the Fynbos road areas.
- Lights at night mitigation to ensure that light spillage does not take place (Refer to Annexure C for generic lighting mitigation).
 - No overhead lighting.
 - Downward or inward facing light such that direct lighting is not visible to the casual observer without compromising security.
- Advertising should be constrained and not be visually dominating.
 - Make use of muted / natural colours with a mid grey hue.
 - The base of the banner should not be elevated more than 1m off the ground and not be larger than 1m high x 2m wide.

- The colours and textures used in the development should be chosen such as to reduce visual contrast. The walls should be natural colour with a mid-grey hue, and the roofs preferably slate grey/ or similar. White colour on the walls should not be used.

10 PRELIMINARY OPPORTUNITIES AND CONSTRAINTS

10.1 Preferred Development Option

Opportunities

- Retaining the existing natural vegetation on the site as part of the on-going tree-scape sense of place.
- Removal of alien trees regrowth on the property, and re-establishing quick growing indigenous tree species along the R102 and Fynbos roads.
- Economic and employment opportunities for the local area.

Constraints

- Loss of some of the indigenous vegetation on the site.

10.2 No-Go Option

Opportunities

- Continuation of the non-development gateway view on entering the Fynbos Road.
- Partially retaining the existing natural views of the property.

Constraints

- Continued alien vegetation growth of the property that will become a fire risk.
- Limited economic benefit to the local area, and the continuation of the fairly fragmented peri-urban sense of place at this section of the R102 road.

11 CONCLUSION

The finding of this landscape and visual impact assessment, is that the proposed development will be a preferred over the No-go status quo option. The following reasons are presented as motivation:

- In terms of regional and local planning fit for landscape and visual related themes, the expected visual/ landscape policy fit of the landscape change is rated High.
- Local zone of visual influence with some visual buffering from urban residential receptors to the west of the property.
- Continuation of the existing nodal development precedent of clustered development surrounded by conservation worthy nature areas.
- No loss of significant landscapes that are being used as visual resources.
- Retaining the status quo would result in limited economic benefit to the local area and a continued management plan to ensure that regrowth of the alien trees does not take place.
- Medium Negative visual impact significance for short-term construction with mitigation.
- Low Positive visual impact significance for long-term operation with mitigation.

The recommendation of this assessment is that the proposed development should be authorised with mitigation as is unlikely to result in a significant loss of landscape or visual resources. However, as the area is an important tourist destination and the surrounding roads would carry tourist traffic, mitigation should be a condition of approval.

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13 ANNEXURE A: SITE VISIT PHOTOGRAPHS AND COMMENTS

The following photographs were taken during the field survey as mapped below. The text below the photograph describes the landscape and visual issues of the locality, if applicable.

