Socio-Economic Impact Assessment Report

For the proposed Chrome Processing Plant for Universal Chrome Minerals (Pty) Ltd within portion 50 of the farm Boschfontein 458 JQ under the Magisterial District of Bojanala Platinum, Northwest Province

MAY 20, 2025

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REPORT AND CONTACT DETAILS

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REPORT NAME	Social Impact Assessment for the Proposed Section 24G Rectification Application combined with a Water Use Licence Application (WULA) for Universal Chrome Minerals (Pty) Ltd portion 50 of the farm Boschfontein 458 JQ under the Magisterial District of Bojanala Platinum, Northwest Province
DFFE REFERENCE NUMBER	New Application
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EXECUTIVE SUMMARY

Universal Chrome Minerals (Pty) Ltd, hereinafter referred to as UCM appointed Segope Water and Environmental Services (Segope Consulting), as an independent Environmental Assessment Practitioner (EAP), to carry out an application for Section 24G (S24G) rectification for the unlawful commencement of listed activities in terms of the National Environmental Management Act (Act No. 107 of 1998), as amended (NEMA) relating to the proposed chrome processing plant on portion 50 of farm Boschfontein 458 JQ. The proposed Chrome Processing Plant will be located in the above-mentioned farm within the MLM Local Municipality (MLM), Bojanala Platinum District Municipality (BPDM) in the North West Province.

Segope Consulting has had a pre-application engagement with the North West Department of Economic Development, Environment, Conservation and Tourism (DEDECT) on the 22nd of April 2025 and intends to lodge an application for S24G as well as the authorisation of activities that will be triggered by the proposed processing plant development in accordance to NEMA Environmental Impact Assessment (EIA) regulations and National Environmental Management: Waste Act (NEMWA, Act 59 of 2008). In addition to the above-mentioned applications, a Water Use Licence (WUL) with reference number WU41699 was lodged with the Department of Water and Sanitation (DWS), Hartbeespoort Office.

The extent of the project site at farm Boschfontein 458 JQ encloses an area of approximately 11.7 hectares. An application is being made to rectify the clearance of indigenous vegetation to develop the processing plant without an Environmental Authorisation (EA) and also to authorise the NEMA-listed activities that are triggered by the development of the plant. The clearance of indigenous vegetation commenced in December 2024, and approximately 3.8 hectares have been cleared from the site.

The key components of the proposed infrastructure associated with the proposed application include:

- Boreholes,
- Clean Water Dam,
- Tailings Dam,
- Tailings Sludge Sedimentation Zone,
- Stockpile Zone,
- Sedimentation Dams (three units),
- Equipment Zone,
- ROM Stockpile Zone and

- Concentrate Stockpile Zone.

This report is an addendum to the Environmental Authorisation (EA), Environmental Management Programme (EMPr), and focuses on the assessment of both positive and negative impacts of the UCM on the receiving social and economic environment of the MLM.

The Socio-Economic Impact Assessment process is used to identify and evaluate the potential socio-economic and cultural impacts of a proposed development on the lives and circumstances of people, their families, and their communities. It forms part of the Environmental Impact Assessment process for the present application for amendment of the EMPr for the UCM.

A community survey was conducted on the 13th and 14th of May 2025 to have direct, relevant insights into the life experiences, needs, and concerns of the population affected by this project. The proposed project is in proximity to the two communities, namely MLM, situated approximately 4.5km southwest, and Bapong Community, which is located approximately 3.84km northwest of the plant. The two Communities have the following characteristics:

- The areas are characterized by high poverty levels, lack of access to municipal services, and poor service delivery relating to water, sanitation, and electricity.
- The area is solely dependent on government handouts and migrant labour income for survival.
- Unemployment is very high due to low educational levels, which are caused by the lack of training facilities and tertiary institutions.

Identified negative impacts include environmental degradation (air quality, noise, visual, ground, and surface water), human health and wellbeing, land use and property (urban sprawl), and social dynamics (population and cultural changes). The negative impacts can be successfully mitigated if UCM adheres to the recommended measures. Positive impacts from the projects include employment and training opportunities, capital investment in the local economy, and opportunities to implement the UCM Corporate Social Responsibility Programme.

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LIST OF ABBREVIATIONS

SEIA	Socio-Economic Impact Assessment
UCM	Universal Chrome Minerals (Pty) Ltd
RPM	Rustenburg Platinum Mines Limited
EA	Environmental Authorization
EAP	Environmental Assessment Practitioner
ECM	Eastern Chrome Mines
COGHSTA	Co-operative Governance, Human Settlements and Traditional Affairs
GVA	Gross value added
EIA	Environmental Impact Assessment
EMP	Environmental Management Programme
MLM	Madibeng Local Municipality
IDP	Integrated Development Plant
NEMA	National Environmental Management Act
PCP	Public Consultation Process
BPDM	Bojanala Platinum District Municipality
SLP	Social and Labour Plan
STATSSA	Statistics South Africa
WULA	Water Use Licence Application

GLOSSARY

Impact:	The significant change that occurs because of the action(s) of an agency and that would not have occurred otherwise
Integrated Development Plant:	A plan aimed at the integrated development and management of a municipal area as contemplated in the Municipal Structures Act (Act 117 of 1998).
Interested and Affected Parties (I&APs):	A person or an association of persons with a direct interest in a proposed development or existing operation, or who may be affected by such a proposed development or existing operation.
Local Community:	The communities that live around the mine area include surrounding communities.
Local Economic Development:	The process by which public, business and non-governmental sector partners work together to create better conditions for economic growth and employment creation.
Local Municipality:	A local municipality that shares municipal executive and legislative authority in its area with a district municipality within whose area it falls, and which is described in section 155 (1) of the Constitution as a category B municipality
Migrant Labour:	Casual and unskilled workers from one region to another offering their services on a temporary basis.
Social and Labour Plan:	A document that mining companies are required to submit to the Department of Mineral Resources as part of their applications for mining rights.
Socio-Economic Impact Assessment (SEIA):	Analyses the social and economic benefits and implications of a development on the broader community considering its immediate impacts and the longer-term impacts.

1. BACKGROUND

1.1. INTRODUCTION

Segope Water and Environmental Services (Also known as Segope Consulting) has been appointed by Universal Chrome Minerals (Pty) Ltd (UCM) to undertake the Socio-Economic Impact Assessment ("SEIA") study for the proposed chrome processing plant to ensure that projects and policies are socially responsible, economically viable, and aligned with the long-term well-being of the communities they affect. The facility will process low-grade chrome minerals sourced from operating mines, utilizing a combination of mechanized processing equipment and manual hand-picking techniques to ensure efficiency and quality control. The planned operations will encompass several key activities, including stockpiling, screening, washing, and loading of chrome minerals for further use or distribution.

SEIA is a systematic analysis used during the Environmental Impact Assessment ("EIA") process to identify and evaluate the potential socio-economic and cultural impacts of a proposed development on the lives and circumstances of people, their families, and their communities. If such potential impacts are significant and adverse, SEIA can assist the developer and other parties to the EIA process in finding ways to reduce, remove, or prevent these impacts from happening. SEIA creates the opportunity for the inclusion/participation of communities and interested and affected parties to be empowered by giving them a channel through which their voice can be heard.

1.2. Project Background and Details

Segope Consulting has had a pre-application engagement with the North West Department of Economic Development, Environment, Conservation and Tourism (DEDECT) on the 22nd of April 2025 and intends to lodge an application for S24G as well as the authorisation of activities that will be triggered by the proposed processing plant development in accordance to NEMA Environmental Impact Assessment (EIA) regulations and National Environmental Management: Waste Act (NEMWA, Act 59 of 2008). In addition to the above-mentioned applications, a Water Use Licence (WUL) with reference number WU41699 was lodged with the Department of Water and Sanitation (DWS), Hartbeespoort Office.

UCM is committed to ensuring that the facilities under its control are fully compliant with the relevant South African environmental laws and regulations, and has taken an internal decision to enter into a S24G rectification process. To rectify the unlawful commencement of their plant, and with reference to Section

28 of NEMA: "Duty of Care and Remediation of Environmental Damage". UCM has followed the conservative approach of applying for a S24G rectification and would like this to be considered by the relevant authorities when reviewing this application.

The proposed activities/facilities at UCM Sections trigger the following:

- Application for Environmental Authorisation by undertaking a Scoping and Environmental Impact Assessment ("S&EIA") Process as well as the amendment of the approved EMPr in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) and National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) read with the Environmental Impact Assessment Regulations of 2014 as amended (EIA Regulations).
- Undertake a Water Use License Application (WULA) in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), read with Government Notice R267 of 2017.

1.3. Project Location and Description of the Study Area

UCM plans to develop a Chrome Processing Plant on Portion 50 of the farm Boschfontein 458JQ at Brits, North West Province. The proposed (UCM) project area can be accessed through a gravel road that connects to the regional road R104, which leads to the site (the Southern part of the project). The project area covers about 11.7 Ha and is situated approximately 4.47 km east of MLM town, about 113 m east of Edrange Luxury Lodge, refer to **Figure 1**.

MLM Local Municipality (MLM) is situated within the North West Province of South Africa. It is located to the north-west of Gauteng Province, nestled between the cities of Pretoria and Rustenburg. MLM falls under the jurisdiction of the Bojanala Platinum District Municipality (BPDM). The municipality covers an area of approximately 3,720 square kilometers and includes both urban and rural landscapes. The major towns include Brits (the administrative seat), Hartbeespoort, and a number of surrounding rural villages such as Bapong and MLM. Refer to **Figure 4** below for the map showing local municipalities within BPDM.

