

**SOCIO-ECONOMIC IMPACT ASSESSMENT IN SUPPORT OF THE ENVIRONMENTAL
AUTHORISATION AND WATER USE LICENSE PROCESS FOR
THE PROPOSED HEKPOORT
RESIDENTIAL DEVELOPMENT WITHIN THE GAUTENG PROVINCE**

Submitted by:



Social and Environmental Consultants

AND



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LIST OF ABBREVIATIONS

Abbreviation	Description
CAHF	Centre for Affordable Housing Finance in Africa
CBD	Central Business District
CHC	Community Health Centre
CoJ	City of Johannesburg
CRU	Community Residential Units and Housing Programme
DEA	Department of Environmental Affairs
ECD	Early Childhood Development
EIA	Environmental Impact Assessment
EMIS	Education Management Information Systems
FET	Further Education Training
FLISP	Finance Linked Individual Subsidy Programme
GVA	Gross Value Added
HH	Household
HSRC	Human Sciences Research Council
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
LED	Local Economic Development
MCLM	Mogale City Local Municipality
NEMA	National Environmental Management Act
NGO	Non-Governmental Organisation
PHC	Primary Health Care
RDP	Reconstruction and Development Plan
RLRP	Rapid Land Release Programme
SDF	Spatial Development Framework
SHP	Social Housing Programme
SIPDM	Standard for Infrastructure Procurement and Development Management
WWTP	Waste Water Treatment Plant

EXECUTIVE SUMMARY

Introduction:

Based on its constitutional mandate the government has implemented various housing schemes to assist low income groups with proven South African citizen status. The public housing programme faces various challenges related to slow progress delivery. This situation has led to community frustration and protests in Gauteng with housing as central issue. The Hekpoort area in particular recorded two community protests in the past two years. Both centered on the lack of housing in the local area. In both cases the protests turned violent with damage to property. There have also been attempts reported of 'land grabs' on Portion 321 and 322 of the property earmarked for development.

The Gauteng Province's Rapid Land Release Programme (RLRP) aims to fast track housing backlogs across Gauteng. The Hekpoort RLRP project is a mixed-use residential development planned around 400 fully subsidised 'RDP' type houses and 400 social housing units for households earning between R 1 500 to R 15 000 per month. The development will also host commercial and agricultural developments. The Hekpoort site occupies an area of approximately 73.37Ha and comprises of the following portions of the Farm Hekpoort 504 JQ.

- Portion 79;
- Portion 91;
- Portion 96;
- Portion 321; and
- Portion 322.

The site is located approximately 30km north-west of the Krugersdorp CBD. The project is located within Ward 32 of the Mogale City Local Municipality (MCLM) in the West Rand District Municipality of Gauteng Province.

The objective of the socio-economic impact assessment (SEIA) is to provide a baseline description of the local area where the development will take place, identify specific socio-economic risks or impacts related to the project as well as propose measures to manage these risks.

Socio-economic baseline:

Some 5,500 people (1,800 households) resided in the local municipal Ward 32 of MCLM where the project is situated and close to 26,000 people (8, 500 households) in the larger Hekpoort Precinct. The housing backlog in the larger Hekpoort Precinct could be close to 700 units, i.e. households living in informal structures or in backyard dwellings.

With many low-cost housing developments planned or implemented across MCLM, the housing backlog could be significantly lower at present. However, there could still be a housing backlog of 2,000 units or more in the MCLM wards south of Hekpoort. In addition, there is an informal settlement (Schaumburg) scarce 10km from Hekpoort with an estimated 1,800 informal structures. This settlement falls under the Madibeng Local Municipality of North West.

The Hekpoort area experiences challenges in terms of bulk water supply and waste water treatment. Water availability is a general concern for Magalies River water users since there is a high upstream use of water by irrigation farmers in Tarlton.

The provincial roads R560 and R563 facilitate regional mobility and would cater as public transport routes. The site is well situated in terms of connectivity to Magaliesburg and Rustenburg to the west, Krugerdorp and Roodepoort to the south and south west and Hartebeespoort in the north east. There are currently no formalized, regular bus or taxi services operating within the area.