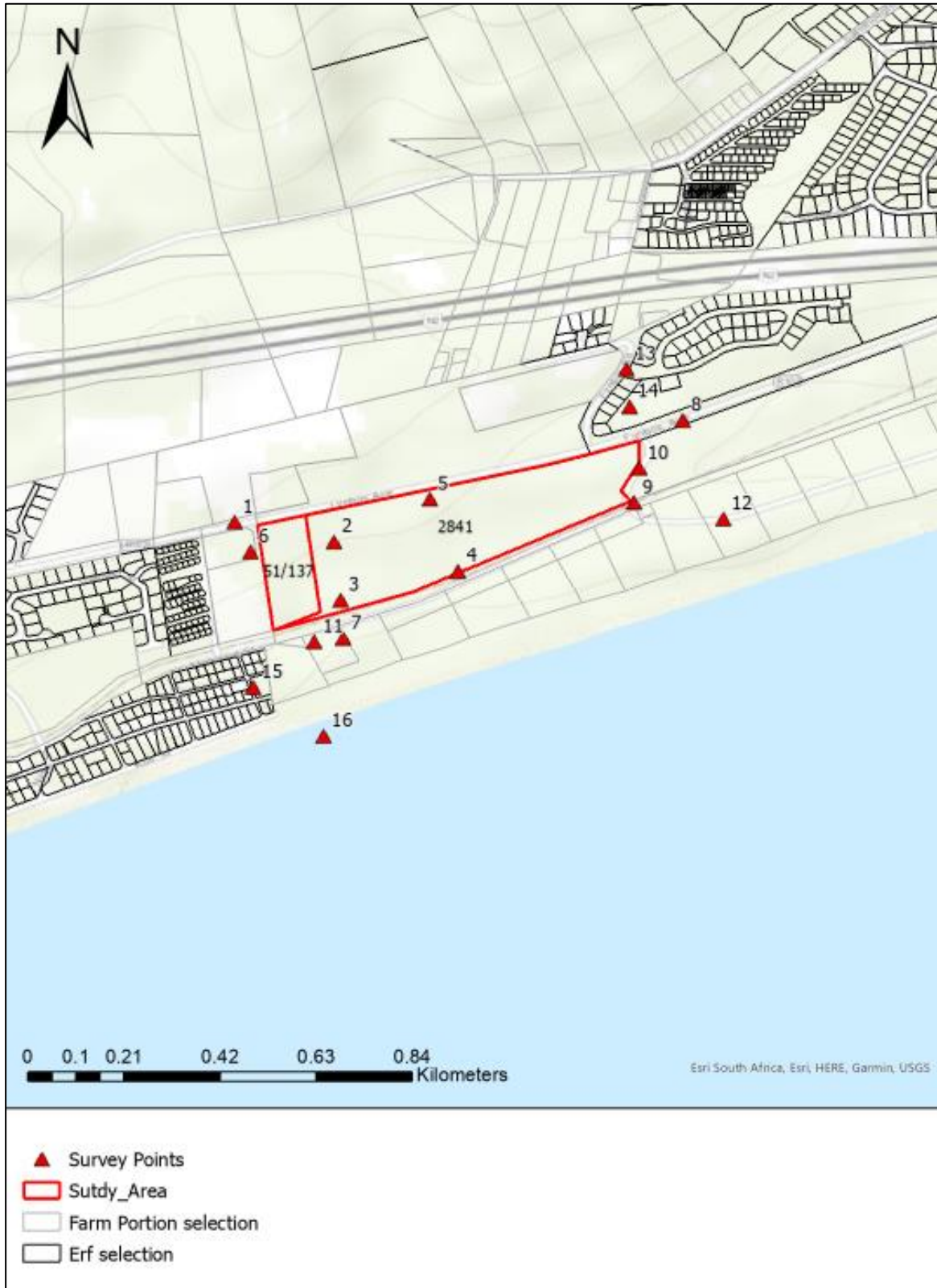


Figure 22: Site Survey Point Map

ID	1
PHOTO	R102 eastbound
ELEVATION	81,3 m
DIRECTION	North east
COMMENT	Vegetation along road, important landscape features, reducing massing effects and ribbon development experience. Busy road with main experience of nature and sea view with clusters of development in current landscape. Subject to change as southern erven will be developed.



ID	2
PHOTO	Site sense of place
ELEVATION	62,8 m
DIRECTION	West
COMMENT	View of Tergniet residential as seen from site that will have clear views of the landscape change and should be considered a KOP.





ID	3
PHOTO	Site lower elevation
ELEVATION	45,2 m
DIRECTION	East
COMMENT	View east from southern portion of the property with lower elevation. Close proximity to railway line but limited views of development create strong nature sense of place. Also, natural drainage area.



ID	4
PHOTO	Site central lower
ELEVATION	50,8 m
DIRECTION	West
COMMENT	View West from southern central portion of property that comprises a shallow valley with intact natural vegetation in foreground and Tergniet suburbia in the background. Also visible is the pipeline servitude running east west along southern boundary of the property.



ID	5
PHOTO	Site small drainage line
ELEVATION	62,6 m
DIRECTION	South
COMMENT	View of small drainage line on site that would need to be considered in the design.
	

ID	6
PHOTO	Seegenot landlord receptor
ELEVATION	72,4 m
DIRECTION	East
COMMENT	View east from receptor point towards the site where dwellings would be located in the direct foreground. Higher levels of contrast generated by the existing suburban development would reduce visual contrast. View focus also southeast on the sea vista and not towards site.
	

ID	7
PHOTO	Receptor tourism
ELEVATION	0
DIRECTION	South
COMMENT	View of adjacent tourism venture with clear views of the landscape change and should be considered as KOP.



ID	8
PHOTO	R102 eastbound receptor
ELEVATION	61,5 m
DIRECTION	East
COMMENT	View east from R102 with the property located in midground to the left. The upper dwellings would be visible from the road receptors. There is an existing precedent for clustered development set back from the road retaining existing vegetation. With mitigation and retaining upper trees along road, visual impacts limited from locality.



