Visual Impact Assessment Report for the proposed Modikwa Opencast Platinum Mining Operation (South 3) in the Fetakgomo Tubatse Local Municipality in Limpopo Province

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Prepared for: Modikwa Platinum Mine

Report prepared by Tshisevhe Tshifhango for

For Segope Water and Environmental Services

By Tshisevhe Tshifhango

7/26/2024

LIST OF ABBREVIATIONS AND ANTONYMS	
BA	Basic Assessment
DBAR	Draft Basic Assessment Report
DEA&DP	Department of Environmental Affairs and Development Planning
DEIR	Draft Environmental Impact Report
DM	District Municipality
DMRE	Department of Mineral Resources and Energy
DSR	Draft Scoping Report
DEM	Digital Elevation Model
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme
DEM	Digital Elevation Model
DoC	Degree of Contrast
FEIAR	Final Environmental Impact Assessment Report
GIS	Geographic Information System
I&AP	Interested and/or Affected Party
LM	Local Municipality
KOP	Key Observation Point
MAMSL	Metres above mean sea level
NEMA	National Environmental Management Act
NGI	National Geo-Spatial Information
PSDF	Provincial Spatial Development Framework
SANBI	South African National Biodiversity Institute
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
ToR	Terms of Reference
VAC	Visual Absorption Capacity
VIA	Visual Impact Assessment
VR	Visual Receptor
VRM	Visual Resource Management
ZVI	Zone of Visual Influence

GLOSARRY OF TERMS	
Anthropogenic feature	An unnatural feature resulting from human activity.
United States Bureau of Land Management's (BLM) Visual Resource Management (VRM) method	It is a mapping and GIS-based method of assessing landscape modifications and allows for increased objectivity and consistency by using standard assessment criteria. Which considers different levels of scenic values that require different levels of management in assessing visual impacts.
Cultural landscape	A representation of the combined worlds of nature and of man illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal (World Heritage Committee, 1992).

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Cumulative Impact	The impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person, undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.
Key Observation Points (KOPs)	KOPs refer to receptors (people affected by the visual influence of a project) located in the most critical locations 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.
Management Actions	Actions that enhance the benefits of a proposed development, or avoid, mitigate, restore or compensate for, negative impacts.
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. It relates to uniqueness, distinctiveness or strong identity.
Scenic route	A linear movement route, usually in the form of a scenic drive, but which could also be a railway, hiking trail, horse-riding trail or 4x4 trail.
Sensitive visual receptors	An individual, group or community that is subject to the visual influence of the proposed development and is adversely impacted by it. They will typically include locations of human habitation and tourism activities.
Slope Aspect	Direction in which a hill or mountain slope faces.
Study area / Visual assessment zone	The study area or visual assessment zone is assumed to encompass a zone of 10 km from the outer boundary of the proposed MPM S3 Project application site.
Viewpoint	A point in the landscape from where a particular project or feature can be viewed.
Viewshed / Visual Envelope	The geographical area which is visible from a particular location.
Visual character	The pattern of physical elements, landforms and land use characteristics that occur consistently in the landscape to form a distinctive visual quality or character.
Visual contrast	The degree to which the development would be congruent with the surrounding environment. It is based on whether or not the development would be in conformity with the land use, settlement density, forms and patterns of elements that define the structure of the surrounding landscape.
Visual exposure	The relative visibility of a project or feature in the landscape.

Visual impact	The effect of an aspect of the proposed development on a specified component of the visual, aesthetic or scenic environment within a defined time and space.
Visual receptors	An individual, group or community that is subject to the visual influence of the proposed development but is not necessarily adversely impacted by it. They will typically include commercial activities, residents and motorists travelling along routes that are not regarded as scenic.
Visual sensitivity	The inherent sensitivity of an area to potential visual impacts associated with a proposed development. It is based on the physical characteristics of the area (visual character), spatial distribution of potential receptors, and the likely value judgements of these receptors towards the new development, which are usually based on the perceived aesthetic appeal of the area.
Zone of Visual Influence (ZVI)	The ZVI is defined as 'the area within which a proposed development may have an influence or effect on visual amenity.'

EXECUTIVE SUMMARY

Tshisevhe Tshifhango was requested by Segope Water & Environmental Services to conduct a Visual Impact Assessment (VIA) for the Modikwa Platinum Mine (MPM) proposed South 3 Project.

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Modikwa Platinum Mines (MPM) intends to exploit Opencast Mining on Winterveld Farm. MPM is located approximately 20 km north-west of Steelpoort adjacent to the Polokwane Road (R37) in the Fetakgomo Tubatse Local Municipality in the Limpopo Province. The Mine lies within the Moopetsi and Tubatsane River Catchment area in the B41J Quaternary Catchment Area. The client indicated the area to be surveyed. It was surveyed via foot and off-road vehicle.

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A survey of literature was undertaken in order to obtain background information regarding the area.

The purpose of conducting the Visual Impact Assessment (VIA) is to provide relevant input into the overall Environmental Impact Assessment (EIA) process, with a focus on the proposed project activities and their associated impacts. This report, after taking into consideration the findings and recommendations provided by the specialist herein, should inform and guide the Registered Environmental Assessment Practitioner (EAP) and regulatory authorities, enabling informed decision-making as to the visual viability of the proposed project.

A broad-scale assessment of visual sensitivity, based on the physical characteristics of the overall study area, economic activities and land use that predominates, determined that the area would have a **LOW** visual sensitivity. This was mainly due to the close proximity of the study area to agricultural activities, mining and housing which degrades the local visual resources. Another important factor contributing to the visual sensitivity of an area is the presence, or absence of visual receptors that may value the aesthetic quality of the landscape and depend on it to produce revenue and create jobs. Receptors likely to be impacted by the proposed development are the nearby property owners, people travelling on the R555 Road and residents of the various towns surrounding the development.

The landform, drainage and vegetation within the MPM S3 Project site influences the level of screening visibility of the mine and associated infrastructure. Detailed topographic data was not available for the study area and as such the visibility analysis does not take into account any localised topographic variations which may constrain views. Additionally, the visibility analysis is based entirely on desktop topography and does not consider any existing vegetation cover or built infrastructure which may screen views of the proposed development. This analysis should therefore be seen as a conceptual representation or a worst-case scenario.

The MPM S3 Project is located in a flat area with natural landscapes or mountainous scenic resources with minimal local or regional significance. The area has only five sensitive receptors and minimal land uses that depend on the visual aesthetic of the area and thus, the visual receptor sensitivity is rated as **LOW.** This rating is further supported by the fact that there are no known proclaimed nature reserves, private reserves or game farms in the vicinity of the proposed project.

The proposed MPM S3 Project and its associated infrastructure will have a visual impact on the study area. The visual impact will differ amongst places, depending on the distance to the Project. The pre-mitigation Visual Significance is rated ***Medium*** as the local sense of place is degraded to some degree by the mining activities and is likely to become further degraded by cumulative impacts of mining activities envisioned in the area. Existing trees along the R555 and gravel roads would offer partial screening, and the existing human developments increases the visual absorption capacity of the locality to some degree. Further moderation of the impact is due to the contained project zone of visual influence. The Bushveld vegetation that is profolic in the area restricts views from most local

homesteads. The post-mitigation Visual Significance is rated ***Low***. The retention of a natural vegetation buffer along the R555, would effectively screen the high exposure views as seen from the road receptors.

Due to the limited space available for an alternative, the No-go was assessed. While the site does add value to the local environment in terms of a sense of place, the agricultural landscape context of the adjacent mines is a main feature in the local landscape. As such, the value of maintaining the status quo of the property is rated Low. Economic benefits for maintaining the status quo would not be comparable given the urgent need to move towards renewable energy. Due to the extent and location of the project, the visual impact of the proposed development cannot be eliminated in its entirety, but mitigation measures have been proposed to minimise the visual impacts. No buffer areas or areas to be avoided from a visual impact perspective are applicable for this development, but very strict measures should be put in place to ensure the safety of all receptors identified in the study area. A condition of the EA should be that an ECO and / or ELO should be appointed to monitor the requirements set out by the EA, EMP and DMRE.

It is therefore concluded that the potential visual impacts do not represent a fatal flaw to the project. Although aesthetic characteristics are subjective, mining facilities and their associated infrastructure is mostly perceived as symbols of employment, and local prosperity.

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1 INTRODUCTION

Tshisevhe Tshifhango was appointed by Segope Water & Environmental Services, as the independent visual impact specialist to undertake the Visual Impact Specialist Studies for the Modikwa Platinum Mine (MPM) proposed South 3 Project. Modikwa Platinum Mines (MPM) intends to exploit Opencast Mining on Farm Winterveld 292.The proposed MPM S3 Project is located approximately 4km north-west of Steelpoort adjacent to the R555 regional road. The project is within the jurisdiction of the Fetakgomo Tubatse Local Municipality, within the Sekhukhune District Municipality in the Limpopo Province. This VIA is a specialist study that addresses the visual effects of the proposed development. Tshisevhe Tshifhango is an independent sub-consultant and will not benefit from the outcome of the project decision-making.

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1.1 LOCALITY AND REGIONAL SETTING

The activity entails the development of a Modikwa Platinum Mine (MPM) South 3 Project and associated infrastructure on Farm Winterveld 292 KT, situated within Fetakgomo Tubatse Local Municipality, within the Sekhukhune District Municipality in the Limpopo Province. The proposed development is located approximately 16km West from Burgersfort Town (refer to Figure 1-1 and Figure 1-2 for the Regional and Locality setting maps).

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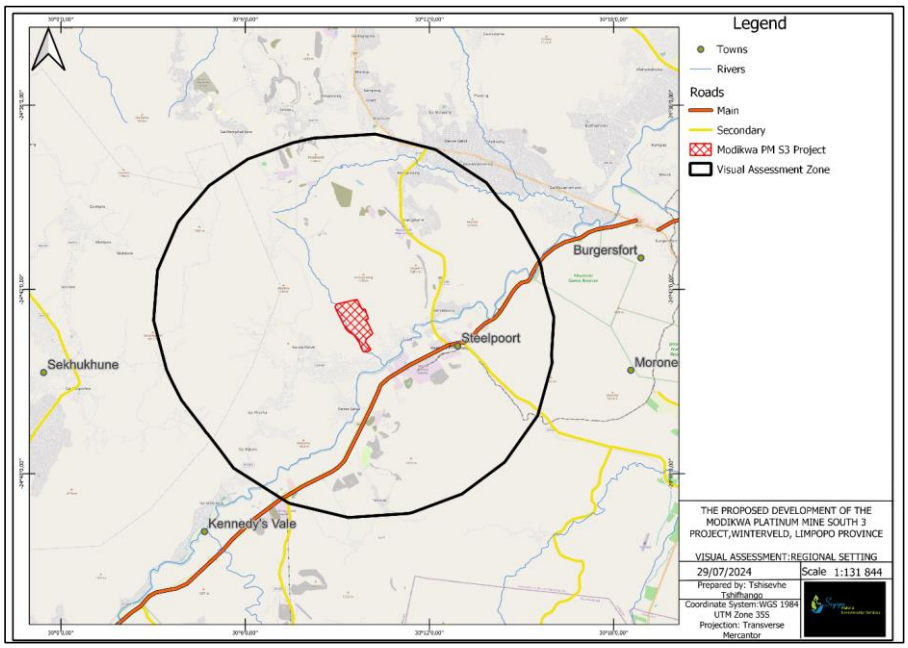

*Figure 1-1:**Regional setting map for the MPM S3 Project in Limpopo Province.***