MLM is divided into 41 electoral wards, each represented by a ward councillor. This structure makes it one of the municipalities with a high number of wards in the province. The communities of MLM and Bapong are located in specific wards: MLM falls under Ward 24, while Bapong spans Wards 25 and 31, with some parts historically adjusted due to municipal demarcation processes. In total, the municipality has 81 councillors, comprised of 41 ward councillors and 40 proportional representation (PR) councillors.

Contrary to some assumptions, MLM is not classified as a Category B4 municipality. Category B4 municipalities, as defined by the Department of Cooperative Governance and Traditional Affairs (COGHSTA), are typically rural, economically underdeveloped areas with limited capacity for revenue generation and high service delivery costs due to dispersed settlements. While MLM does include a significant rural component, it also contains well-developed urban nodes such as Brits and Hartbeespoort and has a relatively diversified economy. It therefore does not meet the strict characteristics of a B4 municipality and is better categorized as a mixed rural-urban municipality with moderate economic infrastructure and administrative capacity.

In terms of settlement patterns, MLM comprises over 150 rural villages alongside 11 urban townships and settlements. The rural areas are typically characterised by low-density, scattered settlements with subsistence farming as the dominant livelihood activity. Access to basic services in these areas is constrained by spatial dispersal, insufficient infrastructure, and high costs of service delivery. The IDP identifies that the municipality faces challenges such as inadequate infrastructure, poor revenue collection, high poverty levels, and large service delivery backlogs, particularly in rural communities.

MLM also possesses a significant natural environment, which remains largely undeveloped. Areas such as the Magaliesberg mountain range and surroundings of Hartbeespoort Dam are rich in biodiversity and scenic landscapes, offering significant potential for ecotourism. The IDP highlights that a large portion of the municipality is made up of natural bushveld and limited grassland, with relatively low levels of urban encroachment. These natural assets present opportunities for sustainable tourism development, including hiking trails, mountain biking, game reserves, and other outdoor recreational activities. The preservation of this natural environment is considered vital for long-term ecological sustainability and local economic development through tourism (MLM IDP, 2024/25, p. 9–11, 130).

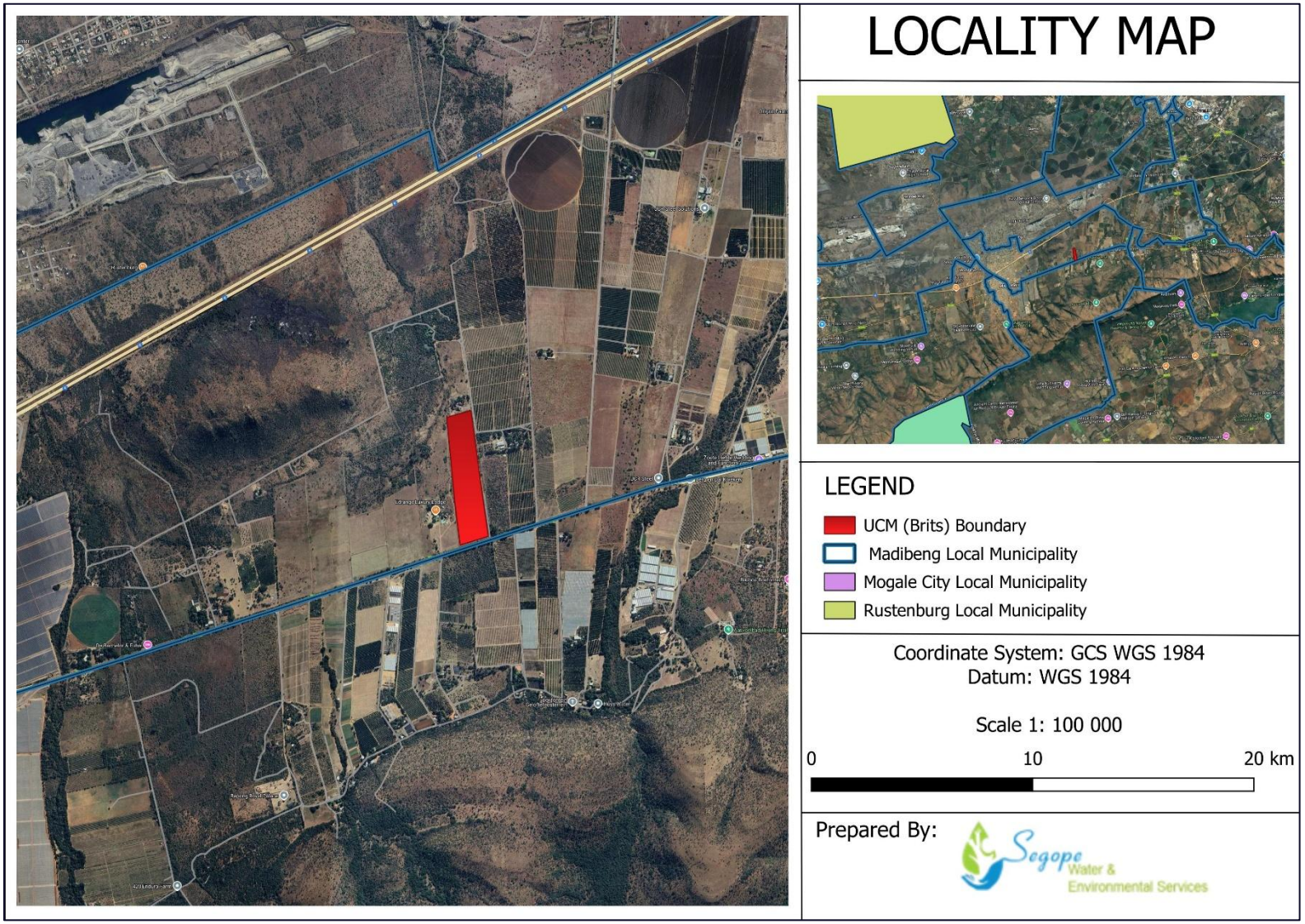


Figure 1: Locality Map for the proposed Plant development (Segope Consulting, 2025)

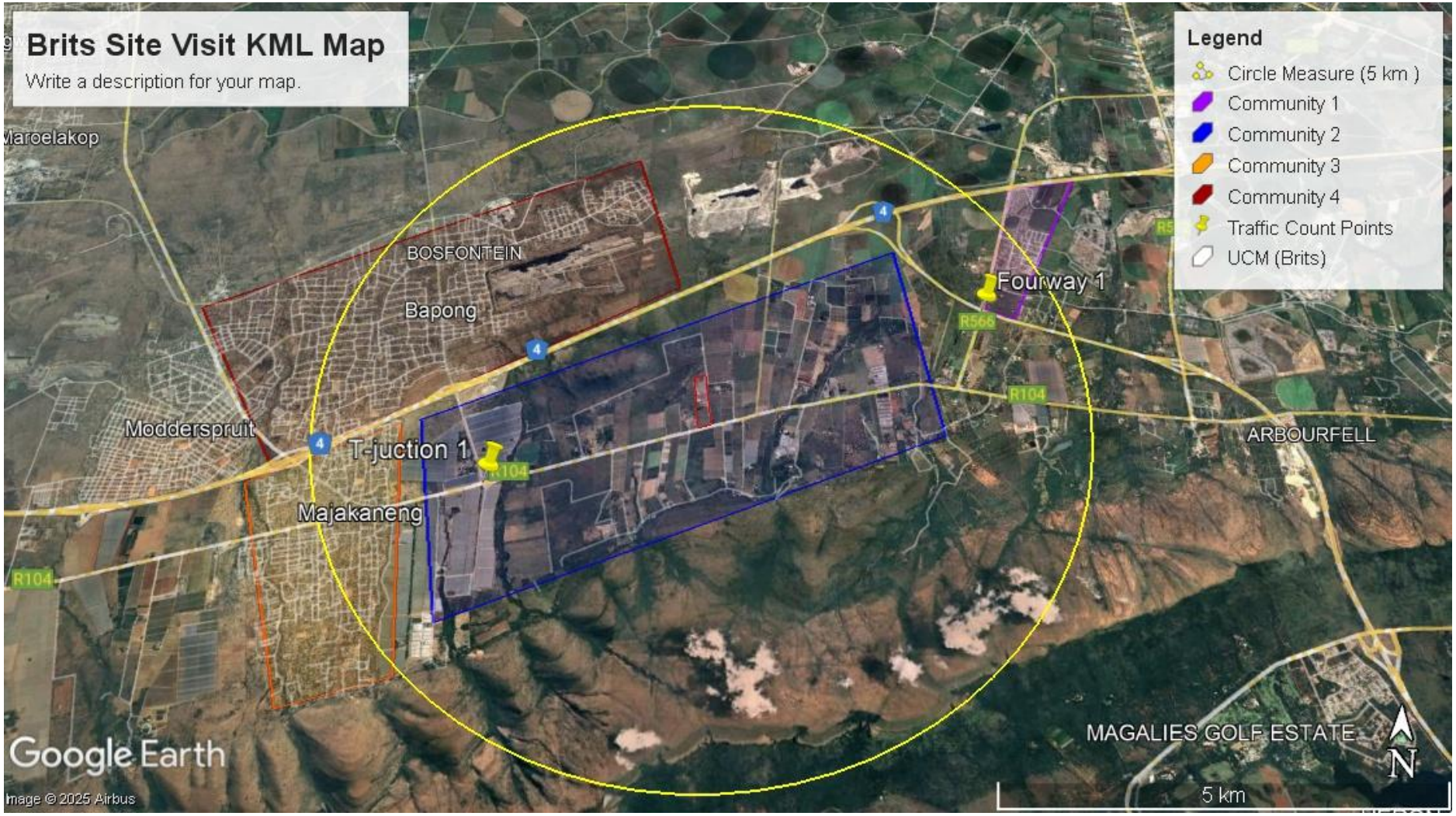


Figure 2: Neighboring Communities in proximity to the plant project (Segope Consulting, 2025)