ID	9
PHOTO	Railway line sense of place
ELEVATION	48,3 m
DIRECTION	Northeast
COMMENT	Local landscape character influenced marginally by railway line. While cleared of vegetation, the train context is limited to when the train passes. Local landscape is negatively influenced to some degree.



ID	10
PHOTO	Site eastern upper portion
ELEVATION	59,8 m
DIRECTION	East
COMMENT	View east from closed road that forms the Eastern boundary of the property. Fragmented vegetation from road development reduces landscape value.



ID	11
PHOTO	Seeplaas receptor
ELEVATION	53,6 m
DIRECTION	North
COMMENT	View north from resort parking area with the property forming the bulk of the midground views. While views of the existing suburban development are clearly visible, the lack of development of the property does add to the sense of place.



ID	12
PHOTO	Receptor tarred road eastbound
ELEVATION	73,3 m
DIRECTION	East
COMMENT	View east from tarred road towards property. As seen from this location, the proposed development would create visual link between Tergniet and the white houses of ##. Road buffering and clustering as a theme, to retain some nature sense of place.



ID	13
PHOTO	Receptor St Ellen and Melkhout Estate developments
ELEVATION	77,6 m
DIRECTION	South
COMMENT	View south towards property with views overlooking the site towards the bay if single storey structures used. View is strongly associated with development and as such visual contrast will be reduced by local development context.



ID	14
PHOTO	Proposed Melkhout Estate development
ELEVATION	0
DIRECTION	North
COMMENT	Photo taken of the proposed Melkhout Estate development that is starting development.



ID	15
PHOTO	Receptor Tergniet suburbia
ELEVATION	65,7 m
DIRECTION	North east
COMMENT	View northeast from Tergniet Road towards site. High visual absorption capacity levels reduce visual intensity.



ID	16
PHOTO	Landscape context Indian Ocean
ELEVATION	0
DIRECTION	South
COMMENT	Ocean views capture attention with residential dwellings primary view to the sea.



14 ANNEXURE B: SPECIALIST INFORMATION

14.1 Professional Registration Certificate



14.2 Curriculum Vitae (CV)

1. **Position:** Owner / Director
2. **Name of Firm:** Visual Resource Management Africa cc (www.vrma.co.za)
3. **Name of Staff:** Stephen Stead
4. **Date of Birth:** 9 June 1967
5. **Nationality:** South African
6. **Contact Details:** Cell: +27 (0) 83 560 9911
Email: steve@vrma.co.za
7. **Educational qualifications:**
 - University of Natal (Pietermaritzburg):
 - Bachelor of Arts: Psychology and Geography
 - Bachelor of Arts (Hons): Human Geography and Geographic Information Management Systems
 - MSc Geography, University of KwaZulu, Natal (2023)
8. **Professional Accreditation**
 - Association of Professional Heritage Practitioners (APHP) Western Cape
 - Accredited VIA practitioner member of the Association (2011)
9. **Association involvement:**
 - International Association of Impact Assessment (IAIA) South African Affiliate
 - Past President (2012 - 2013)
 - President (2012)
 - President-Elect (2011)
 - Conference Co-ordinator (2010)
 - National Executive Committee member (2009)
 - Southern Cape Chairperson (2008)
10. **Conferences Attended:**
 - International Geographical Congress, Lisbon (2017)
 - IAIAAsa 2012
 - IAIAAsa 2011
 - IAIA International 2011 (Mexico)
 - IAIAAsa 2010
 - IAIAAsa 2009
 - IAIAAsa 2007
11. **Continued Professional Development:**
 - Integrating Sustainability with Environment Assessment in South Africa (IAIAAsa Conference, 1 day)
 - Achieving the full potential of SIA (Mexico, IAIA Conference, 2 days 2011)

- Researching and Assessing Heritage Resources Course (University of Cape Town, 5 days, 2009)