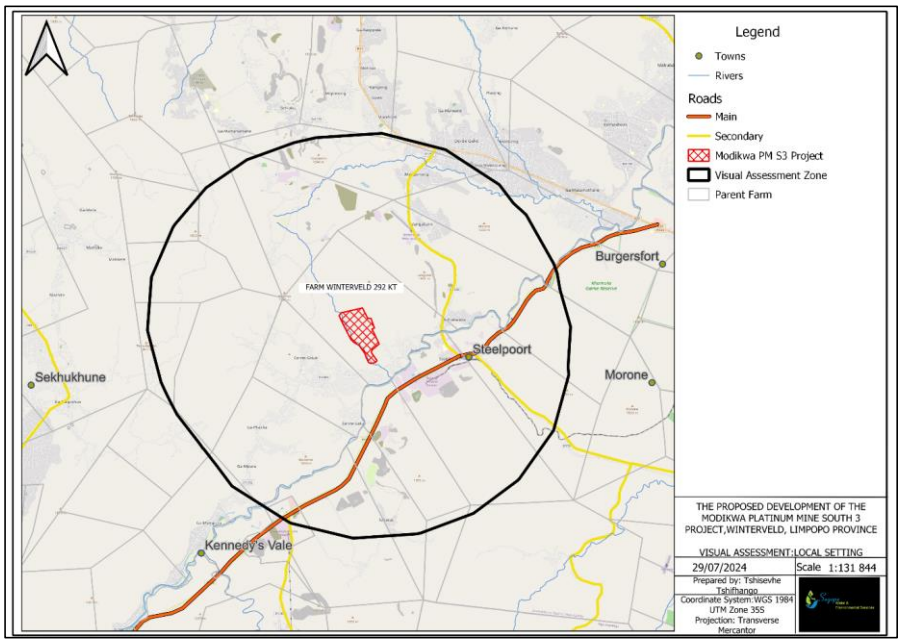

Figure 1-2: ***Locality Setting map for the MPM S3 Project on Farm Winterveld.***

1.2 SCOPE AND OBJECTIVES

This Visual Impact Assessment (VIA) is being undertaken as part of the EIA process. The aim of the VIA is to identify potential visual issues associated with the development of the proposed MPM S3 Project and associated infrastructure, as well as to determine the potential extent of visual impacts. This will be achieved by determining the character of the visual environment and identifying areas of potential visual sensitivity that may be subject to visual impacts. The visual assessment focuses on the potentially sensitive visual receptor locations and provides an assessment of the magnitude and significance of the visual impacts associated with the Project.

1.3 DETAILS OF SPECIALIST

Regulation 13(1)(a) and (b) of the EIA Regulations (as amended in 2017) determines that an independent and suitably qualified, experienced, and independent specialist should conduct the specialist study. This specialist assessment was undertaken by Tshisevhe Tshifhango, a GIS and Visual specialist and with more than 4 years' experience in the application of GIS technology in various environmental and infrastructural projects and environmental impact assessments. Tshisevhe graduated with an Honours degree in 2019 from the University of the Witwatersrand in the field of geological sciences specialising in geology and geography and has since been involved in mining and renewable applications for scoping and EIA purposes. Tshisevhe's GIS and environmental skills have been extensively utilised in projects throughout South Africa and in other Southern African countries. Tshisevhe has also undertaken many VIAs in recent years. In terms of the independent status of the specialist, the signed declaration is attached as Appendix A to this report. The expertise of the specialist is also summarised in a Curriculum Vitae included in Appendix B.

1.4 ASSESSMENT METHODOLOGY

A broad overview of the approach and methodology used in this assessment is provided below:

- The extent of the study area is determined and indicated in Figure 1.
- The site is visited to establish a photographic record of the site, views and areas of particular visual quality and or value.
- The project components and activities are described and assessed as potential elements of visual and landscape impacts.
- The receiving environment is described in terms of its prevailing landscape and visual character.
- Landscape and visual receptors that may be affected by the proposed project are identified and described.
- Mitigation measures are proposed to reduce adverse impacts.
- The findings of the study are documented in this Visual Impact Assessment.

1.5 PHYSICAL LANDSCAPE CHARACTERISTICS

Physical landscape characteristics such as topography, vegetation and land use are important factors influencing the visual character and visual sensitivity of the study area. Baseline information about the physical characteristics of the study area was initially sourced from spatial databases provided by National Geo-Spatial Information (NGI), the South African National Biodiversity Institute (SANBI) and the South African National Land Cover Dataset (Geoterraimage – 2020). The characteristics identified via desktop means were later verified during the site visit.

1.6 IDENTIFICATION OF SENSITIVE RECEPTORS

Visual receptor locations and routes that are sensitive and/or potentially sensitive to the visual intrusion of the proposed development were identified and assessed to determine the impact of the proposed development on these receptor locations.

1.7 FIELDWORK AND PHOTOGRAPHIC REVIEW

A two (2) day site visit was undertaken between the 17TH and the 18TH of July 2024 (Mid-Winter). The purpose of the site visit was to:

- verify the landscape characteristics identified via desktop means;
- conduct a photographic survey of the study area;
- verify, where possible, the sensitivity of visual receptor locations identified via desktop means;
- eliminate receptor locations that are unlikely to be influenced by the proposed development;
- identify any additional visually sensitive receptor locations within the study area; and
- inform the impact rating assessment of visually sensitive receptor locations (where possible).

1.8 VISUAL / LANDSCAPE SENSITIVITY

GIS technology was used to identify any specific areas of potential visual sensitivity within the proposed MPM S3 Project area. These would be areas where the placement of the Mine would result in the greatest probability of visual impacts on potentially sensitive visual receptors.

1.9 IMPACT ASSESSMENT

A rating matrix was used to provide an objective evaluation of the significance of the visual impacts associated with the proposed development, both before and after implementing mitigation measures. Mitigation measures were identified (where possible) in an attempt to minimise the visual impact of the proposed development. The rating matrix considers a number of different factors including geographical extent, probability, reversibility, irreplaceable loss of resources, duration and intensity, in order to assign a level of significance to the visual impact of the Project.

1.10 CONSULTATION WITH I&APS

Continuous consultation with Interested and Affected Parties (I&APs) undertaken during the public participation process will be used (where available) to help establish how the proposed development will be perceived by the various receptor locations and the degree to which the impact will be regarded as negative. Although I&APs have not yet provided any feedback in this regard, the final report will be updated to include relevant information as and when it becomes available.

1.11 SOURCES OF INFORMATION

The main sources of information utilised for this VIA included:

- Project description for the proposed development provided by the proponent;
- Elevation data from 25m Digital Elevation model (DEM) from the National Geo-Spatial Information (NGI);
- 1:50 000 topographical maps of South Africa from the NGI;
- Land cover and land use data extracted from the 2020 South African National Land-Cover Dataset provided by GEOTERRAIMAGE;
- Vegetation classification data extracted from the South African National Biodiversity Institute's (SANBI's) VEGMAP 2018 dataset;
- Google Earth Satellite imagery 2023;
- The National Web-Based Environmental Screening Tool, Department of Forestry, Fisheries and Environment (DFFE).

1.12 ASSUMPTIONS AND LIMITATIONS

Given the nature of the receiving environment and the height of the proposed mine components and associated infrastructure elements, the study area or visual assessment zone is assumed to encompass an area of 10km from the proposed Project – i.e., an area of 10km from the boundary of the project area. This limit on the visual assessment zone relates to the fact that visual impacts decrease exponentially over distance. Thus, although the proposed development may still be visible beyond 10 km, the degree of visual impact would diminish considerably. As such, the need to assess the impact on potential receptors beyond this distance would not be warranted.

The identification of visual receptors involved a combination of desktop assessment as well as field-based observation. Initially Google Earth imagery was used to identify potential receptors within the study area. Where possible, these receptor locations were verified and assessed during a site visit which was undertaken in July 2024. Due to the extent of the study area however and the number of receptors that could potentially be sensitive to the proposed development, it was not possible to visit or verify every potentially sensitive visual receptor location. As such, several broad assumptions have been made in terms of the likely sensitivity of the receptors to the proposed development.

It should be noted that not all receptor locations would necessarily perceive the proposed development in a negative way. This is usually dependent on the use of the Mine, the economic dependency of the occupants on the scenic quality of views from the Mine and on people's perceptions of the value of "Mining Areas". Sensitive receptor locations typically include sites such as tourism facilities and scenic locations within natural settings which are likely to be adversely affected by the visual intrusion of the proposed development. Thus, the presence of a receptor in an area potentially affected by the proposed development does not necessarily mean that any visual impact will be experienced.

Due to the varying scales and sources of information; maps may have minor inaccuracies. Terrain data for this area, derived from the National Geo-Spatial Information (NGI)'s 25m Digital Elevation Model (DEM), is fairly coarse and somewhat inconsistent and as such, localised topographic variations in the landscape may not be reflected on the DEM used to generate the viewshed(s) and visibility analysis conducted in respect of the proposed development.

In addition, the viewshed / visibility analysis does not consider any existing vegetation cover or built infrastructure which may screen views of the proposed development. This analysis should therefore be seen as a conceptual representation or a worst-case scenario.

No feedback regarding the visual environment has been received from the public participation process to date. Any feedback from the public during the review period of the Draft Scoping Report for the Mine will however be incorporated into further drafts of this report, if relevant.

At the time of undertaking the visual study no information was available regarding the type and intensity of lighting that will be required for the proposed Project and therefore the potential impact of lighting at night has not been assessed at a detailed level. General measures to mitigate the impact of additional light sources on the ambiance of the nightscape have however been provided.

This study includes an assessment of the potential cumulative impacts of other mining developments on the existing landscape character and on the identified sensitive receptors. This assessment is based on the information available at the time of writing the report and where information has not been available, broad assumptions have been made as to the likely impacts of these developments.

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It should be noted that the fieldwork for this study was undertaken in July 2024, during Winter which is characterised by low levels of rainfall and somewhat decreased vegetation cover. In these conditions, increased levels of visual impact will be experienced from receptor locations in the surrounding area.

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The overall weather conditions in the study area have certain visual implications and are expected to affect the visual impact of the proposed development to some degree. In clear weather conditions, the Mine would present a greater contrast with the surrounding environment than they would on an overcast day. Although the field investigation was conducted during clear weather conditions however, localised pollution in the study area results in relatively hazy skies which would reduce the visibility of the Mine.

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2 LEGISLATIVE AND PLANNING CONTEXT

The proposed MPM S3 Project triggers Listed Activity 21 under Notice Listing 2 of GN 325 of NEMA Regulations 2017, as amended which states that:

Any activity including the operation of that activity associated with the primary processing of a mineral resource including winning, reduction, extraction, classifying, concentrating, crushing, screening and washing but excluding the smelting, beneficiation, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.

The listed activity for the project implies that the development is considered as potentially having an impact on the environment and therefore require the implementation of appropriate mitigation measures. As part of the EIA process, a VIA must be conducted to ascertain the level of impact the proposed development will have on the surrounding landscape and to propose reasonable and feasible mitigation measure to reduce the significance of the impact (where possible).

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2.1 LEGISLATIVE CONTEXT FOR VISUAL IMPACT ASSESSMENTS

Legal and policy documents relating to visual and scenic resources are described in Table 2-1 below. These tend to fall under the National Heritage legislation, the natural heritage being part of the 'national estate', and therefore the VIA Report needs to be read in conjunction with the Heritage Impact Assessment (HIA).

Table 2-1: ***Legal and policy documents relating to visual and scenic resources***

National Heritage Resources Act (Act 25 of 1999 NHRA)	The Act includes protection of national and provincial heritage sites, as well as areas of environmental or cultural value, and proclaimed scenic routes. Natural heritage, including scenic resources, form part of the 'national estate'.
National Environmental Management Act (Act 107 of 1998), EIA Regulations	The specialist report is in accordance with the specification on conducting specialist studies as per Government Gazette (GN) R 982 of the National Environmental Management Act (NEMA) Act 107 of 1998.