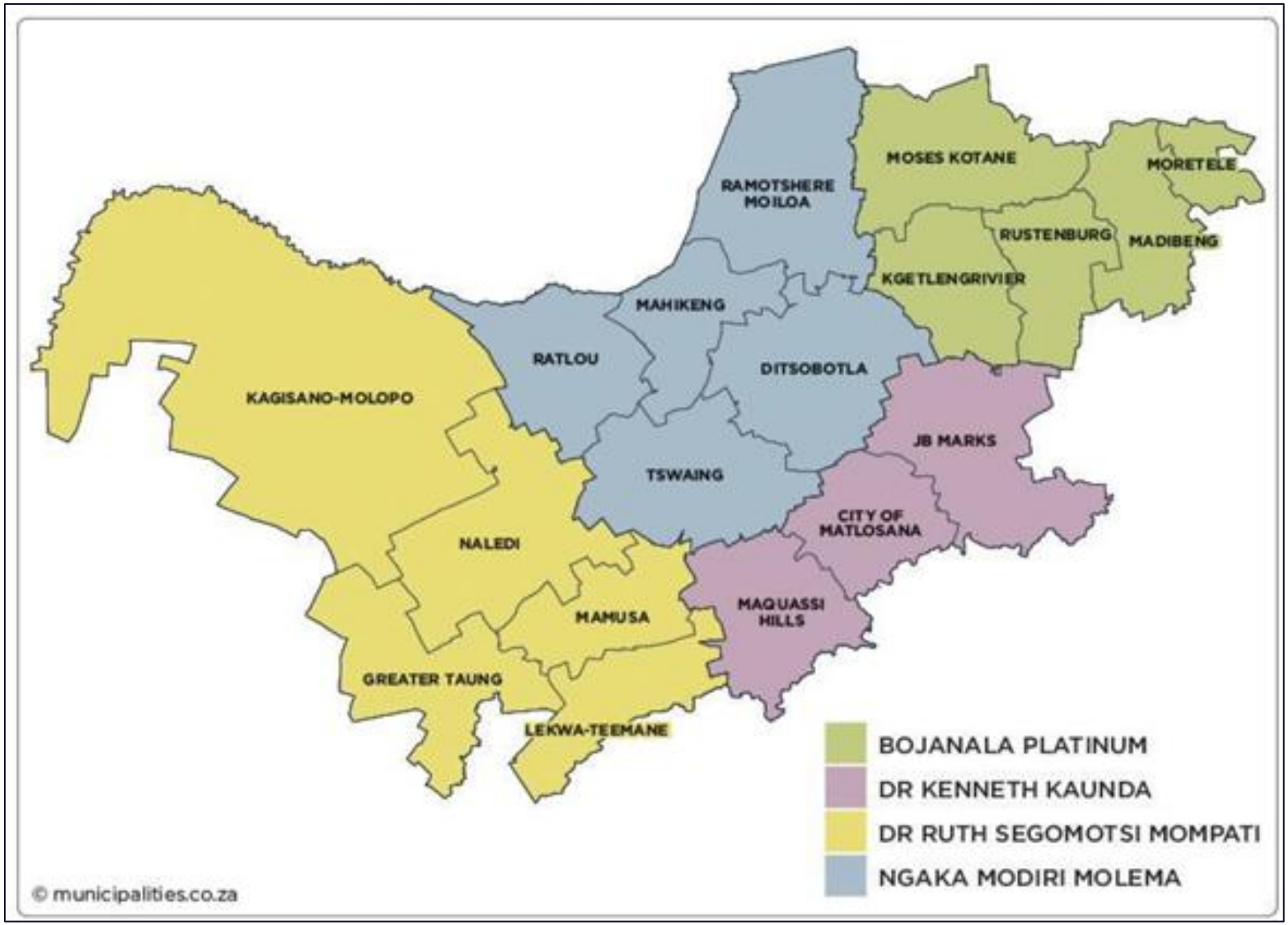


Figure 3: Map showing local municipalities within BPDM (Madibeng IDP, 2024/25)

1.4. Project Motivation

The proposed chrome processing plant presents a powerful opportunity to unlock substantial socio-economic benefits for local communities and contribute meaningfully to South Africa's broader development goals. During the construction, operation, and eventual rehabilitation phases, the project is expected to generate employment, stimulate income creation, and drive skills development across a range of sectors. It will also serve as a platform to advance Broad-Based Black Economic Empowerment (BBBEE), providing avenues for inclusive economic participation through local procurement, equity partnerships, and enterprise development.

Beyond the immediate economic impact, the plant will position MLMand the country to increase its industrial competitiveness in a vital global sector. By processing chrome locally, the project enhances South Africa's ability to capture more value from its mineral resources and strengthen its reputation as a reliable supplier of strategic minerals. Moreover, the plant can support the global clean energy transition, as chrome is an essential input in the production of stainless steel and other clean technology components. This strategic investment therefore not only drives local economic transformation but also reinforces South Africa's role in global mineral value chains and sustainable industrial development.

UCM is also motivated to comply with all relevant legislation pertaining to mine operation and closure, sustainable environmental management, surface and groundwater quality improvement. According to the surface water management plan, the proposed project will also ensure that dirty water systems are separated from clean water through a properly designed stormwater management system in line with industry best practices. UCM will also understand the socio-economic dynamics of the area better and will be prepared to approach the community appropriately in a manner acceptable to all stakeholders.

2. LEGAL FRAMEWORK

In terms of Section 24G of the NEMA, it is possible to obtain authorisation for activities listed in terms of the EIA Regulations, 2014 as amended, and the list of waste management activities and facilities requiring waste management licensing in terms GN R.921 (2013) that were undertaken without obtaining such authorisation via the legislated Environmental Impact Assessment process.

Section 24G (5) states that the applicant must pay an administrative fine, not exceeding R5 million, and the fine will be determined in accordance with the requirements stipulated in GN R. 698 Regulations Relating to the Procedure to be Followed and Criteria to be Considered when Determining an Appropriate Fine in terms of Section 24 G (2017).

The provisions of Section 24G Fine Regulations are applicable to activities and facilities undertaken since the promulgation of the EIA Regulations published under ECA, including:

- EIA Regulations GN R.1182 and GN R.1183 in terms of ECA, as implemented in September 1997.
- Regulations GN R. 385, GN R.386, and GN R.387 in terms of NEMA on 3 July 2006 (and subsequently 13 February 2009) that replaced Regulations GN R.1182 and GN R.1183.
- EIA Regulations GN R.544, GN R.545 and GN R.546 in terms of NEMA on 18 June 2010.
- EIA Regulations GN R.983, GN R.984 and GN R.985 in terms of NEMA on 04 December 2014.
- GN R. 327, GN R.324 and GN R.325 (on 07 April 2017) and corrected on 13 July 2018.
- The waste management activities listed in GN R.718, published in terms of NEMWA (and subsequently updated by GN R. 921 of 29 November 2013 and GN R.633 of 24 July of 2015

3. SOCIO-ECONOMIC IMPACT ASSESSMENT APPROACH

4.1. OBJECTIVES OF THE SOCIO-ECONOMIC ASSESSMENT

Continuation with the processing plant and the location of facilities with their associated infrastructures triggers SEIA as one of the studies that focus on the identification and mitigation of both positive and adverse social impacts that may arise from a given project. It usually forms part of the Environmental Impact Assessment (EIA) process as per NEMA regulations. In line with the terms of reference, the following form the objectives of the SEIA:

- To understand the socio-economic characteristics and baseline conditions of the area that will be impacted by this project and how these relate to the dynamics of affected communities and economies.
- Compile an updated report using available statistical information and other legislated reports generated by the local, provincial, and national governments.
- To identify issues and impacts relating to construction, operations, and closure of the project to minimize negative socio-economic impacts and enhance positive ones.
- To describe the socio-economic issues that may become problematic if not adequately addressed.
- To identify the stakeholders, including landowners, farm residents, government and tribal institutions, businesses, NGOs, etc.
- To undertake a detailed Public Consultation Process (PCP).

4.2. METHODOLOGY

4.2.1. Compilation of a Socio-economic Baseline

Baseline\existing conditions and past trends associated with the human environment in which the proposed activity is to take place must be considered. The information collected through the desktop review and onsite investigations was used to compile a socio-economic baseline profile. The information found provides an update of the baseline information on the likely scope and nature of impacts, providing a useful analysis of the changes to the socio-economic factors of the area and offering proposals for the enhancement of positive project impacts.

Baseline data sources include the following:

- S24G as well as the authorisation of activities that will be triggered by the proposed processing plant development in accordance to NEMA Environmental Impact Assessment (EIA) regulations and National Environmental Management: Waste Act (NEMWA, Act 59 of 2008)
- UCM specialist studies such as Traffic Impact Assessment, Dust, Geohydrology, Wetland Impact Assessment, and Waste Classification Report.

4.2.2. Quantitative Techniques

The most important quantitative technique used in SEIA is the analysis of census data. This data is used to produce historical and demographic profiles and can be used to provide extensive baseline information. The community survey was conducted for this study; however other official statistics, like crime statistics, were also useful and considered credible (Taylor *et al*, 2004:113). Data that was analysed quantitatively was obtained from South Africa (StatsSA) and municipal documents.

4.2.3. Participatory Approach

A participatory approach uses the knowledge and experiences of individuals most affected by the proposed changes as the basis for projecting impacts. In this case, the role of the scientist is to be the facilitator of knowledge sharing, interpretation, and reporting of impacts. The assumption is that, when appropriately and effectively implemented, elicitation and consideration of individuals' perceptions, attitudes, and beliefs can be a key component of impact assessment (Becker *et al*, 2004:178). The participatory approach is process-oriented (Hugo *et al*, 1997:224). This approach is a bottom-up attempt to organize for social change (Taylor *et al*, 2004:27).