12. Countries of Work Experience:

- South Africa, Mozambique, Malawi, Lesotho, Kenya and Namibia

13. Relevant Experience:

Stephen gained six years of experience in the field of Geographic Information Systems mapping and spatial analysis working as a consultant for the KwaZulu-Natal Department of Health and then with an Environmental Impact Assessment company based in the Western Cape. In 2004 he set up the company Visual Resource Management Africa that specializes in visual resource management and visual impact assessments in Africa. The company makes use of the well-documented Visual Resource Management methodology developed by the Bureau of Land Management (USA) for assessing the suitability of landscape modifications. Stephen has assessed of over 150 major landscape modifications throughout southern and eastern Africa. The business has been operating for eighteen years and has successfully established and retained a large client base throughout Southern Africa which include amongst other, Rio Tinto (Pty) Ltd, Bannerman (Pty) Ltd, Anglo Coal (Pty) Ltd, Eskom (Pty) Ltd, NamSolar and Vale (Pty) Ltd, Ariva (Pty) Ltd, Harmony Gold (Pty) Ltd, Millennium Challenge Account (USA), Pretoria Portland Cement (Pty) Ltd

14. Languages:

- English – First Language
- Afrikaans – fair in speaking, reading and writing.

15. Projects:

Table 23: VRM Africa Projects Assessments Table

DESCRIPTION	COUNT	DESCRIPTION	COUNT
Dam	1	UISP	8
Mari-culture	1	Structure	8
Port	1	OHPL	12
Railway	1	Industrial	12
Power Station	3	Wind Energy	22
Hydroelectric	4	Battery Storage	14
Resort	4	Mine	20
Golf/Residential	1	Residential	45
Road Infrastructure	5	Solar Energy	62
Substation	5	TOTAL	237

15 ANNEXURE C: GENERAL LIGHTS AT NIGHT MITIGATIONS

Mitigation:

- Effective light management needs to be incorporated into the design of the lighting to ensure that the visual influence is limited to the mine, without jeopardising project operational safety and security (See lighting mitigations by The New England Light Pollution Advisory Group (NELPAG) and Sky Publishing Corp in 14.2).
- Utilisation of specific frequency LED lighting with a green hue on perimeter security fencing.
- Directional lighting on the more exposed areas of operation, where point light source is an issue.
- No use of overhead lighting and, if possible, locate the light source closer to the operation.
- If possible, the existing overhead lighting method utilised at the mine should be phased out and replaced with an alternative lighting using closer to source, directed LED technology.

Mesopic Lighting

Mesopic vision is a combination of photopic vision and scotopic vision in low, but not quite dark, lighting situations. The traditional method of measuring light assumes photopic vision and is often a poor predictor of how a person sees at night. The light spectrum optimized for mesopic vision contains a relatively high amount of bluish light and is therefore effective for peripheral visual tasks at mesopic light levels. (CIE, 2012)

The Mesopic Street Lighting Demonstration and Evaluation Report by the Lighting Research Centre (LRC) in New York found that the ‘replacement of white light sources (induction and ceramic metal halide) were tuned to optimize human vision under low light levels while remaining in the white light spectrum. Therefore, outdoor electric light sources that are tuned to how humans see under mesopic lighting conditions can be used to reduce the luminance of the road surface while providing the same, or better, visibility. Light sources with shorter wavelengths, which produce a “cooler” (bluer and greener) light, are needed to produce better mesopic vision. Based on this understanding, the LRC developed a means of predicting visual performance under low light conditions. This system is called the unified photometry system. Responses to surveys conducted on new installations revealed that area residents perceived higher levels of visibility, safety, security, brightness, and colour rendering with the new lighting systems than with the standard *High-Purity Standards* (HPS) systems. The new lighting systems used 30% to 50% less energy than the HPS systems. These positive results were achieved through tuning the light source to optimize mesopic vision. Using less wattage and photopic luminance also reduces the reflectance of the light off the road surface. Light reflectance is a major contributor to light pollution (sky glow).’ (Lighting Research Centre. New York. 2008)

‘Good Neighbour – Outdoor Lighting’

Presented by the New England Light Pollution Advisory Group (NELPAG) (<http://cfa/www.harvard.edu/cfa/ps/nelpag.html>) and Sky & Telescope (<http://SkyandTelescope.com/>). NELPAG and Sky & Telescope support the International Dark-Sky Association (IDA) (<http://www.darksky.org/>). (NELPAG)

What is good lighting? Good outdoor lights improve visibility, safety, and a sense of security, while minimizing energy use, operating costs, and ugly, dazzling glare.

Why should we be concerned? Many outdoor lights are poorly designed or improperly aimed. Such lights are costly, wasteful, and distractingly glary. They harm the night-time environment and neighbours' property values. Light directed uselessly above the horizon creates murky skyglow — the "light pollution" that washes out our view of the stars.