2.2 PLANNING CONTEXT FOR VISUAL IMPACT ASSESSMENTS

In order to comply with the Visual Resource Management requirements, it is necessary to clarify which planning policies govern the proposed property 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. The proposed landscape modifications must be viewed in the context of the planning policies from the following organizations guidelines:

2.2.1 Sekhukhune District Spatial Development Framework (SDF) (2018)

The formulation of a Spatial Development Framework, being a *macro spatial plan* for the Sekhukhune District and its local municipalities requires some statement on the spatial development objectives which guided the formulation of the macro spatial plan and hierarchy of settlements. The main objective with the provincial SDF was to formulate a spatial perspective that would comprise a managed human settlement clustered in settlement nodes and corridors alongside productive areas, managed ecological natural resource areas and connected to a network of strategic transportation

routes, open to the global, national and provincial economy. Other spatial development objectives which guided the formulation of the macro spatial plan as well as policy and strategy formulation for implementation are:

- To actively protect, manage and rehabilitate the natural environmental resources in the district in order to ensure a sustainable equilibrium between the competing mining, tourism and agricultural industries.
- To establish a functional system of economic and service delivery nodes in the urban and rural parts of the District.
- To optimise connectivity and access by way of a comprehensive district movement network linking all urban and rural nodes to one another, and to significant destinations in the broader region.
- To ensure equitable access to social facilities and promotion of Local Economic Development by way of targeted investment based on a spatial logic (MPCC) at all the priority nodes within the District.
- To consolidate human settlement projects in sustainable Priority Housing Development Areas at the identified urban and rural nodes.
- To direct engineering infrastructure investment aimed at social and economic development towards the priority nodes, and provide at least basic services to communities experiencing excessive service backlogs (in line with Constitutional obligation).
- To utilise the natural environmental and cultural historic features in the District as anchors from which to promote ecotourism and conservation.
- To further enhance agricultural development and food production by establishing the Agri Park concept in the District.
- To facilitate upscaling of subsistence farming to commercial farming in all the identified Rural Intervention Areas within the Sekhukhune Agri Park.
- To optimally utilise the mining potential in the District with due consideration to the continuous rehabilitation of mining land.
- To promote industrial/commercial development in the District with specific emphasis on agri-processing at the Agri Hub (Groblersdal), and minerals beneficiation in the Special Economic Zone: SEZ (Tubatse).
- To promote formal and informal business development at all activity nodes in the district and to continuously provide opportunities for upscaling.

A future functional spatial development pattern for Sekhukhune District requires the integration of sustainable natural resources, economic development, job creation and human development to provide the Spatial Development Vision: "**A spatially integrated district striving towards effective sustainable development, service delivery and improving accessibility to economic resources by:**

- Creating an integrated and spatially just society through the equitable and sustainable spatial restructuring of Vhembe's urban and rural settlements;

- Spatial restructuring through the development of a new SMART city with supporting smaller nodes that are integrated with well-defined corridors;
- Optimizing the rich and balanced mix of Vhembe's natural assets in agriculture, tourism, heritage, natural and mineral resources, and eco system services within their scenic settings (These are contained in the sacred sites and important bio-diverse landscapes of the Soutpansberg, Mapungubwe and Kruger National Parks and the fertile Luvuvhu river valley);
- Economic potential arising from its relatively dense populations along the R523, R524 and R578 corridors and its strategic position straddling the international N1;
- Great North Road transport corridor linking Gauteng to the SADC countries by road and rail; and
- Ensuring targeted investment and maintenance of key infrastructure networks including transport, water resources and energy in order to achieve sustained economic growth and improved service delivery in the District**".**

The development of the Modikwa Platinum Mine S3 Project is in-line with the framework which seeks to enhance the District's local competitive advantage in mining. The mining sector in the District has much potential for growth. The Sekhukhune SDF further proposes that secondary or value-added industrial/ commercial activities related to agricultural and mining activities be clustered at Groblersdal (Agriculture Hub) and Tubatse (Mining/ Industrial Node/ SEZ).

2.2.2 Fetakgomo Tubatse Final Integrated Development Plan (IDF) (2024- 2025)

The IDP provides broad land use management guidelines for the municipal area. Specific development objectives are identified which related to the development of mining facilities. The municipality is characterized by large presence of mining activities along the R555 and R37 provincial roads. This sector includes the extracting and beneficiating of minerals such as platinum, lead, chrome, black chrome and other precious minerals. This sector includes the extracting and beneficiating of minerals occurring naturally, including solids, liquids and crude petroleum and gases. It also includes underground and surface mines, quarries and the operation of oil and gas wells as well as all supplemental activities for dressing and beneficiating of ores and other crude materials.

Mining is such a large economic contributor within the district and therefore its future needs to be considered as this has significant implications on future settlement planning and investments. Building strong manufacturing base within the district is critical for future economic sustainability. The development of the MPM S3 Project will contribute to the objective of the area in developing the mining and manufacturing sectors.

2.3 BEST PRACTICE GUIDELINES

In order to ensure that the proposed development complies with the requirements for Visual Resource Management, relevant legislations and International Best Practice Guidelines need to be consulted. The following sections briefly summarise the best practice guidelines that have been consulted throughout this assessment.

2.3.1 Visual and Aesthetics – WC: DEA&DP (2005)

The Western Cape Department of Environmental Affairs and Development Planning developed the guidelines to improve the effectiveness, quality and efficiency of specialist involvement throughout the Environmental Impact Assessment (EIA) process. Even though this document was specifically developed for the Western Cape province, the principles and guidelines contained within can be applied throughout South Africa. The guideline was developed to assist project level EIA processes

with a wide range of scales and development types. The guideline states that the visual input provided as part of the EIA process should include:

- An awareness that 'visual' implies the full range of visual, aesthetic, cultural and spiritual aspects of the environment that contribute to the area's sense of place.
- The consideration of both the natural and the cultural landscape, and their inter-relatedness.
- The identification of all scenic resources, protected areas and sites of special interest, together with their relative importance in the region.
- An understanding of the landscape processes, including geological, vegetation and settlement patterns, which give the landscape its particular character or scenic attributes.
- The need to include both quantitative criteria, such as 'visibility', and qualitative criteria, such as aesthetic value or sense of place.
- The need to include visual input as an integral part of the project planning and design process, so that the findings and recommended mitigation measures can inform the final design, and hopefully the quality of the project.
- The need to determine the value of visual/aesthetic resources through public involvement.

This guideline has been used as the fundamental principles for the compilation of this report.

2.4 GUIDELINES FOR VISUAL IMPACT ASSESSMENTS (GLVIA) (2013)

The Landscape Institute and the Institute of Environmental Management and Assessment (United Kingdom) have compiled a guideline outlining best practice in landscape and visual impact assessment. Although this guideline was developed for the United Kingdom, the guiding principles and approaches to Visual Assessment are considered to be relevant on both an international and national level. The GLVIA are aimed at encouraging higher standards when landscape and visual impact assessments are conducted. This is achieved by providing a guideline and a set of principles that has been developed through practices and collegiate opinions. The fundamental principles of the GLVIA are grounded in achieving effectiveness, consistency and credibility of Landscape and Visual Assessments (Landscape Institute, 2013). The guideline has been used in this report to aid the specialist in assessing the potential Visual Impact of the proposed development.

3 DESCRIPTION OF THE AFFECTED ENVIRONMENT

This section provides a description of the baseline receiving environment from a visual perspective as deduced from the site investigation and desktop analysis.

Landscape and visual impacts may result from changes to the landscape. A distinction should be made between impacts on the visual resource (landscape) and on the viewers. The former are impacts on the physical landscape that may result in changes to landscape character while the latter are impacts on the viewers themselves and the views they experience.

3.1 LANDSCAPE SETTING

The study area for the proposed MPM S3 Project is largely characterised by slightly undulating plains (Figure 3-1), mountains, and river valleys. The proposed site is located on a relatively flat ground (Figure 3-2) along the river valley bounded by steep slopes to the eastern and western sections of the site (Figure 3-3). Slopes across the study area are relatively gentle to moderate, with steeper slopes being largely associated with koppies and ridges. Mining activity in the study area has altered the natural topography significantly with mine dumps forming prominent features in the landscape (Figure 3-4). The proposed site shows prominent evidence of soil erosion and dongas due to its proximity to the Tubatsane River (Figure 3-5).

*Figure 3-1:**View Northwards along the R555 showing slightly undulating terrains to the southwest of the proposed MPM S3 Project.***

Figure 3-2: ***View Northwest of the proposed MPM S3 Project showing the flat topography of the site and ridges/mountains in the distance.***

*Figure 3-3:****View of ridges/mountains North of the proposed site***

*Figure 3-4:**View of mining dumps from the Northeast of the proposed Project***

*Figure 3-5:**Evidence of dongas and soil erosion on the Northwestern sector of the proposed site.***

The position of the viewer within the landscape will influence the types of vistas typically present. Viewers located within a more incised valley for example would have limited vistas, whereas much wider vistas would be experienced by viewers on higher-lying ridge tops or slopes. Importantly in the context of this study, the same is true of objects placed at different elevations and within different landscape settings. Objects placed on high-elevation slopes or ridge tops would be highly visible, while

those placed in valleys or enclosed plateaus would be far less visible. The proposed MPM S3 Project and associated infrastructures is located in a relatively flat and low-lying elevation, and such there will be minimal impact on the skyline. The presence of hills described above is likely to limit visibility to the east and west due to a rather steep landscape, existing screening such as mountains and vegetation by landform in this directions might also limit visibility. Localised topographic variations, including tall trees and vegetation canopies may limit views of the proposed development from some parts of the study area, although the taller elements of the proposed Project may still be visible from many of the locally occurring receptor locations.

3.2 VEGETATION

According to Mucina and Rutherford (2006), the proposed development falls within the classified Sekhukhune Plains Bushveld (SVcb27), Sekhukhune Mountain Bushveld (SVcb28) and patches of the Leolo Summit Sourveld vegetation types (Figure 3-9). The distribution of the Sekhukhune Plains Bushveld (SVcb27), stretches from the lower basin of the Steelpoort River and the lowland area of Burgersfort and the in the south, through the Moste River plains to Jobskop and Legwareng (south of the Strydpoort Mountains) in the north and continuing up the basin of the Olifants River to the area around Tswaing and also up the Lepellane River and Mohlaletsi River valleys (ERC, 2017). The Skhukhune Mountain Bushveld (SVcb28) occurs on dry open to closed mixed micro-phyllous (small-leaved) and broad-leaved savanna in Limpopo and Mpumalanga on undulating hills and mountain sides that form concentric belts that run parallel to the north-eastern escarpment. SVcb28 is situated on high ground surrounding the vegetation of the Sekhukhune Plains Bushveld (SVcb27) and includes the steep slopes of the Leolo Mountains, the Dwarsrivier Mountains, Thaba Sekhukhune and the undulating small hills in the Steelpoort River Valley up to and alongside the Klip River flowing past Roossenekal in the south-west (ERC,2017). Vegetation cover across the study area is predominantly short grasses and shrubs (Figure 3-6 and Figure 3-7) and thus will provide minimal visual screening of the proposed development. In most instances, tall exotic trees planted around farmhouses will restrict views from receptor locations (Figure 3-8).