The Scoping and Environmental Impact Assessment process also considers the level of community participation or involvement in the SEIA. The Scoping phase identifies and examines the types of communities and or number of individuals potentially impacted and their level and type of participation in the SEIA. Public Participation meetings will be held to identify issues and concerns raised by communities and the public at large.

4. SOCIO-ECONOMIC PROFILE OF AFFECTED COMMUNITIES

The information for the profile was sourced from the Integrated Development Plans (IDP's) of the local (MLM's 2024/25 IDP). Additionally, the community survey was conducted on the 13th and 14th of May 2025 at the two communities, namely MLM, situated approximately 4.5km southwest, and Bapong Community, which is located approximately 3.84km northwest of the plant. About eighty (80) houses were surveyed.

4.1. POPULATION PROFILE

4.1.1. Population Statistics

MLM has a total population of 522,566 people, comprising 264,904 males and 257,662 females. This demographic spread reflects a relatively balanced gender ratio. The age distribution follows a pyramid shape, indicative of a young population. A large proportion falls within the economically active age group (15–64), which suggests a significant potential labour force, although job creation remains a challenge. A notable number of children aged 0–14 and elderly persons (65+) further illustrate the social and economic dependency ratios within households (Figure4).

The IDP does not explicitly disaggregate the population by race, but aligns with provincial statistics where Black Africans make up the overwhelming majority. Setswana is the most commonly spoken language, reinforcing the cultural identity of the North West Province. Other languages spoken include isiZulu, Afrikaans, and English, but in smaller proportions. Educational attainment in MLMis mixed, with many residents having completed secondary education (Grade 12), while a significant number lack formal schooling. There are 19,755 individuals with no schooling and 24,338 with higher education (p. 19). Child-headed households, due to HIV/AIDS, are estimated at 1,806 (p. 21).

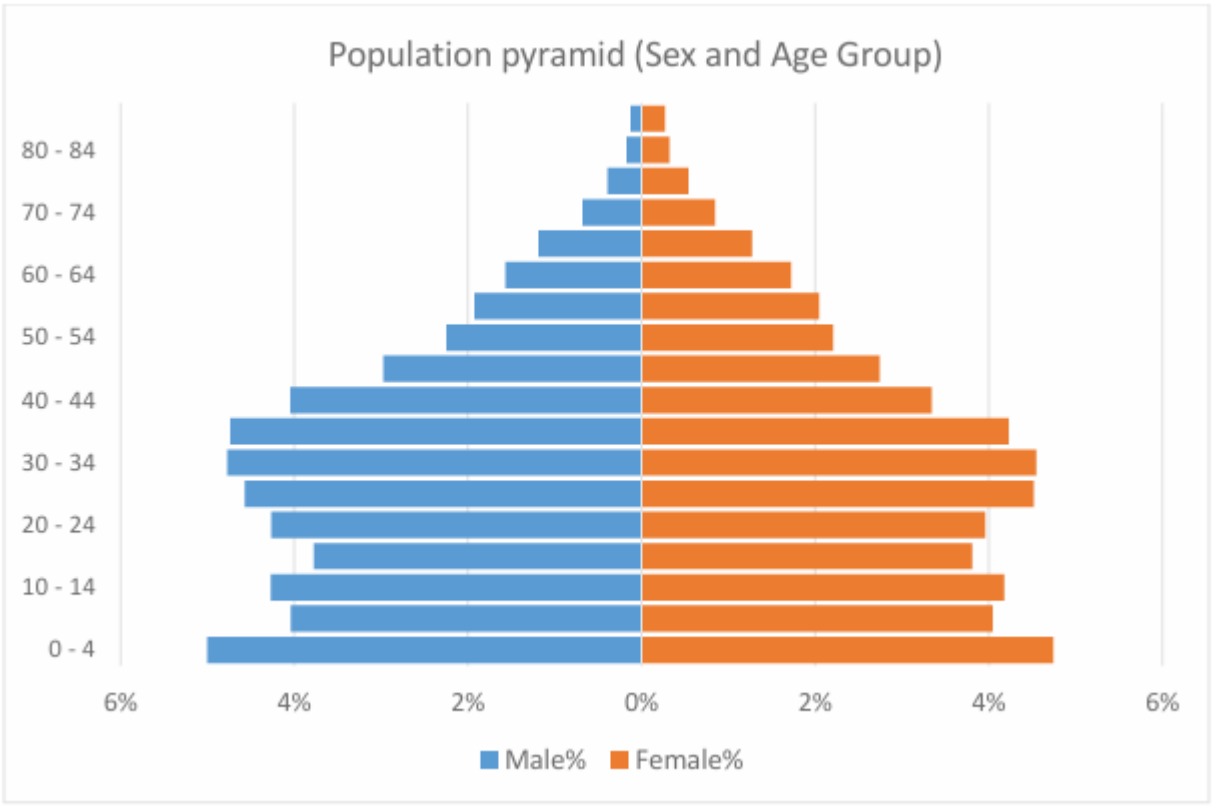


Figure 4: Population Pyramid of MLM (Stats SA, Census 2022)

4.1.2. Population Groups in the MLM

The IDP does not explicitly provide a detailed breakdown of the population by race; however, it aligns with provincial statistics indicating that Black Africans constitute approximately 85% of the local population. This demographic predominance has significantly shaped the cultural and linguistic dynamics of the municipality, fostering a rich tapestry of traditions, languages, and community practices primarily rooted in African heritage. Furthermore, a comprehensive survey conducted in the area corroborated these findings, confirming that Black Africans are indeed the dominant demographic group, highlighting the importance of addressing their specific needs and aspirations in local governance and development initiatives.

4.1.3. Dominant Languages Spoken in the Former Fetakgomo Local Municipality

Setswana is the most commonly spoken language in MLM, reinforcing the cultural identity of the North West Province. Other languages spoken include isiZulu, Afrikaans, and English, but in much smaller proportions. The dominance of Setswana shapes local governance communication, education, and public engagement strategies. Refer to **Figure 5** below.

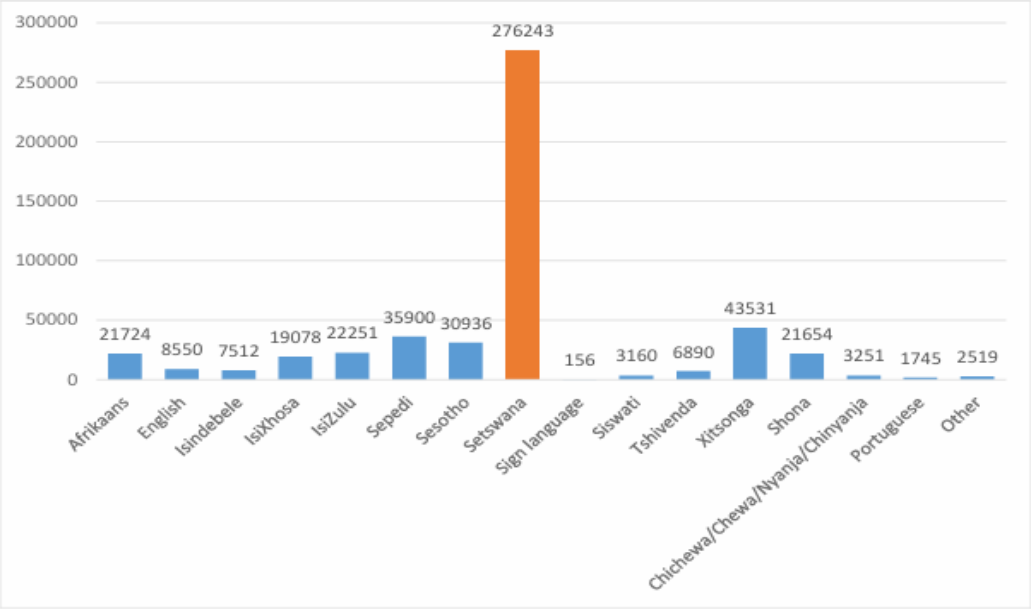


Figure 5: Breakdown of language by population group in MLM (Stats SA, Census 2022)

4.1.4.Educational Levels

Educational attainment in MLMis mixed. A significant number of residents aged 20 and above have completed secondary education (Grade 12), totalling 116,630 individuals. However, 19,755 people reported having no formal schooling, and 26,511 had only some primary education. Higher education figures stand at 24,338, reflecting limited access to tertiary institutions (**Figure 6**). These statistics highlight the pressing need for investment in Further Education and Training (FET) colleges, particularly those aligned with local economic sectors.

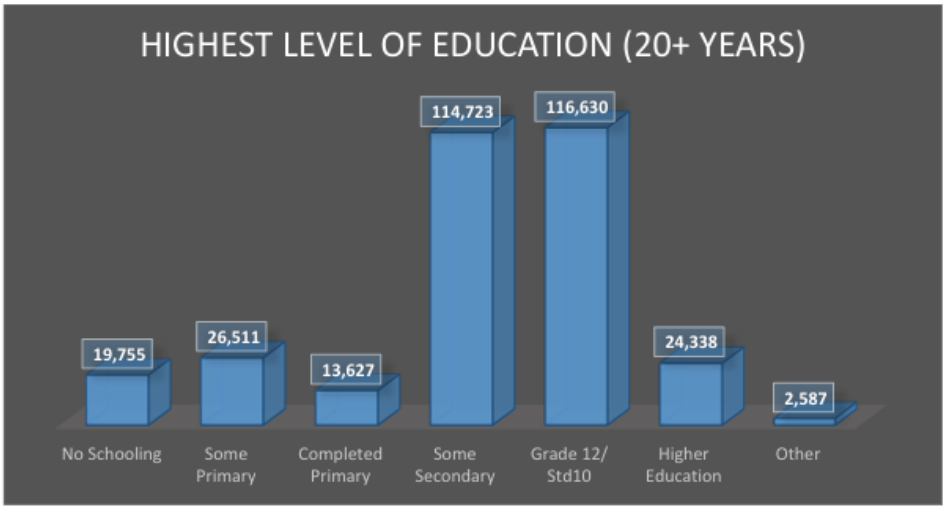


Figure 6: Highest Education Levels (Stats SA, Census 2022)

4.1.5. Income and Poverty Levels

MLM faces significant challenges related to income inequality and high poverty levels, especially in its rural and peri-urban areas. A substantial portion of households relies heavily on social grants, which serve as their main source of income. According to the IDP, poverty is particularly prevalent among youth and women, with the situation worsened by alarmingly high unemployment rates and limited access to viable economic opportunities.