Glare Here's the basic rule of thumb: If you can see the bright bulb from a distance, it's a bad light. With a good light, you see lit ground instead of the dazzling bulb. "Glare" is light that beams directly from a bulb into your eye. It hampers the vision of pedestrians, cyclists, and drivers.

Light Trespass Poor outdoor lighting shines onto neighbours' properties and into bedroom windows, reducing privacy, hindering sleep, and giving the area an unattractive, trashy look.

Energy Waste Many outdoor lights waste energy by spilling much of their light where it is not needed, such as up into the sky. This waste results in high operating costs. Each year we waste more than a billion dollars in the United States needlessly lighting the night sky.

Excess Lighting Some homes and businesses are flooded with much stronger light than is necessary for safety or security.

How do I switch to good lighting?

Provide only enough light for the task at hand; don't over-light, and don't spill light off your property. Specifying enough light for a job is sometimes hard to do on paper. Remember that a full Moon can make an area quite bright. Some lighting systems illuminate areas 100 times more brightly than the full Moon! More importantly, by choosing properly shielded lights, you can meet your needs without bothering neighbours or polluting the sky.

Good and Bad Light Fixtures

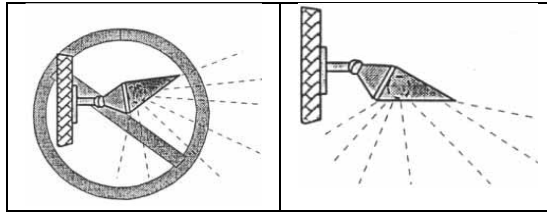
<p>Typical "Wall Pack"</p>	<p>Typical "Shoe Box" (forward throw)</p>
<p>BAD Waste light goes up and sideways</p>	<p>GOOD Directs all light down</p>
<p>Typical "Yard Light"</p>	<p>Opaque Reflector (lamp inside)</p>
<p>BAD Waste light goes up and sideways</p>	<p>GOOD Directs all light down</p>
<p>Area Flood Light</p>	<p>Area Flood Light with Hood</p>
<p>BAD Waste light goes up and sideways</p>	<p>GOOD Directs all light down</p>

- Aim lights down. Choose “full-cut-off shielded” fixtures that keep light from going uselessly up or sideways. Full-cut-off fixtures produce minimum glare. They create a pleasant-looking environment. They increase safety because you see illuminated people, cars, and terrain, not dazzling bulbs.
- Install fixtures carefully to maximize their effectiveness on the targeted area and minimize their impact elsewhere. Proper aiming of fixtures is crucial. Most are aimed too high. Try to install them at night, when you can see where all the rays actually go. Properly aimed and shielded lights may cost more initially, but they save you far more in the long run. They can illuminate your target with a low-wattage bulb just as well as a wasteful light does with a high-wattage bulb.
- If colour discrimination is not important, choose energy-efficient fixtures utilising yellowish high-pressure sodium (HPS) bulbs. If “white” light is needed, fixtures using compact fluorescent or metal-halide (MH) bulbs are more energy-efficient than those using incandescent, halogen, or mercury-vapour bulbs.
- Where feasible, put lights on timers to turn them off each night after they are no longer needed. Put home security lights on a motion-detector switch, which turns them on only when someone enters the area; this provides a great deterrent effect!

What You Can Do To Modify Existing Fixtures

Change this . . .

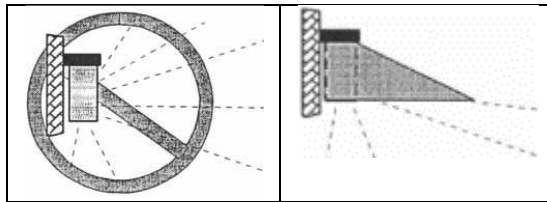
to this
(aim downward)



Floodlight:

Change this . . .

to this
(aim downward)

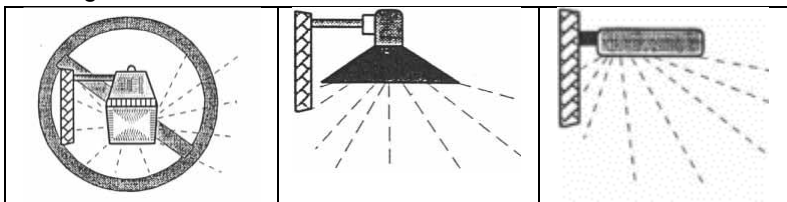


Wall Pack

Change this . . .

to this

or this



Yard Light

Opaque Reflector

Show Box

Replace bad lights with good lights.