The area could in future develop some gaps in certain social facilities as the population expands. These facilities include secondary school facilities, PHC clinics (one), a community hall, public open spaces as well as business and retail facilities.

Per capita crime rates in the local area is higher than the national or provincial average with general theft being the dominant type of crime in the area. Like national and provincial crime rates, there has been a decline in reported crime cases in the area since 2011.

The Hekpoort area is dominated by tourism and agriculture activities (intensive and extensive). Economic activity in the area has declined over the past decades with many businesses closing down. There is a general lack of capital investment in the area since the collapse of the flower industry that was the mainstay of the area in the past, resulting in many permanent workers having to turn to short term, low-paying seasonal work. The local tourism industry also faces challenges related to slow growth of the industry nationally, public perceptions of high crime rates in the local area and deteriorating road infrastructure in the local area.

While the Hekpoort area recorded relatively low unemployment rates, a high portion of the labour force are employed in low earning unskilled and seasonal jobs, mainly on local farms. . Almost a third of the adult population is functionally illiterate, i.e. with incomplete primary education. In Ward 32 where the project is proposed, close to 90% of households earned less than R 15,000 per month and would hence qualify for social housing subsidies.

A Precinct Plan was developed for Hekpoort in 2011 and already then identified the need for a new rural residential settlement in Hekpoort. Guidelines for a new low cost residential development in the area included appropriate architecture sensitive to the rural nature and tourism activities; the need to conserve water and protect water resources; the use of solar technologies as well as the need for the proximity of social facilities, a public transport network and economic opportunities to the new development. A number of sites were identified but at the time it was agreed with the community that the Vogelsang housing development would be the priority development for low income residential units in Hekpoort. The Vogelsang development was planned around a mixed-use node with informal markets, tourist facilities, community facilities and a sports field. Community based commercial farming was also planned as part of the development. The Vogelsang development concept was later absorbed into this current larger Hekpoort residential development that is planned on both sides of the R560.

Findings:

The qualifying principles for sound low-income residential project in the area would be to focus the development on the housing needs of residents of the Hekpoort Precinct without access to low-income housing; ensure that there are adequate public transport and social facilities close to the site and, importantly, to bring economic opportunities closer to the residents living in the residential development. Another important principle would be to avoid negative impacts on an already challenged local economy through potential negative impacts on the rural character of the Hekpoort area.

Economic activities related to the development furthermore needs to be based on detailed feasibility studies to optimise income and up-skilling opportunities for local residents in a sustainable way.

The following table provides a summary of the impacts anticipated during the construction and operational phases of the proposed project: The table shows that Hekpoort Residential Development could potentially have high negative impacts on community safety due to population influx as well as an increase in traffic flows and road accidents. The development could also change the rural character of the local area with potential high negative impacts on local residents' sense of place. However, it is likely that these impacts could be effectively mitigated.

Summary of Anticipated Socio-Economic Impacts

IMPACTS ANTICIPATED DURING THE CONSTRUCTION PHASE		
Impact Category	Significance without Mitigation	Significance with Mitigation
Positive economic impacts during construction	Medium (45) +	Medium (55) +
Negative impacts on roads and traffic	Medium (50) -	Medium (40) -
Negative impacts due to nuisance factors	Medium (50) -	Medium (40) -
Impact on community safety	Medium (40) -	Medium (30) -
Impact on community cohesion, sense of place	Medium (40) -	Medium (30) -
Negative economic impacts on local economic activities	Medium(56) -	Medium (36) -
IMPACTS ANTICIPATED DURING THE OPERATIONAL PHASE		
Impact Category	Significance without Mitigation	Significance with Mitigation
Access to improved housing	Medium (48) +	High (75) +
Access to economic opportunities	Low (22) +	High (64) +
Negative economic impacts on local economic activities	Medium (60)-	Medium (39)-
Impact on Land-Use	Medium (55) -	Medium (55) -
Decline in local property values	Medium (60) -	Medium (36) -
Negative impacts on roads and traffic	Medium (48) -	Medium (36) -
Negative impacts on local social infrastructure	Medium (60) -	Medium (39) -
Negative impact on municipal infrastructure	Medium (52)-	Medium (39)-
Negative impacts on community safety	High (60) -	Medium (48)-
Positive impact on local spatial objectives	Medium (42) +	Medium (48) +
Negative impact on social cohesion and sense of place	High (65) -	Medium (48)-