In response to these challenges, the municipality is committed to prioritizing local economic development and implementing skills training initiatives aimed at empowering affected communities. Despite these efforts, a recent survey revealed that most personnel interviewed believe their area is rich in opportunities, yet they continue to struggle with poverty. This dissonance is significantly attributed to rampant corruption, which hinders progress and prevents the establishment of sustainable income streams for the residents. The interplay of these factors underscores the urgent need for effective governance and community engagement to foster economic growth and improve living conditions in MLM.

4.1.6. The Status of Orphans

A significant social challenge in MLM is the number of child-headed households, estimated at 1,806. These are often the result of the HIV/AIDS epidemic, which has claimed many lives in the adult population. The municipality collaborates with NGOs and other stakeholders to provide care and support to orphans and vulnerable children through food provision, school support, and psychosocial services.

4.2. POVERTY IN THE SDM

Despite economic activity around Brits and Hartbeespoort, poverty remains a persistent issue across MLM. Rural areas such as Maboloka and Majakaneng face high unemployment and limited access to services. Subsistence farming is common, but insufficient for economic mobility. Many villages rely heavily on government grants. The municipality has identified these patterns and incorporated targeted development nodes in its strategic planning to reduce spatial poverty disparities

A "poverty war room" was established in Maboloka to intensify multi-sectoral responses to poverty. This includes coordination of food security programs, social worker outreach, and small-scale cooperative support

4.3. EMPLOYMENT

4.3.1. Commercial Sectors

The commercial sector is most vibrant in urban centers such as Brits and Letlhabile, where a concentration of shopping malls, service stations, restaurants, and various retail enterprises thrive. These commercial hubs serve as vital sources of employment, providing thousands of jobs to local residents and generating significant tax revenues that support municipal services. In contrast, rural areas of MLM remain underserved by formal retail development, leading to a higher prevalence of informal trading practices, such as street vendors and small roadside shops. This lack of formal retail options limits access to a wider variety of goods and services for rural communities.

4.3.2. Agriculture Sector

MLM plays a crucial role in the agricultural landscape of the region, particularly noted for its diverse vegetable production, which includes crops like potatoes, carrots, and leafy greens. Farming practices vary significantly, ranging from small subsistence plots, where families grow food for their own consumption, to expansive commercial operations employing modern techniques such as tunnel farming and feedlotting for livestock. This sector is bolstered by government initiatives aimed at poverty alleviation and enhancing food security, providing resources and support to farmers to improve productivity and sustainability.

4.3.3. Manufacturing Sector

Although not heavily industrialized, the manufacturing sector in MLM encompasses a variety of essential operations, including abattoirs that process livestock for meat, packaging facilities for food products, and manufacturing plants for auto parts, granite processing, and concrete products. The majority of these manufacturing activities are strategically located along the N4 corridor and in Brits, facilitating easy access to transport routes. However, there is growing concern regarding the potential relocation of industries to Tshwane, driven by more attractive infrastructure, operational incentives, and support from local government, which could hinder economic growth in MLM.

4.3.4. Tourism Sector

Tourism in MLM is enriched by attractions such as the scenic Hartbeespoort Dam, renowned for its recreational activities including boating and fishing, as well as picturesque mountain trails that appeal to hikers and nature enthusiasts. The region also boasts numerous wildlife farms that offer unique opportunities for eco-tourism experiences, along with cultural heritage zones highlighting the local history and traditions. Despite these resources, many rural areas possess untapped ecotourism potential.

However, to fully capitalize on this sector, significant improvements in infrastructure, training programs for hospitality and tourism services, and comprehensive marketing strategies are essential to draw visitors and enhance their experiences

4.3.5. SMME Sector

In its efforts to stimulate economic growth, the municipality is actively fostering small, medium, and micro enterprises (SMMEs) by providing targeted training in areas such as digital entrepreneurship, financial literacy, risk insurance, and sustainable agricultural practices. Furthermore, there is a concerted effort to support cooperatives and informal traders as integral components of local economic development (LED) strategies. By nurturing these enterprises, the municipality aims to create job opportunities and promote resilience in the local economy.

4.3.6. Means of Transport

The primary means of transportation in MLM relies heavily on an extensive network of roadways, with the N4 highway serving as a critical artery for logistics and connectivity to neighboring regions. Within urban areas, taxi services remain the dominant mode of public transport, providing affordable and accessible options for residents. However, many rural areas are hampered by inadequate road infrastructure and underdeveloped stormwater systems, which not only hinder mobility but also limit access to essential services, including healthcare and education. Addressing these transportation challenges is vital for improving overall accessibility and quality of life for the residents of MLM.

4.4. SOCIAL INFRASTRUCTURE

4.4.1. Libraries

MLM boasts a network of 10 libraries distributed across urban and peri-urban areas, including Brits, Oukasie, Damonsville, Letlhabile, and Mothotlung. These facilities serve as crucial access points to information and learning for communities, especially learners and job seekers. However, several libraries face constraints such as staffing shortages, outdated materials, and insufficient digital infrastructure. The municipality plans to improve access through digitization and partnerships with the Department of Arts and Culture.

Public libraries are also used as community hubs for literacy programs, holiday reading initiatives, and municipal communication. Although these programs are impactful, some rural areas still lack easy access to libraries, which limits their educational opportunities and access to information technology.

4.4.2. Schools

The education system in MLM is characterized by significant disparities between urban and rural areas. While urban centers have a few well-resourced private and public schools, many rural schools suffer from inadequate infrastructure, overcrowding, and sanitation issues. Schools such as Rabboni Christian School and Peacanwood College offer quality private education, but they are financially inaccessible for most residents.

The IDP notes concerns such as the shortage of classrooms, poor sanitation in rural schools, and a lack of sports and recreation facilities. These infrastructure issues directly impact learner performance and motivation. The municipality, in collaboration with the Department of Education, plans to prioritize infrastructure upgrades and access to inclusive education.

4.4.3. Health Care and Recreation Facilities

4.4.3.1. HIV/ AIDS, TB, and STIs

The municipality reports a HIV prevalence rate of 45.5%, which is significantly higher than the provincial average. This high rate is particularly prevalent among the 18–39 age group, the economically active segment of the population. HIV/AIDS, alongside TB and STIs, poses a significant public health challenge. The municipality addresses this through health awareness campaigns, Local AIDS Councils, and home-based care programs.

The municipal strategy includes the integration of health services into existing community development programs, with a focus on prevention, testing, and treatment. The IDP also highlights the need for mobile clinics and outreach programs in remote villages.

4.4.3.2. Sport and Recreation

Sport and recreation are key components of youth development and social cohesion in MLM. The municipality facilitates annual sports and cultural festivals in collaboration with national and provincial departments. Despite the enthusiasm of local youth, there is a lack of proper infrastructure. A music school planned for Schoemansville, for instance, has yet to be established due to financial constraints.

Existing recreational facilities are poorly maintained, and many wards lack basic amenities such as soccer fields, netball courts, and community halls. The IDP calls for public-private partnerships to invest in upgrading and maintaining recreational infrastructure.

4.5. PHYSICAL INFRASTRUCTURES

4.5.1. Roads

The road network in Madibeng is unevenly developed. While urban areas like Brits and Hartbeespoort have tarred roads and street lighting, rural villages still rely on gravel roads that are often impassable during the rainy season. The municipality acknowledges a backlog in road maintenance and a lack of stormwater drainage systems in many areas, which leads to flooding and road degradation.

Both Majakaneng and Bapong face significant road infrastructure challenges. While sections of the main access routes leading into these communities have been upgraded with tar surfaces, many internal roads remain gravel or unpaved. During the rainy season, these roads become muddy and difficult to navigate, severely affecting school transport, emergency services, and daily commuting. Community members have frequently raised concerns during IDP consultations regarding the poor state of internal roads, calling for urgent grading, paving, and stormwater management systems. The municipality has included these areas in its list of priority upgrades for rural road infrastructure

4.5.2. Rail Transport

Majakaneng and Bapong do not have dedicated commuter rail services, although freight rail infrastructure exists nearby, mainly serving the mining sector. The underutilization of rail for public transport forces residents to rely heavily on taxis and private cars, increasing transport costs and limiting mobility for job seekers.

4.5.3. Water Supply

Access to water remains a pressing issue. While 90.24% of households have access to piped water, many rural settlements still depend on boreholes, communal taps, or water tankers. Water supply is managed by the municipality along with Rand Water and Odi Retail, but illegal connections and aging infrastructure remain persistent problems.