You'll save energy and money. You'll be a good neighbour. And you'll help preserve our view of the stars.

16 ANNEXURE D: METHODOLOGY DETAIL

16.1 Baseline Analysis Stage

In terms of VRM methodology, landscape character is derived from a combination of **scenic quality**, **receptor sensitivity** to landscape change and **distance** from the proposed landscape change. The objective of the analysis is to compile a mapped inventory of the visual resources found in the receiving landscape, and to derive a mapped Visual Resource sensitivity layer from which to evaluate the suitability of the landscape change.

16.1.1 Scenic Quality

The scenic quality is determined making use of the VRM Scenic Quality Checklist that identifies seven scenic quality criteria which are rated with 1 (low) to 5 (high) scale. The scores are totalled and assigned an A (High), B (Moderate) or C (low) based on the following split:

A = scenic quality rating of ≥ 19 ;

B = rating of 12 – 18,

C = rating of ≤ 11

The seven scenic quality criteria are defined below:

- **Land Form:** Topography becomes more of a factor as it becomes steeper, or more severely sculptured.
- **Vegetation:** Primary consideration given to the variety of patterns, forms, and textures created by plant life.
- **Water:** That ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration.
- **Colour:** The overall colour(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.) are considered as they appear during seasons or periods of high use.
- **Scarcity:** This factor provides an opportunity to give added importance to one, or all, of the scenic features that appear to be relatively unique or rare within one physiographic region.
- **Adjacent Land Use:** Degree to which scenery and distance enhance, or start to influence, the overall impression of the scenery within the rating unit.
- **Cultural Modifications:** Cultural modifications should be considered and may detract from the scenery or complement or improve the scenic quality of an area.

16.1.2 Receptor Sensitivity

Receptor sensitivity to landscape change is determined by rating the following factors in terms of Low to High:

- **Type of Users:** Visual sensitivity will vary with the type of users, e.g. recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.
- **Amount of Use:** Areas seen or used by large numbers of people are potentially more sensitive.

- **Public Interest:** The visual quality of an area may be of concern to local, or regional, groups. Indicators of this concern are usually expressed via public controversy created in response to proposed activities.
- **Adjacent Land Uses:** The interrelationship with land uses in adjacent lands. For example, an area within the viewshed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be as visually sensitive.
- **Special Areas:** Management objectives for special areas such as Natural Areas, Wilderness Areas or Wilderness Study Areas, Wild and Scenic Rivers, Scenic Areas, Scenic Roads or Trails, and Critical Biodiversity Areas frequently require special consideration for the protection of their visual values.
- **Other Factors:** Consider any other information such as research or studies that include indicators of visual sensitivity.

16.1.3 Exposure

The area where a landscape modification starts to influence the landscape character is termed the Zone of Visual Influence (ZVI) and is defined by the U.K. Institute of Environmental Management and Assessment's (IEMA) '*Guidelines for Landscape and Visual Impact Assessment*' as 'the area within which a proposed development may have an influence or effect on visual amenity (of the surrounding areas).'

The inverse relationship of distance and visual impact is well recognised in visual analysis literature (*Hull, R.B. and Bishop, I.E., 1988*). According to Hull and Bishop, exposure, or visual impact, tends to diminish exponentially with distance. The areas where most landscape modifications would be visible are located within 2 km from the site of the landscape modification. Thus, the potential visual impact of an object diminishes at an exponential rate as the distance between the observer and the object increases due to atmospheric conditions prevalent at a location, which causes the air to appear greyer, thereby diminishing detail. For example, viewed from 1000 m from a landscape modification, the impact would be 25% of the impact as viewed from 500 m from a landscape modification. At 2000m it would be 10% of the impact at 500 m.

Distance from a landscape modification influences the size and clarity of the landscape modification viewing. The Bureau of Land Management defines three distance categories:

- Foreground / Middle ground**, up to approximately 6km, which is where there is potential for the sense of place to change;
- Background areas**, from 6km to 24km, where there is some potential for change in the sense of place, but where change would only occur in the case of very large landscape modifications; and
- Seldom seen areas**, which fall within the Foreground / Middle ground area but, as a result of no receptors, are not viewed or are seldom viewed.