Limited cumulative impacts are foreseen for the project mainly due to the general lack of large scale capital projects in the local area, although the possible cumulative impacts of the proposed Dr. Molefi Sefularo Village development in close proximity to the site should be noted. There is a cumulative environmental risk related to water use in the area and the lack of potable water. This situation underscores the importance of investigating water saving technologies as part of the

project design; ensure that economic activities on the premises have no negative impacts on surface or water pollution and are water efficient.

There are a number of potential residual risks (after mitigation) related to the project. These include migrants drawn to the project-area in view of potential opportunities in the large and highly visible construction project could remain behind in the Hekpoort local area. Another risk is that additional people in search of housing could migrate into the Hekpoort area placing an increased burden on social services, in particular low-cost housing. There is a particular risk due to the relatively large number of housing backlogs in the neighbouring Schaumburg settlement in North West Province as well as to MCLM wards south of Hekpoort.

Conclusion:

Despite these concerns it is concluded that, if well-designed and underpinned by feasibility studies to optimise economic opportunities for local residents, the development could make a high positive contribution towards the housing backlog for low income households in the Hekpoort area and provide them with improved access to economic opportunities. On the basis of the socio-economic assessment, the environmental authorization of the project is recommended.

1. INTRODUCTION

1.1 PROJECT BACKGROUND AND DESCRIPTION

Section 26 of the Constitution states that everyone has the right to access to adequate housing and that, 'The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right' (Groundup, 2017).

Based on its constitutional mandate the government has implemented various housing schemes to assist low income groups with proven South African citizen status. These include (Ibid):

- The government subsidy housing (formerly known as RDP housing¹) applies to households earning less than R3 500 a month who meet certain eligibility requirements² may for fully subsidised housing units of 40m²
- Community Residential Units and Housing Programme (CRU) forms part of the Social Housing Programme (SHP) aimed at refurbished inner buildings and hostels also for households earning less than R3500³
- GAP housing includes housing schemes for households earning more than R3 500 but less than R22 000 per month (which is the minimum amount needed to qualify for a home loan from a bank):
 - The Social Housing Programme (SHP) also supplies rental housing in designated restructuring zones in urban areas to households earning more than R 3 500 per month to R15 000 a month.
 - The Government's Finance Linked Individual Subsidy Programme (FLISP) aims to help households who earn between R3 501 to a maximum of R22 000 a month to buy a home. The FLISP grant can be used to reduce the initial loan amount and hence lower monthly repayments. It can also be used as a deposit. The size of the grant is dependent on the salary level of the applicant. The grant can be used to build a new house or to buy an existing one.⁴

While the percentage of South Africans households that have received some form of government subsidy to access their housing has increased from 5.6 % in 2002 to 13.6 % in 2018 due to government's large-scale subsidised housing programme, there is still a substantial housing backlog of some 19.6% of households living in shacks and backyard flats. In 2016, the housing backlog in South Africa stood at approximately 2.2 million with an additional 1.1 million households living in backyard flats. In Gauteng Province with its high rates of in-migration and urbanization, close to 28% of households could be living in shacks or backyard flats (Stats SA, 2016; CAHF, 2019).

¹ The Department of Human Settlements changed the Reconstruction and Development Programme (RDP) housing programme to 'Breaking New Ground' (BNG). The objective of BNG is to integrate different types of housing – rented, bought and subsidised – and provide facilities like schools, clinics and shops, to improve the quality of people's lives.