Water provision remains inconsistent in both communities. In Bapong, certain sections receive piped water via municipal reticulation systems, but other areas rely on communal standpipes or water tankers, particularly during times of high demand or system failures. Majakaneng faces similar conditions, with periodic interruptions and concerns about water quality. The municipality attributes this to aging infrastructure, illegal connections, and insufficient storage capacity. Expansion and rehabilitation of bulk water pipelines to these areas are part of the medium-term water services development plan

4.5.4. Sanitation

Sanitation services are inconsistent. Urban areas have formal sewer connections, while many rural communities rely on pit latrines or basic septic systems. The municipality operates three wastewater treatment plants in Brits, Mooinooi, and Hartbeespoort, but all require upgrades to meet growing demand and environmental regulations

Both Majakaneng and Bapong lack full coverage of waterborne sanitation. Most households use pit latrines or septic tanks, which pose environmental and health risks. In Majakaneng, the terrain and density of settlement make upgrading to a full sewer system challenging but necessary. Bapong, being one of the larger villages, has been earmarked for future sanitation upgrades, including a link to regional wastewater treatment infrastructure, where feasible.

4.5.5. Electricity

Electricity supply in Bapong and Majakaneng is managed by Eskom. While the majority of formal households are connected to the grid, informal and newly developed sections continue to experience delays in electrification. Power outages and infrastructure theft also affect service reliability. Community members have expressed the need for streetlights and pre-paid meter installations, especially in high-crime zones and informal extensions

4.5.6. Accommodation and Housing

Bapong and Majakaneng both experience high housing demand due to population growth, informal settlement expansion, and limited delivery of government-subsidized units. Bapong has a substantial backlog, with many residents living in overcrowded or informal structures. Majakaneng has similarly experienced growth in informal dwellings, particularly on land with unresolved tenure issues. Both

communities are listed among the 48 informal settlements identified for upgrading through the Informal Settlements Upgrading Program (ISUP)

Table 1*: Informal Settlements *(Stats SA, Census 2022)

Madibeng Local Municipality: INFORMAL SETTLEMENTS STATUS										
No.	FID No.	Name of informal settlement	No. of units	Land ownership	Upgrading initiative	Intervention	Current level of engineering services			
							Water	Sewerage	Access	Electricity
01	372-1	Noordkamp	144	MLM	Relocate	New proposed area next to R511 of ± 30 ha for 1 500 units	Stand pipes	Pit latrines	Gravel	None
02	372-2	Clinic Section	67	Archdiocese of Pretoria church	Relocate					
03	372-3	Phase 2	450	MLM	Relocate					
04	372-4	Oukasie Ext 5	71							
05	372-5	No Name	6							
06	372-6	Oukasie Ext 5	83							
07	372-7	Oukasie Ext 4	125							
08	372-8	Oukasie Ext 4	248							
09	372-9	No Name	15	Boderon Trust	Relocate					
10	372-10	Phase 2	34	MLM	In situ					
11	372-11	Phase 2	1,387	Unknown	Relocate	To area of FID 372-10				
12	372-12	Skierluk	574	Private	In situ	Areas to be combined & upgraded				
13	372-13	Newtown	443	Private	In situ					
14	372-14	Oskraal	642	Private	In situ					
15	372-15	No Name	726	Unknown	Relocate	To area of FID 12-14				
16	372-16	Damonsville X 3	1200	Private	In situ					
17	372-17	De Kroon	840	Hernic Ferro-chrome Pty (Ltd)	Relocate	Area next to settlement				
18	372-18	Rietfontein	139	Private	Relocate	Sunway Dev in				
19	372-19	Marius	245	Izma Beleg-gings Pty (Ltd)	In situ	In process to purchase land				
20	372-33	Ten Room	735	MLM	Relocate	Move people to FID 19 Marius				
21	372-21	Kosmos	91	Private	Relocate	Area identified at Sunway land				
22	372-22	Plastic View	47	Unknown	Relocate	To area of FID 372-23				

4.5.7. Perceived Needs of the Community

Through public consultation processes, residents of Majakaneng and Bapong consistently highlighted key priorities: formal housing, improved internal roads, reliable water and electricity supply, and access to

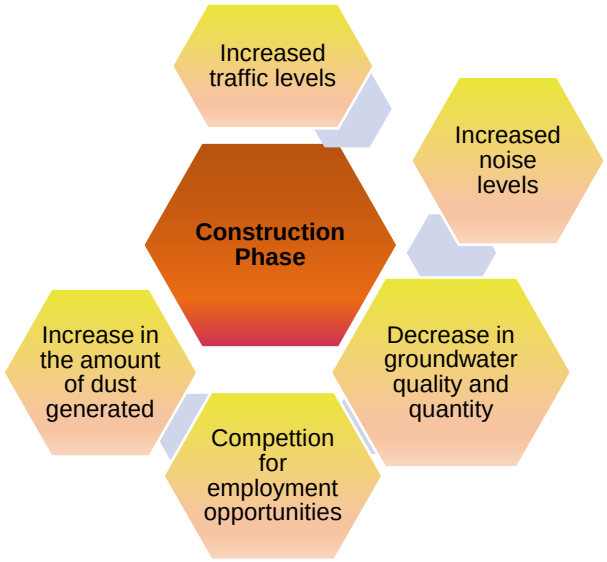
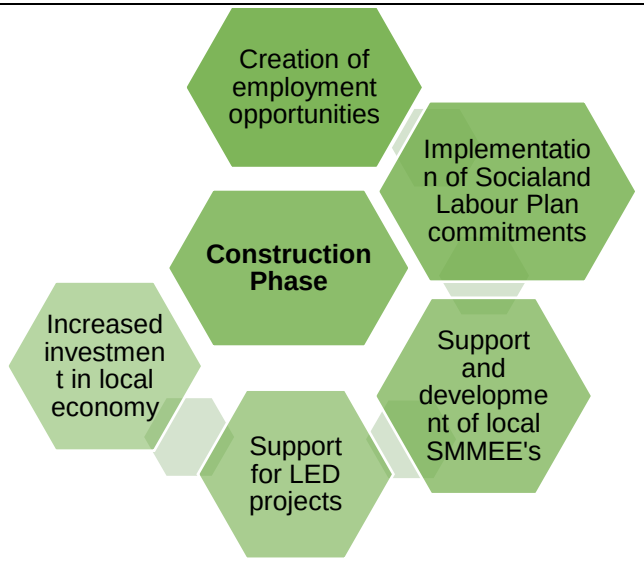
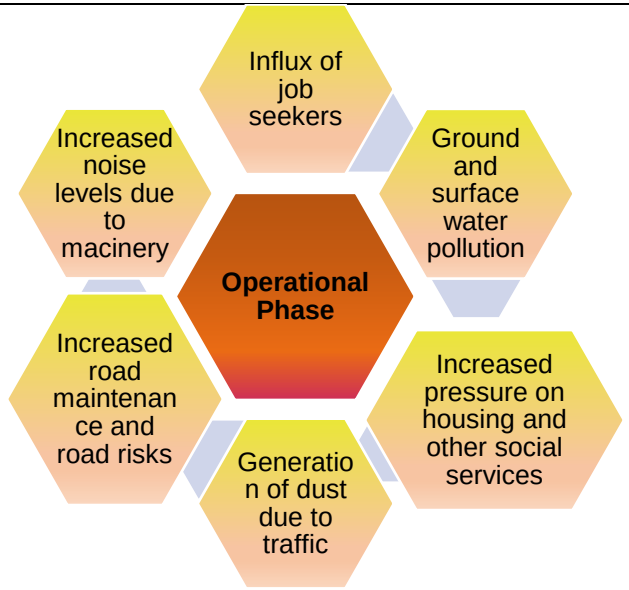
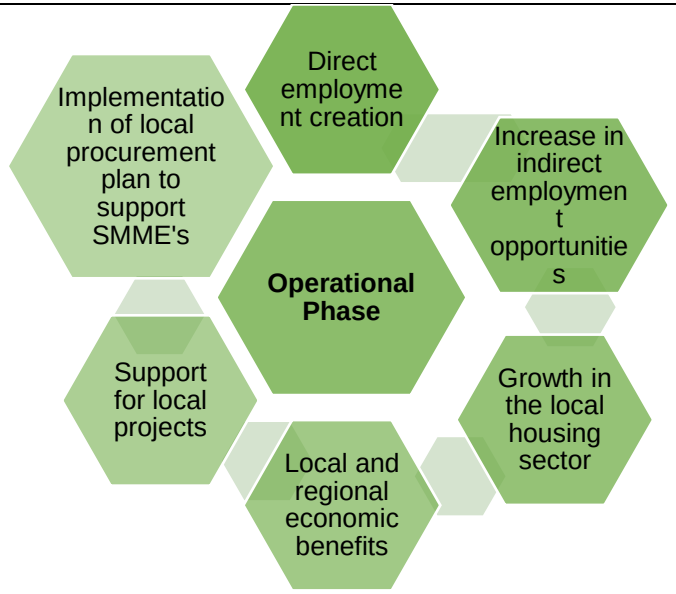
healthcare and educational facilities. Additionally, community members requested job creation programs and better recreational infrastructure for youth. These needs have been captured in the ward-based development plans and are reflected in the municipality's project prioritization framework