Figure 3-6: ***Thorny shrubs and grasses visible in the southeastern sector of the study area.***

*Figure 3-7:**Thorny shrubs and grasses across the study area.***

*Figure 3-8:**Tall trees around houses within the Pelaneng town south of the MPM S3 Project.***

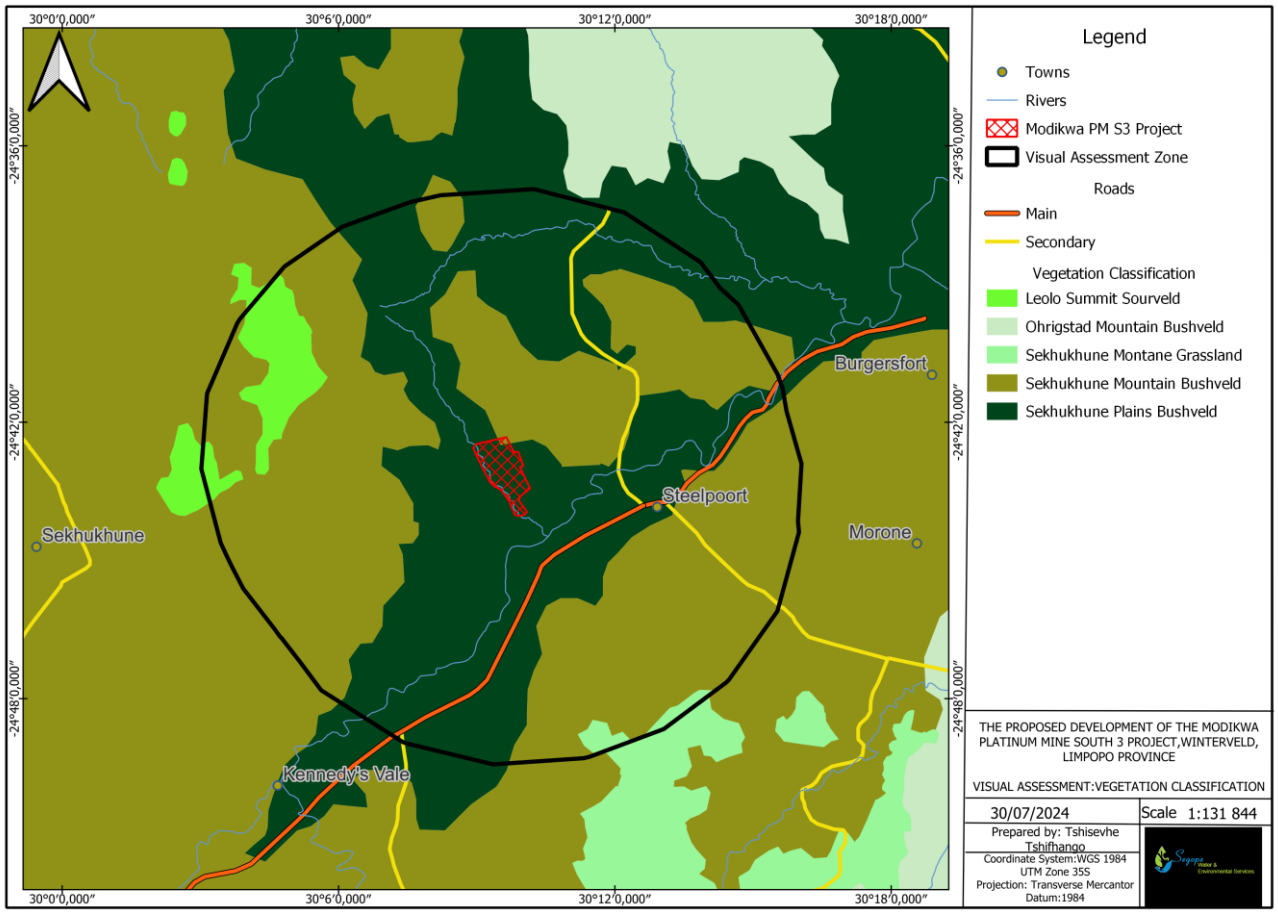

*Figure 3-9:**Vegetation Classification Map.***

3.3 LAND USE

According to the South African National Land Cover dataset (Geoterraimage 2020), much of the study area is classified as “Thicket and Bushveld” or “Cultivated” areas, interspersed with patches of “dongas and sheet erosion scars" and “unimproved grassland (please see figure 3-17 below). The site visit confirmed that the landscape is largely dominated by thicket and bushveld land cover. Temporary subsistence cultivation is also the dominant activity in the study area. The area is largely degraded by mine quarries, dongas and eroded landscape. Land use in the surrounding area also includes housing (Figure 3-10) within various towns (Difagate Town, Ga Mogoadi Village, Tukakgomo, Ga Phasha, Ga Mapuru, Ga Mapodila A, Pelaneng, Tubatse, Mahlakwana, Makgameng, Doornbosch and Stocking Towns).

Other prominent anthropogenic elements in the study area includes the R555 regional road which traverses the southern sector of the study area and high voltage (132 kV and 400 kV) powerlines (Figure 3-11). Less prominent elements present in the area include lower voltage power lines and property boundary fences and gates (Figure 3-12). Other land uses within the study area includes tourism development (Figure 3-13), Tubatsane river, illegal mining (Figure 3-14), mines/quarries infrastructure (Figure 3-15 and Figure 3-16), spaza shops and town developments which are associated with the various towns in the study area.

Figure 3-10: ***View East along the gravel road within the Tukakgomo town indicating housing developments.***

Figure 3-11: ***Photo taken towards southwest along the R555 road indicating high voltage powerlines in the area.***

Figure 3-12: ***Photo taken to the south east of the Project indicating property boundaries and spaza shops in the area.***

Figure 3-13: ***Photo taken to the southeast indicating the Tubatse residence.***

*Figure 3-14:****View of illegal mining activities taking place North of the proposed MPM S3 Project site.***

Figure 3-15: ***Photo taken to the northwest towards the Project site indicating degradation due to mining developments.***

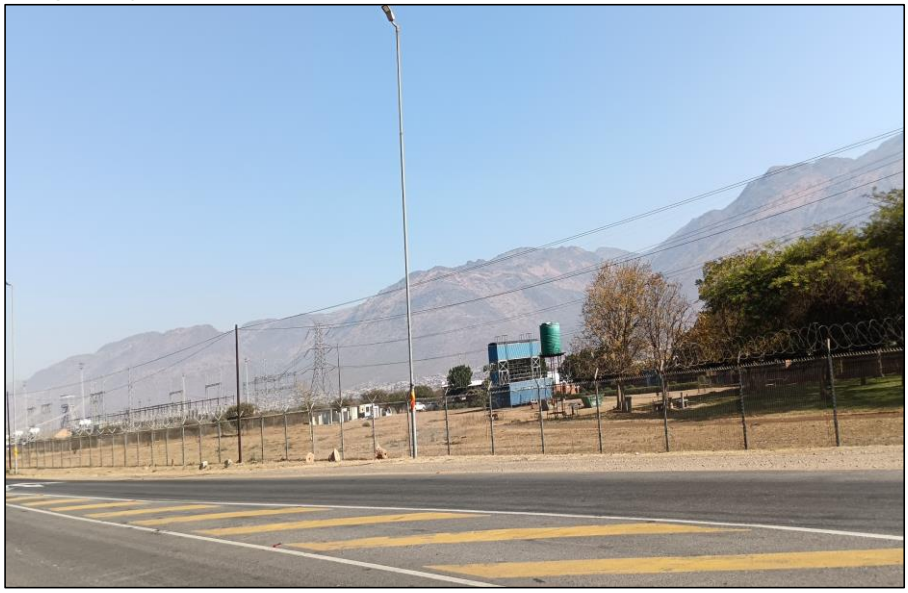

Figure 3-16: ***Photo of the Steelport mining infrastructure taken along the R555 road.***

Temporary cultivation activities, mining, housing developments and unimproved grassland in much of the study area would give the viewer the general impression of a largely developed setting with some

natural elements. Unimproved grassland and Mining does not give a viewer the visual aesthetic of a natural setting therefore the visual impacts associated with the development will be low. Human settlements in the study area, in conjunction with mining activity have resulted in high levels of human transformation and visual degradation across much of the study area. Hence, the visual impacts associated with the proposed development are expected to be significantly reduced in these areas as they have already undergone transformation and degradation.

The influence of the level of human transformation on the visual character of the area is described in more detail below.

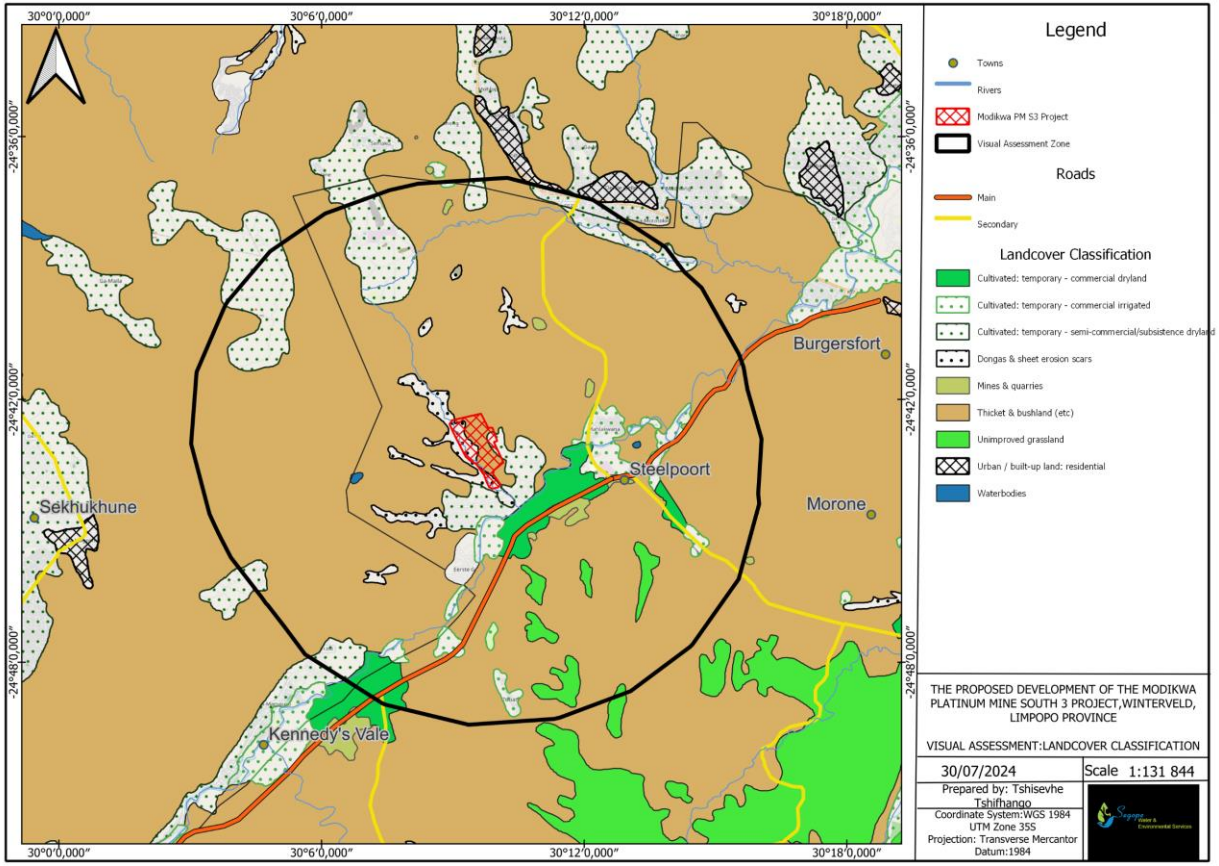

*Figure 3-17:**Landcover Classification Map***

4 VISUAL CHARACTER

Visual character is based on human perception and the observer's response to the relationships between and composition of the landscape, the land uses and identifiable elements in the landscape. The description of the visual character includes an assessment of the scenic attractiveness regarding those landscape attributes that have aesthetic value and contribute significantly to the visual quality of the views, vistas and/or viewpoints of the study area. The overall landscape presents a moderately disturbed sense of place. The large mines present a negative effect on the visual character of the landscape. There is some pleasant scenery, and the rural atmosphere does however add attraction to the region.