² Applicants have to be 21 and older, be a first time applicant and home owner and households should consist of more than one member

³ Applicants should be 18 and older, earning between R8 00 to R 3 500 per months and households should consist of more than one member

⁴ Applicants have to be 21 and older, have worked for than 6 months and provide proof of income for three months income

The public housing programme faces various challenges related to slow progress delivery, lack of funding, high and rising development costs, the low income levels of potential owners as well as the lack of suitable and well-located land, especially in cities. This situation has led to community frustration and protests in Gauteng with housing as central issue. The communities in the Hekpoort area of City of Mogale Local Municipality (MCLM) in particular voiced their concerns and threaten to illegally occupy land if the housing issue is not addressed (CAHF, 2019).

In August 2018 Gauteng Premier David Makhura, launched the province's Rapid Land Release Programme (RLRP), in which he plans to make provincial land and buildings available for the development of human settlements and for urban agriculture projects. The objective of the programme is to address the housing issues, as well as economic, social cohesion and agricultural needs. The Programme will also make provision for people who want to build houses for themselves, as well as for urban agriculture, township businesses, sports and recreational purposes. The Programme will focus on small businesses development and endorse the use of Alternative Building Technologies (ABT).

The Hekpoort RLRP project involves 73.4 hectares of mixed-use development comprising of 50% 'RDP' housing and 50% mixed use comprising of Social Housing⁵, commercial and agricultural developments. The Hekpoort site comprises of the following portions of the Farm Hekpoort 504 JQ.

- Portion 79;
- Portion 91;
- Portion 96;
- Portion 321; and
- Portion 322.

Some 800 housing units are planned. The site is located approximately 14km north east from Magaliesburg, 30km north-west of the Krugersdorp CBD, approximately 32km south-west of the Hartbeespoort Dam. It is also relatively close to the economic centres of the City of Tshwane, Midrand, Centurion, Sandton, Roodepoort and Rustenburg – all between 50 to 68 km from the proposed development. Direct access to the site is available from the surfaced R560 which also transects the site. The land was formerly used for agriculture and is still zoned for agricultural purposes. The land is currently owned by the MCLM.

1.2 DETAILS OF SPECIALISTS

Ingrid Snyman (Batho Earth) is the social impact specialist and An Kritzinger (SED) is the economic impact assessment specialist for the study. Short resumes of their professional expertise are provided below (detailed CVs attached).

Ingrid Snyman (*BA Honours degree in Anthropology*) has more than 20 years' experience in the social field. Ingrid has been involved in various Social Impact Assessments during her career as social

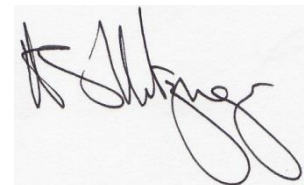
⁵ Social Housing is a rental or co-operative housing option for households earning between R1 501 - R15 000 per month. Social Housing projects require management by an institution, which should be an accredited Social Housing Institution. Social Housing projects should be developed within areas that contribute to spatial, economic and social development

scientist. These project themes consist of infrastructure development, waste management, road development, water and sanitation programmes, township and other residential type developments. She has also been involved in the design and management of numerous public participation programmes and communication strategies, particularly on complex development projects that require various levels and approaches.

An Kritzinger (*Masters Economics*) has been working as consultant in the economic development field for the past 20 years. She has extensive experience in the economic profiling and economic development plans for local authorities and districts in South Africa and has designed and implemented a training project for sustainable local economic development monitoring for district municipalities throughout South Africa in collaboration with the Development Bank of Southern Africa. Her work has also concentrated on applied economic modelling in South Africa, Namibia, Botswana and Mozambique including economic impact analysis, economic cost benefit analysis, social incidence studies and macroeconomic forecast modelling.

1.3 DECLARATION OF INDEPENDENCE

This report has been prepared as per the requirements of Section 32 of Government Notice No. R542 dated 18 June 2010 (Environmental Impact Assessment Regulations) under sections 24(5), 24M and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998). We, Ingrid Snyman (Batho Earth) and An Kritzinger (SED) declare that this report has been prepared independently of any influence or prejudice as may be specified by the Department of Environmental Affairs (DEA).