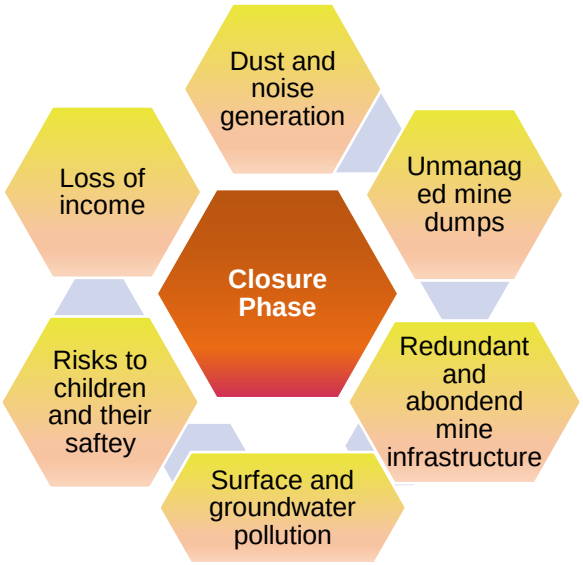
4.5.8. Potential Socio-Economic Impacts

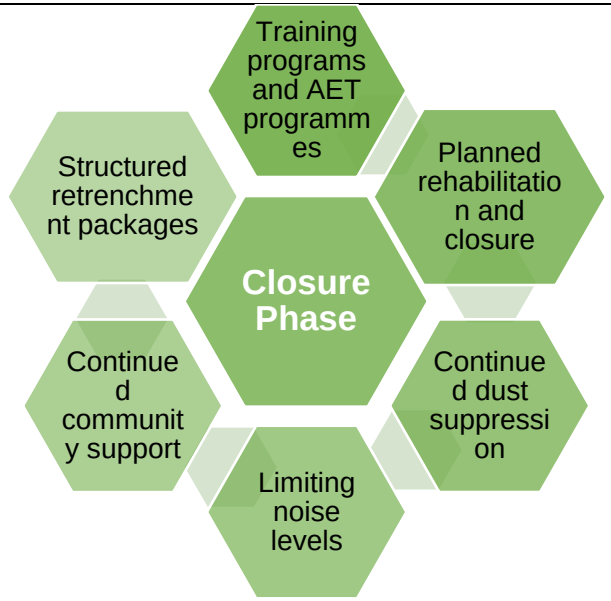
The lack of adequate infrastructure in Majakaneng and Bapong continues to constrain economic development and social well-being. However, both communities hold significant potential for socio-economic upliftment due to their proximity to mining operations and key transport routes such as the N4. The development of infrastructure, particularly water, sanitation, and housing—can enable the establishment of small businesses, stimulate job creation, and improve living conditions. Investments in these areas will also align with national priorities of spatial justice, rural development, and local beneficiation in mineral-rich zones

Given the nature of the study, the potential impacts on the affected communities can also be divided into negative and positive impacts during the construction, operation, and closure phases. These impacts were identified during the research phase , and they incorporate community issues identified in the MLM's IDP and other specialist reports pertaining to the proposed development. They are summarized in **Table 2** below:

Table 2: Identified potential negative and positive Impacts due the proposed plant activities

Identified Potential Negative Impacts	Identified Potential Positive Impacts
	
	


Dust and noise generation
Loss of income
Unmanaged mine dumps
Closure Phase
Risks to children and their saftey
Redundant and abondend mine infrastructure
Surface and groundwater pollution


Training programs and AET programmes
Structured retrenchment packages
Planned rehabilitation and closure
Closure Phase
Continued community support
Continued dust suppression
Limiting noise levels

5. SUMMARY OF IMPACT ASSESSMENT

The impact assessment process was designed to comply with the relevant national legislative requirements. Three main issues have been identified that are expected to give rise to socio-economic impacts:

- Changes to the local economy (caused by increased employment opportunities and circulation of cash);
- The proximity of project infrastructure and activities (with the latter also including activities intended to benefit neighboring communities – e.g., Corporate Social Responsibility (CSR) projects); and
- Population influx (comprising both the presence of a non-local workforce and an in-migration of job seekers).

It is important to note that each of these aspects can give rise to both positive and negative impacts. For instance, a population influx may engender conflict and competition between newcomers and the incumbent population, but it may also offer increased economic opportunities for local entrepreneurs. Likewise, the proximity of project infrastructure may cause displacement of households and livelihoods, and it may have a negative effect on the area's sense of place, etc., but it may also improve local communities' access to services and public facilities.

5.1. POTENTIAL IMPACTS DURING ALL PHASES OF THE PROPOSED PROJECT

Table 3: Sources of social potential impacts

Sources of Social Potential Impacts	
Project Phase	**Activities**
Construction	• Road construction for mineral transportation and access to waste sites • Preparation of the area for the solid waste deposit. Storage of the production plant and leach waste deposit, Construction of deviation channels • Construction of the foundations for the production plant • Preparation of the area for domestic waste disposal • Preparation of the area for the domestic wastewater treatment facility • Installation of campsites, offices, workshops, storage facilities

Operation	• Transportation and disposal of materials in waste sites • Reception and storage of minerals in the production plant • Management of solutions at the production plant • Storage of ground mineral at the production plant • Process of mineral recovery at the production plant • Waste disposal from the production plant • Management of industrial and domestic wastewater • Management of hazardous materials
Closure and post-closure	• Closure of solid waste piles • Closure of storage sites • Closure of water and electricity sources • Land reclamation • Restoration of internal roads • Revegetation • Loss of permanent and employment opportunities

5.2. PUBLIC PARTICIPATORY OUTCOME

The Scoping and Environmental Impact Assessment process also considers the level of community participation or involvement in the SEIA. The Scoping phase identifies and examines the types of communities and or number of individuals potentially impacted and their level and type of participation in the SEIA.

Public Participation meetings are scheduled for 29 May 2025, to engage with communities and the general public in identifying key issues and concerns. These meetings aim to foster open dialogue and ensure that everyone's voice is heard. As of now, there have been no definitive outcomes from these discussions, leaving ample room for community input and further exploration of the topics at hand.

5.3. Parameters for Assessing Impacts

The impact assessment and rating process is designed to provide a quantitative rating of the identified socio-economic impacts, whilst still allowing for the subjective assessment of impacts. The nature of the impact can be described as negative or positive and can be derived from the significance rating of the impacts. The rating methodology is summarized below:

Table 4: Summary of Impact Rating Methodology

Severity\Magnitude		Duration		Spatial Extent		Probability		Significant Rating
2	Very Low	1	<1 Year	1	Site only	1	Improbable	Severity + Duration + Spatial extent * Probability
4	Low	2	1 - 5 Years	2	Local community	2	Low probability	
6	Moderate	3	5 - 10 Years	3	Broad community	3	Probable	
8	High	4	10 - 20 Years	4	Regional	4	High probable	
10	Very High	5	Permanent (20+ Years)	5	National	5	Definite	

Table 5: Definitions for the Outlined Methodology

Significance	Description
Magnitude (M)	It is a measure of the degree of change in a measurement or analysis (e.g., the area of pasture, or the concentration of a metal in water compared to the water quality guideline value for the metal), and is classified as none/negligible, low, moderate or high
Spatial Extent (SE)	Refers to the area that could be affected by the impact and is classified as site, local, regional, national, or international
Duration (D)	Refers to the length of time over which an environmental impact may occur: i.e. immediate/transient, short-term, medium-term, long-term, or permanent
Probability of occurrence (P)	Is a description of the probability of the impact actually occurring as improbable (less than 5% chance), low probability (5% to 40% chance), medium probability (40% to 60% chance), highly probable (most likely, 60% to 90% chance) or definite (impact will definitely occur)

Table 6: Significance of Impact Based on Point Allocation

Points	Significance	Description
SP>60	High environmental significance (H)	An impact, which could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 - 60	Moderate environmental significance (M)	An impact or benefit which is sufficiently important to require management, and which could have an influence on the decision unless it is mitigated.
SP<30	Low environmental significance (L)	Impacts with little real effect and which will not have an influence on or require modification of the project design.
+	Positive impact	An impact that is likely to result in positive consequences/effects.
Pure Significance Rating		Impacts refer to those environmental/social effects predicted before application\implementation of mitigation measures.
Residual Significance Rating		Impacts refer to those environmental/social effects predicted to remain after the application\implementation of mitigation measures.

Table 7: Impact Assessment Matrix

Potential Identified Impacts	M	D	S E	P	SR	PSR	Recommended Mitigation Measures	M	D	S E	P	SR	RSR
Construction and Operation Phase													
Negative Potential Identified Impacts													
Heath - Impacts of Processing projects on soil quality - Processing can contaminate soils over a large area. Erosion of exposed soils, exported mineral ores, tailings, and fine material in waste rock dumps can result in substantial sediment loading to surface waters and drainage ways	8	4	3	4	60	M		6	4	1	3	33	M
Heath (Hazardous Substances) - In addition, spills and leaks of hazardous materials and the deposition of contaminated windblown dust can lead to soil contamination	8	4	3	2	50	M	• Construct a Hydrocarbon barrier liner system at Trackless Mobile Machinery (TMM) Workshops, including test ramps Install an efficient and effective oil separator at TMMs • All Hydrocarbon Storage Facilities should be located within a bunded area. • Hazardous Waste Storage facilities should be located within a bunded area • Areas, the bund should be constructed of waterproof reinforced concrete or an equivalent. The bounded compound should be constructed or	6	4	1	3	33	M

Potential Identified Impacts	M	D	S E	P	SR	PSR	Recommended Mitigation Measures	M	D	S E	P	SR	RSR
Construction and Operation Phase													
							protected in a manner that permits full recovery of contents spilled and ensures that the lining material is not damaged. The bunded compound should have sufficient capacity to fully contain leakage from storage and not be overtopped during extreme rainfall events.						
Threatens to damage the cultural and heritage aspects of communities	3	4	3	3	30	L	• Implement recommendations in the Cultural and Heritage Assessment Report • Cultural heritage must continually be assessed during the construction and operation phase of the project • Implementing continued communication with adjacent landowners and lessees in the area is recommended to mitigate the possible impacts	3	2	2	3	21	L
Water - Impacts on water resources	10	5	4	3	57	M	• Implement recommendations in the Surface Water Assessment Report • Implement recommendations in the GN 704 Report Implement recommendations in the	10	5	4	3	57	M
Water - Erosion of soils and chrome sediments into surface waters (the potential of soil and sediment eroding into and degrading surface water quality)	10	5	4	3	57	M		10	5	4	3	57	M