The scenic quality of the landscape is also an important factor contributing to the visual character of an area or the inherent sense of place. Visual appeal is often associated with unique natural features or distinct variations in landform. As such, the largely natural, scenic landscapes which occur in the wider study area would increase the scenic appeal and visual interest in the area. Cultural landscapes are becoming increasingly important concepts in terms of the preservation and management of rural and urban settings across the world. The concept of 'cultural landscape' is a way of looking at a place that focuses on the relationship between human activity and the biophysical environment (Breedlove, 2002). Cultural landscapes can fall into three categories (according to the Committee's Operational Guidelines):

- A landscape designed and created intentionally by man.
- An organically evolved landscape which may be a relict (or fossil) landscape or a continuing landscape.
- An associative cultural landscape which may be valued because of the religious, artistic or cultural associations of the natural element.

In this instance, the rural / pastoral landscape represents how the environment has shaped the predominant land use and economic activity practiced in the area, as well as the patterns of human habitation and interaction. In light of this, it is important to assess whether the introduction of another mine into the study area would be a degrading factor in the context of the prevailing character of the cultural landscape. Broadly speaking, it is anticipated that the proposed development will result in visual impacts on the cultural landscape of the broader area due to the fact that there are some tourism or nature-based facilities in the wider area, however only the southern section of the Project will be visible from the R555 Regional Road[1].

4.1 VISUAL VALUE

Visual value relates to those attributes of the landscape or elements in the landscape to which people attach values that though not visually perceivable, still contribute to the value of the visual resource. These visual values are derived from ecological, historical, social and/or cultural importance and are described in terms of their uniqueness, scarcity, and naturalness and/or conservation status. The importance of visual value of a landscape or element in the landscape is measured against its value on an international, national and local level. Very few parts of the study area have been left

[1] A more detailed assessment of the potential impacts of the proposed development on the cultural landscape will be included in the Heritage Impact Assessment (HIA) undertaken in conjunction with this assessment for the EIA Phase in respect of the proposed project.

undisturbed and there is very little to no unspoilt pristine landscape remaining. These areas however remain under pressure and are vulnerable due to human settlement expansion and mining activities.

4.2 VISUAL SENSITIVITY

Visual sensitivity can be defined as the inherent sensitivity of an area to potential visual impacts associated with a proposed development. It is based on the physical characteristics of the area (i.e., topography, landform and land cover), the spatial distribution of potential receptors, and the likely value judgements of these receptors towards a new development (Oberholzer, 2005). A viewer's perception is usually based on the perceived aesthetic appeal of an area and on the presence of economic activities (such as recreational or nature-based tourism) which may be based on this aesthetic appeal.

In order to assess the visual sensitivity and scenic quality of the receiving environment, a matrix has been developed based on the characteristics of the receiving environment which, according to the Guidelines for Involving Visual and Aesthetic Specialists in the EIA Processes, indicate that visibility and aesthetics are likely to be 'key issues' (Oberholzer, 2005).

Based on the criteria in the matrix (**Appendix C**), the scenic quality of the area is broken up into several categories, as described below:

i. **High Scenic quality**: **A rating ≥ 19** - The introduction of a new development such as mine infrastructure is likely to be perceived negatively by receptors in this area; it would be considered to be a visual intrusion and may elicit opposition from these receptors.

ii. **Medium Scenic quality: B rating = 12-18** – Receptors are present, but due to the nature of the existing visual character of the area and likely value judgements of receptors, there would be limited negative perception towards the new development as a source of visual impact.

iii. **Low Scenic Quality: C rating ≤ 11** - The introduction of a new development would not be perceived to be negative, there would be little opposition or negative perception towards it.

iv. If applicable, the Cultural Modification can be assigned a negative value if the landscape is significantly degraded by human-made modifications.

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 as represented in **table 4-1** below.

4.2.1 Scenic quality rating

The Sekhukhune Plains Bushveld vegetation, Bushveld landscape and land use character were subjected to an analysis of their intrinsic value as a visual resource by quantifying scenic quality to the landscape change due to the proposed development. Table 4.1 below describes the scenic quality of the study area.

*Table 4-1**: Scenic Quality Rating Table of the Study Area***

Aspect	Rating	Motivation
Landform	5	High vertical relief as expressed in prominent cliffs and eroded formations.

Vegetation	3	Some variety of vegetation within the Sekhukhune Plains Bushveld expressed in interesting forms, textures, and patterns.
Water	3	Flowing river which is dominant in the landscape.
Colour	3	Some intensity or variety in colours and contrast of the soil, rock and vegetation, but not a dominant scenic element.
Scarcity.	3	Interesting within its setting but fairly common within the region.
Adjacent scenery	1	The landscape is largely dominated by extensive mining and commercial activities. The dominance of receptors and towns reduce the scenic value of the adjacent scenery. Study Area is largely transformed with some areas of scenic value, although some areas are significantly kept undeveloped.
Cultural Modification	0	Human development and modifications within the landscape Add favourably to visual harmony.

Based on the above factors, the total score for the study area is 18, which according to the scale above, would result in the area being rated as having a **Medium** scenic quality visual sensitivity. This was mainly due to the presence of the Sekhukhune Plains Bushveld prevalent in the area and the human perception of the development of the mine. It should be stressed however that the concept of visual sensitivity has been utilised indicatively to provide a broad-scale indication of whether the landscape is likely to be sensitive to visual impacts and is based on the physical characteristics of the study area, economic activities and land use that predominates.

4.2.2 Receptor sensitivity rating

An important factor contributing to the visual sensitivity of an area is the presence, or absence of visual receptors that may value the aesthetic quality of the landscape and depend on it to produce revenue and create jobs and this has been factored into table 4-2 of the receptor sensitivity rating below.

Table 4-2: ***Receptor Sensitivity Rating Table***

Aspect	Rating	Motivation
Type user	Low	Extensive mining, housing and commercial activities have transformed the area. The local community are unlikely to be sensitive to landscape change.
Amount use	Medium	The site is easily accessible from the R555 regional road. The site is screened by tall trees and abundant vegetation in the area. The western sector of the site is bounded by a river therefore not accessible on that section.
Public interest	Low	The presence of commercial and mining activities may spark public interest to a low level to maintain a pastoral visual quality with minimum technological advancement.

Adjacent land users	Low	Adjacent users are mostly focused on mining and housing development and do not perceive the development as an unwanted visual intrusion.
Special zoning	Low	Area is not maintained or reserved for visual quality to sustain special area management objectives

Based on the receptor sensitivity table above, the receptor sensitivity is rated as **Low**. The main receptors within the area include 55 potentially receptor locations which includes several towns and R555 road users. The transformation within the area due to mining activities reduces the visual aesthetics of the area and thus the overall receptor sensitivity.

4.2.3 Site visual Resources

Site visual resources are further assessed based on the United States Bureau of Land Management's (BLM) Visual Resource Management (VRM) method (USDI., 2004) According to the VRM method, the combination of receptor sensitivity to landscape change, scenic quality, and distance from the proposed landscape change determines the character of the landscape. The BLM methodology defines four Classes that represent the relative value of the visual resources of an area and are defined making use of the VRM Matrix below:

i. Classes I and II are the most valued

ii. Class III represent a moderate value

iii. Class IV is of least value

The Classes are used as a reference to calculate the carrying capacity of a visually appealing landscape, which is then used to evaluate whether the proposed project's corresponding landscape modification is appropriate. The Classes are not prescriptive. The following matrix is used to define the Visual Inventory Classes. If necessary, it can be modified to create Visual Resource Management Classes, which take regional planning and zoning into account. Table 4.3 below outlines the scenic quality and receptor sensitivity rating and the visual resource management class.

Table 4-3: ***Scenic Quality and Receptor Sensitivity Summary Table***

Visual Resources	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							
Name	Landform	Vegetation	Water	Colour	Scarcity	Adjacent Landscape	Cultural Modif.	Sum	Rating	Type of Users	Amount of Use	Public Interest	Adjacent Land Uses	Special Areas	Rating	Visual Inventory Class	Visual Resource Management Class
Sekhukhune Plains	5	3	3	3	3	1	0	18	B	L	M	L	L	L	L	IV	IV

Bushveld																	

The quantification of the overall visual impact significance used above provides an understanding of visual sensitive resources, scenic quality and visual sensitive sensitivity. The scenic quality of the area is described as **Medium.** This was mainly due to the presence of the Sekhukhune Plains Bushveld prevalent in the area. Based on the receptor sensitivity table above, the receptor sensitivity is rated as **Low**. The main receptors within the area include 55 potentially receptor locations which includes several towns and R555 road users. The rating is also due to the fact that there are only 5 sensitive receptors. The site visual resources are therefore rated as Class IV due to the main land use in the area being mining. Based on the layout of the MPM S3 Project and the above rating of scenic resources and sensitivity of the receptors, the Project would not present a potential fatal flaw in visual impacts.

4.3 SPECIALIST SENSITIVITY ASSESSMENT AND VERIFICATION

During the initial stages of the EIA, a site sensitivity assessment was undertaken to identify any areas of the application site which should be precluded from the development footprint. From a visual perspective, sensitive areas would be areas where the establishment of the mine and associated infrastructure would result in the greatest probability of visual impacts on sensitive or potentially sensitive visual receptors.

Although the mine infrastructure is expected to be visible from many parts of the settlements and receptors, no areas of visual sensitivity were identified within the mine development site. In addition, the mine is mostly located in areas of high transformation resulting from mining activity and housing and as such the proposed Project will not form a contrast with the existing landscape. Accordingly, no areas of visual sensitivity were identified along the Project Site.

4.4 SENSITIVITIES IDENTIFIED BY THE NATIONAL SCREENING TOOL: MPM S3 PROJECT

In accordance with GN 320 and GN 1150 of the EIA Regulations, 2014, prior to commencing with a specialist assessment, a site sensitivity verification must be undertaken to confirm the current land use and environmental sensitivity of the proposed Project area as identified by the National Web-Based Environmental Screening Tool (Screening Tool).

In assessing visual sensitivity of the proposed MPM S3 Project, consideration was given to the Landscape Theme of the National Environmental Screening Tool. Under the Landscape Theme, as shown in Figure 4-1 below, the tool identifies areas of Very High sensitivity in respect of the MPM S3 Project Development. According to the Screening Tool, the high sensitivity rating applied to the Project area is associated with the presence of natural features such as mountain tops, high ridges and steep slopes and the river bordering the Project from the Northwest to the southwest.