Ingrid Snyman	Anna Sophia Kritzinger
_____ Signature of specialist	_____ Signature of specialist
Batho Earth Name of group (trading name)	Southern Economic Development (SED) Name of group (trading name):
_____ 20 January 2020 Date:	_____

1.4 GUIDELINES FOR THE SOCIO-ECONOMIC IMPACT ASSESSMENT

The economic impact assessment will cover the identification and mitigation of socio-economic impacts relevant for the Environmental Authorisation Processes. The following legislation is relevant:

The National Environmental Management Act (NEMA), No. 107 of 1998 and Environmental Impact Assessment Regulations (GN No. R. 982 of 2014) provide a suite of principles and tools to guide South Africa on a path to sustainable development. “Environment’ is defined in holistic terms and includes biophysical, social and economic components, as well as the connections within and between these components. While the act does not prescribe a specific methodology in terms of socio economic impact assessment the following stipulations highlights the necessity to include socio economic issues in environmental impact assessments.

The following general principles apply to all identified impacts:

- Responsibility for the impact should apply throughout its life cycle.
- The participation of all interested and affected parties in environmental governance must be promoted
- Decisions must take into account the interests, needs and values of all interested parties
- The costs of remedying pollution, environmental degradation, consequent adverse health effects and of preventing, controlling or mitigating further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment, i.e. the so-called polluter-pay principle.

The regulations also makes provision for cumulative effects assessment identifying and evaluating the significance of effects from multiple actions representing potential causes of impacts.

The NEMA regulations of 2014 provides for baseline/scoping, impact assessment as well and management reports including the identification of measures to monitor adherence to the Environmental Management Plan.

1.5 CHECKLIST REQUIREMENTS FOR SPECIALIST REPORT

EIA REGULATIONS 2014 GNR 982 Appendix 6 CONTENT OF THE SPECIALIST REPORTS	Status / Cross-reference in this Report
a) details of the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a curriculum vitae;	Sections 1.2 and 10
b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 1.3
c) an indication of the scope of, and the purpose for which, the report was prepared	Section 2.1
d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 2.2

EIA REGULATIONS 2014 GNR 982 Appendix 6 CONTENT OF THE SPECIALIST REPORTS	Status / Cross-reference in this Report
e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 2.2 and 2.4
f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	N/A
g) an identification of any areas to be avoided, including buffers;	N/A
h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers	N/A
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 2.3
j) a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Sections 4 and 5
k) any mitigation measures for inclusion in the EMPr	Sections 4,5 and 6
l) any conditions for inclusion in the environmental authorisation;	Sections 4,5 and 6
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Sections 4,5 and 6
n) a reasoned opinion	
(i) whether the proposed activity, activities or portions thereof should be authorised;	Section 7
(ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	Section 7
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 2.2 and 9
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Part of I&AP register
q) any other information requested by the competent authority	N/A

2. SCOPE AND METHODOLOGY

2.1 REPORT SCOPE

The socio-economic impact assessment (SEIA) focuses on the following areas:

- Description of the local socio-economic baseline for the Hekpoort Residential Development Project in Gauteng as part of the RLRP
- Description of the nature of potential impacts during construction and operations that could occur
- Description of the significance of the impacts in terms of extent, duration, magnitude and probability
- A management plan to enhance positive impact and mitigate negative impacts
- A monitoring plan to ensure that the management measures are implemented over time

2.2 METHODOLOGY AND SOURCES

The report is based on observations made during a site visit, primary and secondary sources as well as economic modeling. The site visit was conducted on 8 January 2020.

Primary Data

Primary sources include:

- Mapping of socio-economic sensitive areas with the aid of Google Earth satellite images
- Telephonic interviews with key stakeholders. The stakeholders consist of residential associations (where available), ward councillors, businesses groups, property agents and local government officials (see Section 9 below)

Secondary Data

Secondary data sources include to the following (See Section 8 below for list of sources):

- Public policy documents relevant to the study including national and provincial housing policy documents, municipal Integrated Development Plans (IDPs) and Spatial Development Framework (SDF)
- Statistics South Africa Data (Census 2001 – 2011; Community Survey 2016)
- Other academic literature relevant to the project

Economic Modelling

Input-output (I/O) modelling is used to assess the project's potential impact on employment and economic output. The I/O analyses is based on i) direct impacts (income and employment created due to employment by the project itself) ii) indirect impacts (backward linkages to local suppliers) and iii) induced impacts due to the overall increase in income levels and increased spending on goods and services which could lead to a further increase in production and employment in the local area.