Potential Identified Impacts	M	D	S E	P	SR	PSR	Recommended Mitigation Measures	M	D	S E	P	SR	RSR
Construction and Operation Phase													
Water - Impacts of tailing impoundments, waste rock, heap leach, and dump leach facilities on water quality. These impacts include contamination of groundwater beneath these facilities and surface waters	10	5	4	4	76	H	Ground Water (Geohydrological) Assessment Report • BEST PRACTICE GUIDELINES dealing with aspects of DWAF's water management HIERARCHY. The topics that are covered in these guidelines include: ○ H1 - Integrated Water Management ○ H2 - Pollution Prevention and Minimisation of Impacts ○ H3 - Water Reuse and Reclamation ○ H4 - Water Treatment ○ G1 - Storm Water Management ○ G2 - Water and Salt Balances ○ G3 - Water Monitoring Systems ○ G4 - Impact Prediction ○ A4 - Pollution Control Dams	10	5	4	3	57	M
Water - Impacts of dewatering (For Processing to proceed, Processing companies must pump and discharge this water to another location). Pumping and discharging plant water causes a unique set of environmental impacts (Impacts from ground water drawdown may include reduction or elimination of surface water flows; degradation of surface water quality and beneficial uses; degradation of habitat (not only riparian zones, springs, and other wetland habitats, but also upland habitats such as greasewood as ground water levels decline below the deep root zone); reduced or eliminated production in domestic supply wells; water quality/quantity problems associated with discharge of the pumped ground water back	10	5	4	3	57	M		10	5	4	3	57	M

Potential Identified Impacts	M	D	S E	P	SR	PSR	Recommended Mitigation Measures	M	D	S E	P	SR	RSR
Construction and Operation Phase													
into surface waters downstream from the dewatered area)													
Air/Dust - Impacts of Processing projects on air quality. Particulate matter is transported by the wind because of excavations, transportation of materials, wind erosion, fugitive dust from tailings facilities, stockpiles, waste dumps, and haul roads. Exhaust emissions from mobile sources (cars, trucks, heavy equipment) raise these particulate levels.	8	5	2	4	60	M	• National Dust Control Regulations of the National Environmental Management: Air Quality Act 39 of 2004, as published in the Government (No. 36974), 1 November 2013. • SANS1929:2011 - South African National Standards, Ambient Air Quality • Implement recommendations in Air Quality Impact Assessment Report • Areas that have been stripped of vegetation must be dampened periodically to avoid excessive dust • Vehicles travelling around the site must adhere to the speed limit of 20km/hr unless specified otherwise to avoid creating excessive dust	6	4	1	3	33	M
Air\Noise - Increase in baseline ambient noise levels at sensitive receptors. Noise pollution associated with Processing may include noise from vehicle engines, loading and unloading of rock into steel dumpers, chutes, and other sources. The cumulative impacts of shoveling, ripping, transport,	8	5	2	4	60	M	• The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) Section 34 - Control of noise. • South African National Standard SANS 10103:2008 - The measurement and rating of environmental noise with respect to annoyance and to speech communication	6	4	2	3	36	M

Potential Identified Impacts	M	D	S E	P	SR	PSR	Recommended Mitigation Measures	M	D	S E	P	SR	RSR
Construction and Operation Phase													
crushing, grinding, and stockpiling can significantly affect wildlife and nearby residents.							• Implement recommendations in the Noise Impact Assessment Report						
Vibrations are associated with many types of equipment used in Processing operations. Vibration has affected the stability of infrastructures, buildings, and homes of people living near large-scale Processing operations.	8	5	2	4	60	M	Implement recommendations in the Vibration Impact Assessment Report	6	4	2	3	36	M
Ecological - Impacts of Processing projects on wildlife - Wildlife is a broad term that refers to all plants and any animals (or other organisms) that are not domesticated. Processing affects the environment and associated biota through the removal of vegetation and topsoil, the displacement of fauna, the release of pollutants, and the generation of noise	8	5	2	4	60	M	Implement recommendations in the Ecological Impact Assessment Report	6	4	1	2	22	L
Increased traffic level - Increased the risk of an accident with a pedestrian and/or another vehicle.	8	5	4	4	68	H	• Implement recommendations in Traffic Impact Assessment Report • Vehicles travelling around site must adhere to the speed limit of 20 km/hr unless specified otherwise to avoid creating excessive dust.	6	5	4	3	45	M

Potential Identified Impacts	M	D	S E	P	SR	PSR	Recommended Mitigation Measures	M	D	S E	P	SR	RSR
Construction and Operation Phase													
Impact on, local community enterprise development due to influx of non-local enterprises with perjured local information, which may lead to conflict with the local communities. Illegal informal settlement of job seekers in the area may exacerbate the situation.	10	3	3	5	80	H	• Policies and intentions related to the provision of local employment opportunities are in place as part of any tender process • Identify goods and services that can be procured locally • Develop a strategy for local enterprise development • Include local enterprise development in relevant company policies • Meet set targets for local procurement according to the Processing Charter • Implement according to the Social and Labour Plan	10	2	2	4	56	M
Some increased demand on community services results in community protests.	10	3	3	5	80	H	Demands shall be addressed as they arise from the community	10	2	2	4	56	M
Positive Potential Identified Impacts													
Support and development of Local Enterprise Development.	10	3	3	5	80	H	• Policies and intentions related to the provision of local employment opportunities are in place as part of any tender process. • Identify goods and services that can be procured locally; • Develop a strategy for local enterprise development • Include local enterprise development in relevant company policies	10	2	2	4	56	M

Potential Identified Impacts	M	D	S E	P	SR	PSR	Recommended Mitigation Measures	M	D	S E	P	SR	RSR
Construction and Operation Phase													
							• Implement according to the Social and Labour Plan						
As a result of operational underground Processing activities and associated activities, potential local employment opportunities will become available, increasing access to financial capital for workers	10	3	3	5	80	H	• Advertising of positions available within the local community to encourage local employment. Adverts are also discussed in locally recognized forum meetings • Priority to obtain skills must be given to the locals Local employment will be discussed in consultation with relevant local recognized forums • UCM already has a formalized engagement strategy focused on training, education, and business development opportunities for local people.	10	2	2	4	56	M
Opportunities to provide employment to communities and increase cultural diversity within the workforce.	10	3	3	5	80	H	Present opportunities in policy and operation to encourage employment, training and enterprise opportunities within the community and the plant workforce.	10	2	2	4	56	M

6. CONCLUSION

The proposed chrome processing plant by UCM in the MLM will have various socio-economic impacts on surrounding communities during its construction, operation, and eventual closure phases. These impacts, both positive and negative, have been identified and assessed. Crucially, the negative impacts can be effectively mitigated if UCM undertakes to implement the recommendations of the environmental and socio-economic specialist studies associated with this project.

Although a portion of the SEIA was conducted using secondary data sources, including the 2016 Census and Statistics South Africa's 2022 Community Survey, additional planning documents such as MLM's 2023/24 IDP were also consulted. These sources provided valuable insight, especially considering ward boundary changes and updated socio-economic conditions. One of the key analytical methods in the SEIA included the comparison of census and survey data, which was further validated through direct community engagement conducted on the 13th and 14th of May 2025.

Comparative analysis between survey findings and municipal data revealed alignment in most areas, except when it came to the perceived needs of local communities. Despite their proximity to economic activity, including active mining and industrial zones, communities such as Bapong and Majakaneng continue to experience high unemployment, inadequate housing, and limited access to essential services such as sanitation, clean water, and education infrastructure.

This SEIA records specific requests raised by these communities, with employment and secondary school access ranking highest among the concerns. The chrome processing plant and the broader supply and logistics ecosystem it supports hold the potential to make a substantial contribution to socio-economic upliftment. Its most meaningful contributions will come through local procurement, employment creation, and expenditure within the local economy. Moreover, development programmes linked to UCM's commitments, along with its sustainable development objectives, can serve to alleviate longer-term social and economic vulnerabilities, both during operations and after decommissioning.

One of the significant challenges highlighted by the IDP and SEIA is that processing plants often source their inputs and skilled labour from distant provinces like Gauteng, bypassing local suppliers and job seekers. This practice limits the developmental impact that such infrastructure can have on host

communities. Therefore, UCM's project presents an opportunity to localize procurement, prioritize community-based training, and strengthen the skills base in Madibeng's rural wards.

Data trends indicate that Madibeng is experiencing continued population growth due to in-migration by job seekers drawn to processing and mining activities. However, a skills mismatch prevents many residents from benefitting directly from such developments. To bridge this gap and support inclusive growth, the following community needs identified through participatory engagement should be prioritized by UCM in partnership with the municipality:

- Reliable access to clean water and dignified sanitation;
- Upgrading of roads, stormwater systems, and installation of streetlights;
- Adequate housing and electrification (including renewable energy options like solar panels);
- Establishment of a local clinic;
- Construction and support for secondary education and training centres;
- Expanded employment opportunities for locals through skills development; and
- Improved refuse removal and environmental services.

In conclusion, the development of the UCM chrome processing plant holds transformative potential for the surrounding communities of MLM. With responsible planning, active community engagement, and targeted investment in infrastructure and skills, the plant can serve as a catalyst for long-term socio-economic development and resilience in the region.

7. REFERENCES

a) Draft Environmental Impact Assessment and Environmental Management Plan for the Universal Chrome Minerals (Pty) Ltd,on portion 50 of farm Boschfontein 458 JQ within Madibeng Local Municipality in the Bojanala District Municipality, Northwest Province.
b) IDP /Budget- 2024/2025 for Madibeng Local Municipality.
c) Final 2023-2024 IDP/Budget Review for Bojanala Platinum District Municipality
d) Statistics South Africa (2018): Community Survey; Republic of South Africa.
e) Statistics South Africa (2022): Census ; Republic of South Africa.