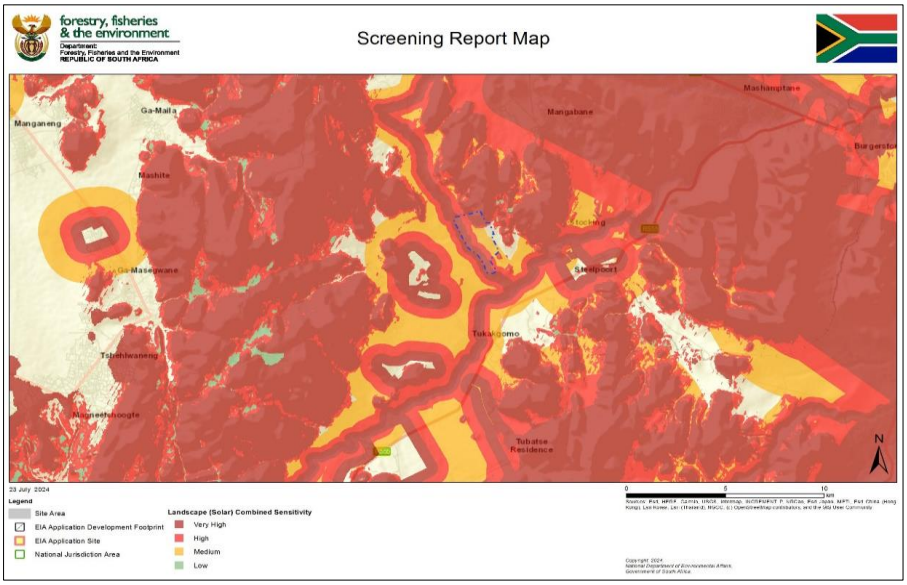

*Figure 4-1:**Landscape sensitivity map***

The Screening Tool depicts areas of "very high sensitivity" landscape sensitivity across the MPM S3 Project, and the site sensitivity verification does not support this sensitivity rating. The desktop assessment, confirmed by the field investigation, showed that the project area is located within 500m of a river and eroded dongas (see Figure 4-2 below). The sensitivity analysis above has also recognised mountain tops and high ridges located throughout the study area. However, MPM S3 layout does not encroach into very high sensitivity areas but falls within medium and low sensitivity area. Therefore, the screening tool sensitivity rating is disputed. It should however be noted that the Screening Tool provides a very high level, desktop assessment and as such the results of the study must be viewed against the findings of the field investigation as well as factors affecting visual impact, such as:

- the presence of visual receptors;
- the distance of those receptors from the proposed development; and
- the likely visibility of the development from the receptor locations.

*Figure 4-2: **Appearance of dongas and erosion in the North-western section of the MPM S3 Project area.***

4.5 VISUAL ABSORPTION CAPACITY

Visual absorption capacity is the ability of the landscape to absorb a new development without any significant change in the visual character and quality of the landscape. The level of absorption capacity is largely based on the physical characteristics of the landscape (topography and vegetation cover) and the level of transformation present in the landscape. The undulation and steep slope nature of the topography in the study area will increase the visual absorption capacity, this would all be compensated by the increased vegetation cover in the area provided by the dominant tall trees and dense tall grasses and shrubs vegetation. Portions of the study area have however undergone some transformation as a result of mining and erosion, as well as housing and gravel road networks. Visual absorption capacity in the study area is therefore rated as **High.**

4.6 VISUAL RECEPTORS

A sensitive visual receptor location is defined as a location where receptors would potentially be impacted by a proposed development. Adverse impacts often arise where a new development is seen as an intrusion which alters the visual character of the area and affects the 'sense of place'. The degree of visual impact experienced will however vary from one receptor to another, as it is largely based on the viewer's perception.

A distinction must be made between a receptor location and a sensitive receptor location. A receptor location is a site from where the proposed development may be visible, but the receptor may not necessarily be adversely affected by any visual intrusion associated with the development. Less sensitive receptor locations include locations of commercial activities and certain movement corridors, such as roads that are not tourism routes. More sensitive receptor locations typically include sites that are likely to be adversely affected by the visual intrusion of the proposed development. They include tourism facilities, scenic sites and residential dwellings in natural settings. The identification of sensitive receptors is typically based on a number of factors which include:

- The visual character of the area, especially taking into account visually scenic areas and areas of visual sensitivity.
- The presence of leisure-based (especially nature-based) tourism in an area.
- The presence of sites or routes that are valued for their scenic quality and sense of place.
- The presence of homesteads / farmsteads in a largely natural setting where the development may influence the typical character of their views.
- Feedback from interested and affected parties, as raised during the public participation process conducted as part of the EIA study.

4.6.1 Receptor Identification

Preliminary desktop assessment of the study area for the proposed MPM S3 Project identified 55 potentially sensitive visual receptor locations within 10kms of the Project (please see Figure 4-3 below). Although the findings of the desktop assessment were largely confirmed during the field investigation, it was not possible to confirm the presence of receptors at all the identified locations due to access restrictions. Notwithstanding this limitation, all the identified receptor locations were assessed as part of the VIA as they are still regarded as being potentially sensitive to the visual impacts associated with the proposed development.

In this instance, only five formal leisure-based tourism activities or sensitive receptor locations were identified in the combined study area. There are 50 receptor locations within the combined study area that could be regarded as potentially sensitive visual receptors as they could be subjected to visual impacts resulting from the proposed development. The receptor locations also include a number of towns and developments within them. While the towns could be considered as receptors, the towns are not considered to be sensitive due to the fact that they are situated in an area that is already transformed. Visual impacts are expected to be further reduced by the level of transformation and degradation already present in the landscape due to housing and agricultural activities.

In many cases, roads along which people travel are regarded as sensitive receptors. The primary thoroughfare in the study area is the R555 Road which links Burgersfort Town and Middelburg and has views of the five identified sensitive receptor locations. As such, the R555 road in the assessment area is specifically valued or utilised for its scenic or tourism potential and is therefore regarded as visually sensitive.

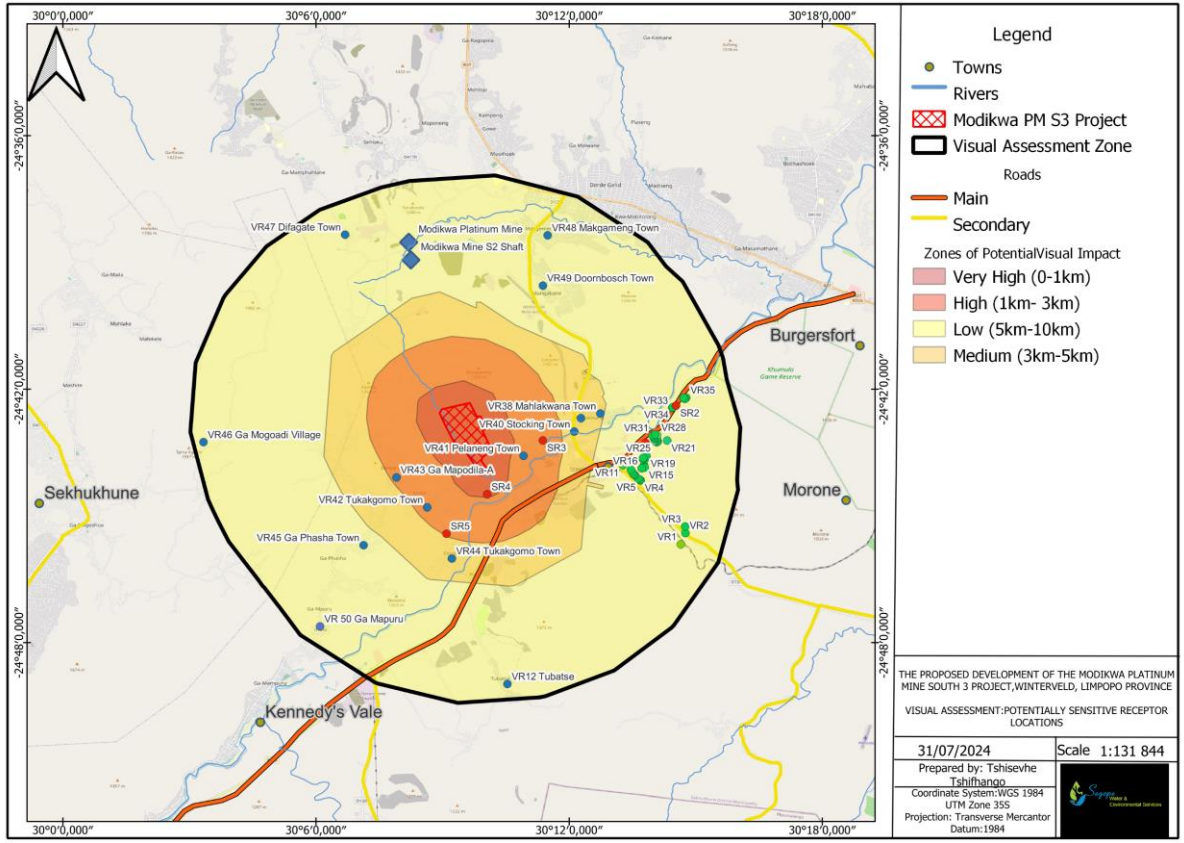

Figure 4-3: ***Potentially sensitive receptor locations within 10kms of the MPM S3 Project.***

4.6.2 Distance/ Zone of potential Visual Impact

As described above, the distance of the viewer / receptor location from the development is an important factor in the context of experiencing visual impacts which will have a strong bearing on mitigating the potential visual impact. A high impact rating has been assigned to receptor locations that are located within 3km of the proposed MPM S3 Project. The visual impact of a Project diminishes beyond 5 to 10km, as the development would appear to merge with the elements on the horizon. Any visual receptor locations beyond these distance limits have therefore not been assessed as they fall outside the study area and would not be visually influenced by the proposed development.

At this stage of the process, zones of visual impact for the proposed MPM S3 Project have been delineated according to distance from the boundary of the mine application site. Based on the height and scale of the project, the distance intervals chosen for the zones of visual impact, as shown in Tables 4-4, are as follows:

- 0 – 1 km (very high impact zone).
- 1km –3km (high impact zone).
- 3km – 5 km (medium impact zone).
- 5km- 10km (low impact zone).

*Table 4-4: **Zones of visual impact rating in terms of proximity to the MPM S3 Project***

Radius	Visual Receptors	Visibility rating in terms of proximity
0-1km	• SR4 (RCB Guesthouse)	Very High
1- 3 km	• SR3 (Phabema Guesthouse) • SR5 (Village gardens B&B) • VR41(Pelaneng Town) • VR43 (Ga Mapodila-A) • VR42 (Tukakgomo Town) • R555 road	High
3 km- 5km	• VR44 (Tukakgomo Town) • VR38 (Mahlakwana Town) • VR40 (Stocking Town) • R555 Road	Medium
5-10km	• SR2 (Jorge Steelport Resort) • SR1 (Marlotti Lodge) • VR1 –VR37 (Homesteads) • VR12 (Tubatse Town) • VR49 (Doornbosch Town) • VR48 (Makgameng Town) • VR47 9Difagate Town) • VR46 (Ga Mogoadi Village) • VR45 (Ga Phasha Town) • VR50 (Ga Mapuru) • R555 road	Low

4.7 SCREENING ELEMENTS

The presence of screening elements is an equally important factor in this context. Screening elements can be vegetation, buildings and topographic features. For example, a grove of trees or a series of low hills located between a receptor location and an object could completely shield the object from the receptor. For the proposed development screening elements include trees, ridges, mountains and buildings.

4.8 NIGHT-TIME IMPACTS

The visual impact of lighting on the nightscape is largely dependent on the existing lighting present in the surrounding area at night. The night scene in areas where there are numerous light sources will be visually degraded by the existing light pollution and therefore additional light sources are unlikely to have a significant impact on the nightscape. In contrast, introducing new light sources into a relatively dark night sky will impact on the visual quality of the area at night. It is thus important to identify a night-time visual baseline before exploring the potential visual impact of the proposed development at night.

Some light may emanate from the nearby urban settlements and the identified receptor locations. The towns and mining facilities within the area are also the main source of light in the broader area and are expected to have a significant impact on the night scene in the assessment area. Accordingly, the overall visual character of the night environment in the study area is considered to be highly 'polluted' and will therefore not be regarded as pristine. While the operational and security lighting required for the proposed MPM S3 Project is likely to intrude on the nightscape and create some glare, the impact of the additional lighting is expected to be reduced by the location of the development in close proximity to numerous households which already results in a significant amount of light in the surrounding area at night. Lighting from this facility is therefore expected to intrude on the nightscape to some degree.