2.3 LIMITATIONS AND ASSUMPTIONS

The following assumptions and limitations apply to the economic impact assessment:

- The SEIA included consultations with selected stakeholders and potentially affected parties as part of the impact assessment phase. This does not form part of the Public Participation Process (PPP) required for the overall EIA process, except where it was specifically specified as such during the consultation sessions.
- A SEIA aims to identify possible social and economic impacts that could occur in future. These impacts are based on existing baseline information. There is thus always an uncertainty with regards to the anticipated impact actually occurring, as well as the intensity thereof. Impact predictions have been made as accurately as possible based on the information available at the time of the study.
- Sources consulted are not exhaustive and additional information can still come to the fore to influence the contents, findings, ratings and conclusions made.
- The construction and employment costs for the project were based on the high-level project description and average building and bulk infrastructure per low cost housing type. As such these costs were only used to establish high level potential employment and income impacts and is not to be used for planning purposes
- Socio-economic baseline information was mainly based on official statistics from StatsSA, as well as municipal documentation. Sub-municipal data was only available for 2011. Recent trends as well as information on a sub-municipal level were also based on quantitative and qualitative information received from local representatives with local knowledge. The lack of more recent official socio-economic data is therefore seen as a limiting factor, although it is not anticipated to influence the outcome of the report.
- Technical and other information provided by the client is assumed to be correct.
- Individuals view possible socio-economic impacts differently due to their association with the anticipated impact. Impacts could therefore be perceived and rated differently than those contained in the SEIA Report.
- It is assumed that the developer will adhere to legally required and best practice management principles
- The economic impact model was based on information supplied by the developer
- Economic multipliers, average salaries and wages and value added as a percentage of total income were based on provincial and national averages.

2.4 IMPACT METHODOLOGY

As part of the EIA Process, the anticipated socio-economic impacts were rated according to the following rating methodology.

The direct, indirect and cumulative impacts of the issues identified through the scoping study, as well as all other issues identified in the EIA phase were assessed in terms of the following criteria:

- The **nature** includes a description of what causes the effect, what will be affected and how it will be affected.

- The **extent**, wherein it is indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score of between 1 and 5 is assigned as appropriate (with a score of 1 being site specific, 2 = local (site + immediate surrounds), 3 = regional, 4 = national and a score of 5 being international).
- The **duration**, wherein it will be indicated whether:
 - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
 - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
 - medium-term (5–15 years) – assigned a score of 3;
 - long term (> 15 years) - assigned a score of 4; or
 - permanent - assigned a score of 5;
- The **consequences (magnitude)**, quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability of occurrence**, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen); 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures).
- the **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- The **status**, which will be described as positive, negative or neutral.
- The degree to which the impact can be reversed.
- The degree to which the impact may cause irreplaceable loss of resources.
- The *degree* to which the impact can be *mitigated*.

The **significance** is calculated by combining the criteria in the following formula:

$$S = (E+D+M) \times P$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The **significance weightings** for each potential impact are as follows:

< 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),

30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),

> 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

3. SOCIO-ECONOMIC BASELINE OF THE LOCAL AREA

3.1 DEFINING THE LOCAL AREA

The 'local' community relevant to the economic impact assessment refers to communities within a 5km radius of the site, i.e. considered the direct influence sphere of the project. If relevant, the communities within the wider influence sphere (10km radius) will also (wider influence zone) be considered. For the purposes of the analysis, data on a ward level were analysed to establish the socio-economic baseline for the local area.

The Hekpoort Residential Development is situated in Ward 32 of the Mogale City Local Municipality (MCLM) in the West Rand District of Gauteng Province. The larger Hekpoort Precinct covers a wider area than Ward 32 and includes sections of the some of the MCLM rural wards south of Ward 32.