16.1.4 Key Observation Points

During the Baseline Inventory Stage, Key Observation Points (KOPs) are identified. KOPs are defined by the Bureau of Land Management as the people (receptors) located in strategic locations surrounding the property that make consistent use of the views associated with the site where the landscape modifications are proposed. These locations are important in terms of the VRM methodology, which requires that the Degree of Contrast (DoC) that the

proposed landscape modifications will make to the existing landscape be measured from these most critical locations, or receptors, surrounding the property. To define the KOPs, potential receptor locations were identified in the viewshed analysis, and screened, based on the following criteria:

- Angle of observation;
- Number of viewers;
- Length of time the project is in view;
- Relative project size;
- Season of use;
- Critical viewpoints, e.g. views from communities, road crossings; and
- Distance from property.

16.2 Assessment and Impact Stage

The analysis stage involves determining whether the potential visual impacts from proposed surface-disturbing activities or developments will meet the management objectives established for the area, or whether design adjustments will be required. This requires a contrast rating to assess the expected DoC the proposed landscape modifications would generate within the receiving landscape in order to define the Magnitude of the impact.

16.2.1 Contrast Rating

The contrast rating is undertaken to determine if the VRM Class Objectives are met. The suitability of landscape modification is assessed by comparing and contrasting existing receiving landscape to the expected contrast that the proposed landscape change will generate. This is done by evaluating the level of change to the existing landscape by assessing the line, colour, texture and form, in relation to the visual objectives defined for the area. The following criteria are utilised in defining the DoC:

- **None:** The element contrast is not visible or perceived.
- **Weak:** The element contrast can be seen but does not attract attention.
- **Moderate:** The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- **Strong:** The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

As an example, in a Class I area, the visual objective is to preserve the existing character of the landscape, and the resultant contrast to the existing landscape should not be notable to the casual observer and cannot attract attention. In a Class IV area example, the objective is to provide for proposed landscape activities that allow for major modifications of the existing character of the landscape. Based on whether the VRM objectives are met, mitigations, if required, are defined to avoid, reduce or mitigate the proposed landscape modifications so that the visual impact does not detract from the surrounding landscape sense of place.

Based on the findings of the contrast rating, the Magnitude of the Landscape and Visual Impact Assessment is determined.

16.2.2 Photomontages

As a component in this contrast rating process, visual representation, such as photo montages are vital in large-scale modifications, as this serves to inform Interested & Affected Parties and decision-making authorities of the nature and extent of the impact associated with the proposed project/development. There is an ethical obligation in this process, as visualisation can be misleading if not undertaken ethically. In terms of adhering to standards for ethical representation of landscape modifications, VRMA subscribes to the Proposed Interim Code of Ethics for Landscape Visualisation developed by the Collaborative for Advanced Landscape Planning (CALP) (Sheppard, 2000). This code states that professional presenters of realistic landscape visualisations are responsible for promoting full understanding of proposed landscape changes, providing an honest and neutral visual representation of the expected landscape, by seeking to avoid bias in responses and demonstrating the legitimacy of the visualisation process. Presenters of landscape visualisations should adhere to the principles of:

- Access to Information
- Accuracy
- Legitimacy
- Representativeness
- Visual Clarity and Interest

The Code of Ethical Conduct states that the presenter should:

- Demonstrate an appropriate level of qualification and experience.
- Use visualisation tools and media that are appropriate to the purpose.
- Choose the appropriate level of realism.
- Identify, collect and document supporting visual data available for, or used in, the visualisation process.
- Conduct an on-site visual analysis to determine important issues and views.
- Seek community input on viewpoints and landscape issues to address in the visualisations.
- Provide the viewer with a reasonable choice of viewpoints, view directions, view angles, viewing conditions and timeframes appropriate to the area being visualised.
- Estimate and disclose the expected degree of uncertainty, indicating areas and possible visual consequences of the uncertainties.
- Use more than one appropriate presentation mode and means of access for the affected public.
- Present important non-visual information at the same time as the visual presentation, using a neutral delivery.
- Avoid the use, or the appearance of, 'sales' techniques or special effects.
- Avoid seeking a particular response from the audience.
- Provide information describing how the visualisation process was conducted and how key decisions were taken (Sheppard, 2000).