5 IMPACT ASSESSMENT

An overall rating for visual impact has been provided to allow the visual impact to be assessed alongside other environmental parameters. The impact matrices for visual impacts associated with the proposed construction, operation, and decommissioning of the proposed MPM S3 Project are presented below with recommended mitigation measures. The mitigation measures have been determined based on best practices and literature reviews.

The environmental assessment aims to identify the various possible environmental impacts that could result from the proposed activity. Different impacts need to be evaluated in terms of its significance and in doing so highlight the most critical issues to be addressed.

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale i.e., site, local, national or global whereas intensity is defined by the severity of the impact e.g., the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence. Significance is calculated as shown in

Table 5-1.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

5.1 IMPACT RATING SYSTEM

Impact assessment must take account of the nature, scale and duration of impacts on the environment whether such impacts are positive or negative. Each impact is also assessed according to the project phases:

- planning
- construction
- operation
- decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact should be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance should also be included. The rating system is applied to the potential impacts on the receiving environment and includes an objective evaluation of the mitigation of the impact. In assessing the significance of each impact, the following criteria is used:

Table 5-1: ***The impact rating system***

NATURE
Include a brief description of the impact of environmental parameter being assessed in the context of the project. This criterion includes a brief written statement of the environmental aspect being impacted upon by a particular action or activity.
GEOGRAPHICAL EXTENT

This is defined as the area over which the impact will be experienced.		
1	Site	The impact will only affect the site.
2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.
PROBABILITY		
This describes the chance of occurrence of an impact.		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
DURATION		
This describes the duration of the impacts. Duration indicates the lifetime of the impact as a result of the proposed activity.		
1	Short term	The impact will either disappear with mitigation or will be mitigated through natural processes in a span shorter than the construction phase (0 – 1 years), or the impact will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects will continue or last for the entire operational life of the development but will be mitigated by direct human action or by natural processes thereafter (10 – 30 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered indefinite.
INTENSITY/ MAGNITUDE		

Describes the severity of an impact.		
1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/ component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component, and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired. Rehabilitation and remediation often impossible. If possible, rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.
REVERSIBILITY		
This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible, and no mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.
4	Complete loss of resources	The impact is result in a complete loss of all resources.

CUMULATIVE EFFECT		
This describes the cumulative effect of the impacts. A cumulative impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible cumulative impact	The impact would result in negligible to no cumulative effects.
2	Low cumulative impact	The impact would result in insignificant cumulative effects.
3	Medium cumulative impact	The impact would result in minor cumulative effects.
4	High cumulative impact	The impact would result in significant cumulative effects

SIGNIFICANCE		
Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The calculation of the significance of an impact uses the following formula: (**Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.** The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.		
Points	Impact significance rating	Description
6 to 28	Negative low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative high impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive high impact	The anticipated impact will have significant positive effects.
74 to 96	Negative very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated

		adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive very high impact	The anticipated impact will have highly significant positive effects.

5.2 MITIGATION CONFIDENCE

The significance of the impact is assessed following the implementation of mitigation measures, based on the confidence levels that the mitigation measures will reduce and/or enhance the impact (refer to Table 5-2).

*Table 5-2**: Mitigation Confidence Negative Impacts***

1	Very low	There is no confidence that the mitigation measures will reduce the impact. Used when a positive impact will definitely occur with or without mitigation measures.
0.7 - 0.8	Low	20% confidence that the mitigation measures will reduce/enhance the impact.
0.5 - 0.6	Moderate	50% confidence that the mitigation measures will reduce/enhance the impact.
0.2 - 0.3	High	80% confidence that the mitigation measures will reduce/enhance the impact.

The significance of positive impacts may be enhanced with the implementation of mitigation/management measures (refer to Table 5-3).

*Table 5-3**: Enhancement Confidence - Positive Impacts***

1	Very Low	No change to the significance of the impact. No mitigation measures required.
1.2 – 1.3	Low	20% enhancement with the implementation of management/mitigation measures.
1.5 – 1.6	High	50% enhancement with the implementation of management/mitigation measures.
1.8- 1.9	Very High	80% enhancement with the implementation of management/mitigation measures.

5.3 KEY IMPACTS IDENTIFIED

From the above it is evident that mitigation measures should be available for potential impacts associated with the proposed activity and development phases. The scoping methodology identified the following key issues which were addressed in more detail in the Environmental Impact Assessment Report.

5.3.1 Impacts during Construction Phase: MPM S3 Project AND ASSOCIATED ONSITE INFRASTRUCTURE

Table 5-4:***Impact Rating for MPM S3 and Associated Onsite Infrastructure during Construction Phase***

Issue: Potential alteration of the visual character and sense of place Potential visual impact on receptors in the study area		
Description of Impact		
Large construction vehicles, equipment and construction material stockpiles will alter the natural character of the study area and expose visual receptors to impacts associated with construction. Construction activities may be perceived as an unwelcome visual intrusion, particularly in more natural undisturbed settings. Dust emissions and dust plumes from increased traffic on gravel roads serving the construction site may evoke negative sentiments from surrounding viewers. Surface disturbance during construction would expose bare soil resulting in visual scarring of the landscape and increasing the level of visual contrast with the surrounding environment. Vegetation clearance required for the construction of the proposed substation is expected to increase dust emissions and alter the natural character of the surrounding area, thus creating a visual impact. Temporary stockpiling of soil during construction may alter the flat landscape. Wind blowing over these disturbed areas could result in dust which would have a visual impact. Litter on the construction site may result in visual pollution.		
Type of Impact	**Direct**	
Nature of Impact	**Negative**	
Phases	**Construction**	
Criteria	**Without Mitigation**	**With Mitigation**
Intensity	Medium	Low
Duration	Short-term	Short-term
Extent	Local	Local
Consequence	Medium	Medium
Probability	Probable	Possible
Significance	Medium – (34)	Low – (22)
Additional Assessment Criteria		

Degree to which impact can be reversed	Impacts are completely reversible with cessation of construction activity.	
Degree to which impact may cause irreplaceable loss of resources	Marginal loss of visual resources without mitigation measures.	
Degree to which impact can be mitigated	There is significant scope for mitigation as per the recommended mitigation measures below.	
The following measures are recommended:	Carefully plan to mimimise the construction period and avoid construction delays. Minimise vegetation clearing and rehabilitate cleared areas as soon as possible. Maintain a neat construction site by removing rubble and waste materials regularly. Position storage / stockpile areas in unobtrusive positions in the landscape, where possible. Make use of existing gravel access roads where possible. Limit the number of vehicles and trucks travelling to and from the construction site, where possible. Unless there are water shortages, ensure that dust suppression techniques are implemented: ➢ on all access roads; ➢ in all areas where vegetation clearing has taken place; ➢ on all soil stockpiles.	
The following monitoring is recommended:	Ensure that visual management measures are monitored by an ECO. This will include monitoring activities associated with visual impacts such as the siting and management of soil stockpiles, screening and dust suppression. Regular reporting to an environmental management team must also take place during the construction phase.	
Nature of cumulative impacts	Visual impacts from construction activities combined with day-today mining activities in the broader area could further alter the sense of place and visual character of the area; and Combined visual impacts from construction activities combined with day-today mining activities in the broader area could potentially exacerbate visual impacts on receptors.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium -	Low -

5.3.2 Potential Impacts during Operational Phase

Table 5-5:***Impact Rating for MPM S3 Project and Associated Onsite Infrastructure during Operation Phase.***

Issue: Potential alteration of the visual character and sense of place Potential visual impact on receptors in the study area.		
Description of Impact		
The mine may be perceived as an unwelcome visual intrusion, particularly in more natural undisturbed settings. The proposed mine will alter the visual character of the surrounding area and expose potentially sensitive visual receptor locations to visual impacts. Dust emissions and dust plumes from maintenance vehicles accessing the site via gravel roads may evoke negative sentiments from surrounding viewers. The nighttime visual environment will be altered as a result of operational and security lighting at the proposed Project site.		
Type of Impact	**Direct**	
Nature of Impact	**Negative**	
Phases	**Operation**	
Criteria	**Without Mitigation**	**With Mitigation**
Intensity	Low	Low
Duration	Long-term	Long-term
Extent	Whole site	Whole site
Consequence	Medium	Low
Probability	Possible	Possible
Significance	Low – (27)	Low – (21)
Additional Assessment Criteria		
Degree to which impact can be reversed	Impacts are partly reversible with decommissioning of infrastructure.	
Degree to which impact may cause irreplaceable loss of resources	Marginal loss of visual resources without mitigation measures.	

Degree to which impact can be mitigated	There is limited scope for mitigation as per the recommended mitigation measures below.	
The following measures are recommended:	Restrict vegetation clearance on the site to that which is required for the correct operation of the facility. As far as possible, limit the number of maintenance vehicles which are allowed to access the site. Ensure that suitable dust suppression techniques are implemented on all gravel access roads. As far as possible, limit the amount of security and operational lighting present on site. Light fittings for security at night should reflect the light toward the ground and prevent light spill. If economically and technically feasible, make use of motion detectors on security lighting. Buildings on the site should be painted with natural tones that fit with the surrounding environment. Non-reflective surfaces should be utilised where possible.	
The following monitoring is recommended:	Ensure that visual management measures are monitored by an ECO. This will include monitoring activities associated with visual impacts such as the control of signage, lighting and maintenance vehicles on access roads.	
Nature of cumulative impacts	The new mine and associated on-site infrastructure in conjunction with the existing mining activity will alter the natural character of the study area towards a more industrial landscape and expose a greater number of receptors to visual impacts. The visual intrusion of the mine and associated infrastructure may be exacerbated with the development of the new mine infrastructure. The new mine development would generate additional traffic on gravel roads thus resulting in increased impacts from dust emissions and dust plumes. The nighttime visual environment could be altered as a result of increased operational and security lighting resulting from the introduction of the new mine.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium- (35)	Medium – (30)

5.3.3 Potential Impacts during Decommissioning Phase

*Table 5-6: **Impact Rating for MPM S3 Project and Associated Onsite Infrastructure during Decommissioning Phase***

Issue: Potential alteration of the visual character and sense of place Potential visual impact on receptors in the study area		
Description of Impact		
Vehicles and equipment required for decommissioning will alter the natural character of the study area and expose visual receptors to visual impacts. Decommissioning activities may be perceived as an unwelcome visual intrusion. Dust emissions and dust plumes from increased traffic on the gravel roads serving the decommissioning site may evoke negative sentiments from surrounding viewers. Surface disturbance during decommissioning would expose bare soil resulting in visual scarring of the landscape and increasing the level of visual contrast with the surrounding environment. Temporary stockpiling of soil during decommissioning may alter the flat landscape. Wind blowing over these disturbed areas could result in dust which would have a visual impact.		
Type of Impact	**Direct**	
Nature of Impact	**Negative**	
Phases	**Decommissioning**	
Criteria	**Without Mitigation**	**With Mitigation**
Intensity	Medium	Low
Duration	Short-term	Short-term
Extent	local	Local
Consequence	Medium	Medium
Probability	Probable	Possible
Significance	Medium - (30)	Low – (18)
Degree to which impact can be reversed	Impacts are completely reversible with cessation of decommissioning activity.	
Degree to which impact may cause irreplaceable loss of resources	Marginal loss of visual resources without mitigation measures.	