MCLM wards adjacent to Ward 32 includes to the south Ward 31 (Magaliesburg and environs) and Ward 30 (Tarlton) as well as Ward 39 to the south east bordering Mulderdrift.

The Ward borders the most southern rural ward of Madibeng LM Ward 29 (North West) to the east. This ward includes the informal settlement Schaumburg that is also sometimes referred to as a 'Hekpoort' informal settlement. Other areas in Ward 29 include Schoemansville and Kosmos village on the eastern side of Hartebeespoortdam as well as Pelindaba further south east. Ward 32 also borders Rustenburg LM (North West) in the west.

3.2 SOCIO-ECONOMIC SENSITIVE AREAS CLOSE TO THE SITE

An indication of the socio-economic sensitive areas close to the proposed development is provided in Figure 1. The dominant land-use close to the planned Hekpoort Residential Development is agriculture including extensive crop farming (maize and lucerne), intensive horticulture and livestock (chicken batteries and cattle). There are a number of intensive horticulture farms (tunnels) and an integrated vegetable and fish farm to the north east of the site along the R560.

There are numerous settlements scattered across the area, include the area of KwaJanenyane (comprising of formal and informal structures) that partly lies within the site boundaries as well as the informal housing area of Lethabong occurs on the east of the site. The proposed Dr Molefi Sefularo Village is proposed to the north of the R560, east of the Hekpoort development and west of the R401. This settlement would include 190 RDP units. Construction is anticipated to commence in March 2020 (Cllr. S Molwanyane: 2020)

Hekpoort also forms part of the Magalies Meander, a tourist destination area that roughly covers the area south of the Magalies Mountains to the N12 between the town Magaliesburg and the R 512 to the east. The area hosts various tourist attractions including the Cradle of Humankind. Socio-economic concerns within a 2km radius of the planned site include a number of concerns north of the R560 (Braambos Adventure Centre and Education Camp; Roelofs Nursery, KwaJanenyane settlement), Lethabong east of the site, Total Oostermoed to the south east, a police station (Hekpoort SAPS) and Hekpoort Primary School.