Degree to which impact can be mitigated	There is significant scope for mitigation as per the recommended mitigation measures below.	
The following measures are recommended:	All infrastructure that is not required post-decommissioning should be removed. Carefully plan to minimize the decommissioning period and avoid delays. Maintain a neat decommissioning site by removing rubble and waste materials regularly. Position storage / stockpile areas in unobtrusive positions in the landscape, where possible. Ensure that dust suppression procedures are maintained on all gravel access roads throughout the decommissioning phase. All cleared areas should be rehabilitated as soon as possible. Rehabilitated areas should be monitored post-decommissioning and remedial actions implemented as required.	
The following monitoring is recommended:	Ensure that procedures for the removal of structures and stockpiles during decommissioning are implemented, including recycling of materials. In addition, it must be ensured that rehabilitation of the site to a visually acceptable standard is undertaken.	
Nature of cumulative impacts	Visual impacts from construction activities combined with day-today mining activities in the broader area could further alter the sense of place and visual character of the area; and Combined visual impacts from construction activities combined with day-today mining activities in the broader area could potentially exacerbate visual impacts on receptors.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium – (35)	Low – (25)

5.3.4 Cumulative Impacts associated with the proposed development.

The geographic area of evaluation is the spatial boundary in which the cumulative effects analysis was undertaken. According to the DMRE 2019 database, mines in FTLM are in Burgersfort and approximately 60% are operational. Majority of the mining companies mine platinum (37.5%) and chrome (45%). within the geographic area of investigation, which in this case is an area of a 30km radius surrounding the proposed development – refer to table 5-7 for an overview of mining operations within the geographic area of investigation.

The following table provides details on existing and proposed projects in the geographical area of evaluation.

Table 5-7: ***A summary of related mining operations that may have a cumulative impact, in a 30 km radius of MPM S3 Project (source DMRE 2019).***

Name of Mine	Type of Ore	Town/Village	Project status
Bokoni Platinum Mines (Pty) Ltd	Platinum	Burgersfort	Non-operational
Lion's Head Platinum (Pty) Ltd	PGM's, Copper, Nickel excluding Chrome	Burgersfort	Non-operational
Rustenburg Platinum Mines Ltd (Twickenham Mine)	Platinum	Burgersfort	Non-operational
Dilokong Chrome Mine	Chrome	Burgersfort	Non-operational
Blackchrome Mine	Chrome, PGM's	Burgersfort	Operating
Rustenburg Platinum Mines Ltd (De Brochen)	Platinum, All minerals	Burgersfort	Operating
Nkwe Platinum	Platinum	Burgersfort	Non-operational
Mintirho Mining Ltd	All minerals	Burgersfort	Non-operational
SAMANCOR Chrome Mines (Jagdlust)	Chrome	Burgersfort	Non-operational
SAMANCOR Chrome Mines (Scheiding)	Chrome	Burgersfort	Non-operational
SAMANCOR Chrome Mines (Nooigedacht)	Chrome	Burgersfort	Non-operational
SAMANCOR Chrome Ltd	Chrome	Burgersfort	Non-operational
Tjate Platinum Corporation (Pty) Ltd	Titaneferous magnetite	Burgersfort	Non-operational
Rakhoma Mining (Pty) Ltd		Burgersfort	Non-operational
Lesego Platinum (Pty) Ltd	Platinum	Burgersfort	Non-operational
Bokoni Plartinum Mines (Pty) Ltd	Platinum	Burgersfort	Non-operational
Zavel Investments (Pty) Ltd	Dimension Stone	Burgersfort	Operational
SAMANCOR Chrome Ltd	Chrome	Burgersfort	Operational
Impala Platinum (Pty) Ltd	Platinum	Burgersfort	Operational
Impala Platinum (Pty) Ltd	Platinum	Burgersfort	Operational
Rhino Minerals (Pty) Ltd	Andalusite	Burgersfort	Operational

SAMANCOR Chrome Ltd (Spitzkop)	Chrome	Burgersfort	Operational
Rustenburg Platinum Mines Ltd (Modikwa Mine)	Platinum	Burgersfort	Operational
Attaclay (Pty) Ltd	Attapulgite, Bentonite	Burgersfort	Operational
Saringa Slate	Slate	Burgersfort	Operational
Xstrata South Africa (Pty) Ltd (Glencore)	Platinum & Chrome	Burgersfort	Operational
Two Rivers Platinum (Pty) Ltd	Platinum	Burgersfort	Operational
Assmang Ltd Micawber 278	Chrome	Burgersfort	Operational
Micawber 278 (Pty) Ltd (Northam Boosendal)	PGM's, Copper, Cobalt, Chrome	Burgersfort	Operational
SAMANCOR Chrome Ltd (Lanex)	Chrome	Burgersfort	Operational
SAMANCOR Chrome Ltd (Doornbosch)	Chrome	Burgersfort	Operational
Spitzkop Platinum Ltd	Platinum	Burgersfort	Operational
SAMANCOR Chrome Ltd (Tweefontein)	Chrome	Burgersfort	Operational
Sefateng Chrome Mine (Pty) Ltd	Chrome	Burgersfort	Operational
Vanadium Resources (Pty) Ltd	Vanadium, Iron, Titanium	Burgersfort	Operational
Bauba A Hlabirwa Mining Investments (Pty) Ltd	Platinum	Burgersfort	Operational
BCR Minerals (Pty) Ltd	Chrome	Burgersfort	Operational
Phokathaba Platinum (Pty) Ltd	Platinum	Burgersfort	Non-operational
Chromex Chrome	Chrome	Burgersfort	Non-operational
De Grooteboom (Pty) Ltd	Chrome, PGM's, Gold	Burgersfort	Operational

The nature of the anticipated cumulative visual impacts for the MPM S3 Project are expected to include:

- Combined visual impacts from mining developments and associated connection infrastructure in the broader area could potentially alter the sense of place and visual character of the area.
- Combined visual impacts from mining developments and associated connection infrastructure in the broader area could potentially exacerbate visual impacts on visual receptors.

The proposed development may also set the precedent for more mining developments in the area where currently there is mining and illegal mining activities. Further construction and operation of the mining in the area is likely to have a negative impact. There are also other mines proposed in the vicinity that will result in some inter-visibility. Visual massing effects could result in the change to the

rural sense of place in the landscape being visually dominating. The vision of the Fetakgomo Tubatse Local Municipality Integrated Development Plan (IDP) (2024/25) is to become a transformed, leading, competitive and preferred world class city. This encompasses the development priority of the municipality into agriculture, commercial, mining and economic development etc. Within the proposed project zone of visual influence, the landscape character is mainly dominated by Bushveld vegetation and mining activities. Due to the Bushveld trees surrounding the proposed MPM S3 Project development sites in the area, inter-visibility potential is significantly reduced. The significance of cumulative visual impacts is potentially **Medium** but could be reduced to **Low** with the implementation of mitigation measures

5.3.5 Assessment of Visual Impacts for the No-Go Alternative

This alternative considers the option of 'do nothing' and maintaining the status quo. The site is currently zoned for agricultural and mining land uses. Should the proposed activity not proceed, the site will remain unchanged and will continue to be used for mining and housing purposes. The implementation of the development is expected to result in several negative visual impacts. The potential opportunity costs in terms of alternative land use income through rental for mining and the supporting social and economic development in the area would be lost if the status quo persist.

While the site does add value to the local environment in terms of sense of place, the mining landscape context of the adjacent mines is a main feature in the local landscape. As such, the value that maintaining the status quo of the property is rated Very Low. Economic benefits for maintaining the status quo would not be comparable given the urgent need to move towards mining developments. The significance of visual impacts associated with the no-go alternative is potentially positive **Low** (refer to Table 6-16).

Table 5-8: Assessment of the No-go Alternative

IMPACT ASSESSMENT MATRIX									MITIGATION OF POTENTIAL IMPACTS		
Impact description	Extent	Duration	Reversibility	Irreplaceable loss of resources	Probability	Cumulative Impact	Magnitude/ Intensity	Significance	Mitigation measures	Mitigation Confidence	Significance after Mitigation
• If the MPM S3 Project is not developed in this area, there will be no change in the visual character or the sense of place. • There will be no visual impacts on receptors or on the night-time visual environment.	NIL	NIL	NIL	NIL	NIL	NIL	NIL	LOW	N/A	NIL	LOW

6 CONCLUSION

A broad-scale assessment of visual sensitivity, based on the physical characteristics of the overall study area, economic activities and land use that predominates, determined that the area would have a **LOW** visual sensitivity. This was mainly due to the close proximity of the study area to agricultural activities, mining and housing which degrades the local visual resources. Another important factor contributing to the visual sensitivity of an area is the presence, or absence of visual receptors that may value the aesthetic quality of the landscape and depend on it to produce revenue and create jobs. Receptors likely to be impacted by the proposed development are the nearby property owners, people travelling on the R555 Road and residents of the various towns surrounding the development.

The landform, drainage and vegetation within the MPM S3 Project site influences the level of screening visibility of the mine and associated infrastructure. The development footprint should therefore be designed so as to minimise tree and vegetation removal in order to reduce visual impacts as far as possible. The MPM S3 Project is located in a flat area with natural landscapes or mountainous scenic resources with minimal local or regional significance. The area has only five sensitive receptors and minimal land uses that depend on the visual aesthetic of the area and thus, the visual receptor sensitivity is rated as **LOW.** This rating is further supported by the fact that there are no known proclaimed nature reserves, private reserves or game farms in the vicinity of the proposed project.

The proposed MPM S3 Project and its associated infrastructure will have a visual impact on the study area. The visual impact will differ amongst places, depending on the distance to the Project. The pre-mitigation Visual Significance is rated ***Medium*** as the local sense of place is degraded to some degree by the mining activities and is likely to become further degraded by cumulative impacts of mining activities envisioned in the area. Existing trees along the R555 and gravel roads would offer partial screening, and the existing human developments increases the visual absorption capacity of the locality to some degree. Further moderation of the impact is due to the contained project zone of visual influence. The Bushveld vegetation that is profolic in the area restricts views from most local homesteads. The post-mitigation Visual Significance is rated ***Low***. The retention of a natural vegetation buffer along the R555, would effectively screen the high exposure views as seen from the road receptors.

Due to the limited space available for an alternative, the No-go was assessed. While the site does add value to the local environment in terms of sense of place, the agricultural landscape context of the adjacent mines is a main feature in the local landscape. As such, the value of maintaining the status quo of the property is rated Low. Economic benefits for maintaining the status quo would not be comparable given the urgent need to move towards renewable energy. Due to the extent and location of the project, the visual impact of the proposed development cannot be eliminated in its entirety, but mitigation measures have been proposed to minimise the visual impacts. No buffer areas or areas to be avoided from a visual impact perspective are applicable for this development, but very strict measures should be put in place to ensure the safety of all receptors identified in the study area. A condition of the EA should be that an ECO and / or ELO should be appointed to monitor the requirements set out by the EA, EMP and DMRE.

It is therefore concluded that the potential visual impacts do not represent a fatal flaw to the project. Although aesthetic characteristics are subjective, mining facilities and their associated infrastructure is mostly perceived as symbols of employment, and local prosperity.

6.1 VISUAL IMPACT STATEMENT

It is Tshisevhe's opinion that the potential visual impacts associated with the proposed MPM S3 Project are of negative low significance. Given the high level of human habitation, mining and the low numbers of sensitive receptors however, the project is deemed acceptable from a visual perspective and the EA should be granted. Tshisevhe is of the opinion that the impacts associated with the construction, operation and decommissioning phases can be mitigated to acceptable levels provided the recommended mitigation measures are implemented. The visual significance of the proposed development is therefore unlikely to result in significant degradation of the surrounding visual resources. The conclusion of this VIA is that Modikwa Platinum Mine South 3 Project and associated infrastructure should be authorised with mitigation.

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VIA Specialist

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