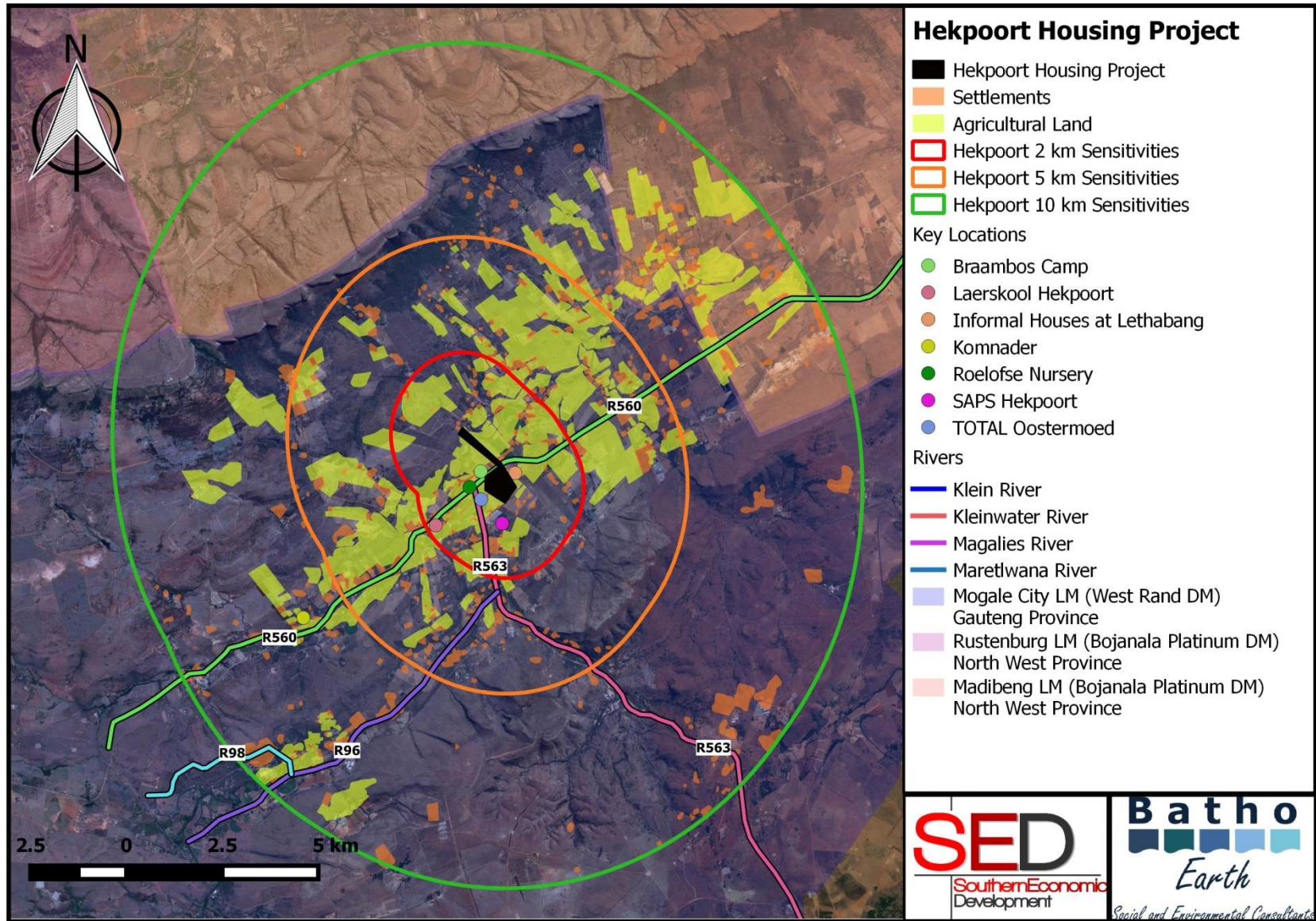


Figure 1: Socio-Economic Sensitive Areas Close to Hekpoort Residential Development

3.3 POPULATION AND HOUSEHOLD SIZE AND TRENDS

Table 1 below shows the high population growth rate of Gauteng relative to South Africa due to the in-migration of people from South Africa as well as the rest of Africa to centres of economic activity especially in the City of Johannesburg and the Ekurhuleni metro area. While population growth was lower in Mogale City Local Municipality (MCLM), the number of households grew at a rate higher than the national average as households split off into smaller units. As could be expected from an urban area, the average household size in MCLM was lower at 2.9 people per household than the average of 3.4 nationally.

According to Stats SA Census of 2011, about 5,500 people resided in Ward 32 of Mogale City. The larger Hekpoort Precinct that includes sections of MCLM wards south of the Ward 32, is estimated to host close to 26,000 people and 8,500 households in 2010 (Urban Dynamics, 2011). As a small rural ward on the north eastern sections of MCLM, the population density is much lower at 13 people/km² compared to 286 people/km² in MCLM on average and 737 people/km² in Gauteng Province (Stats SA, 2011 and 2017).

Some 11,000 people resided in Ward 31 (including Magaliesburg), 11 400 people in Ward 30 (including Tarlton and Sterkfontein) and close to 10,000 in Ward 39 south east adjacent to Mulderdrift (Stats SA, 2011).

Table 1: Population and Household Growth

Area	Population		Growth p.a.	Households		Growth p.a.	Average household size	
	2011	2016	2011-2016	2011	2016	2011-2016	2011	2016
MCLM Ward 32	5,543			1,828			3.0	
Mogale City	362,420	383,864	1.2%	123,377	147,154	3.6%	2.9	2.6
Gauteng	12,272,263	13,399,726	1.8%	4,164,641	4,951,138	3.5%	2.9	2.7
South Africa	51,770,561	55,653,654	1.5%	15,065,018	16,923,309	2.4%	3.4	3.3

Source: Stats SA 2011 and Community Survey 2016 as in <https://wazimap.co.za/>

About 19,000 people resided in Madibeng LM (North West) Ward 29 just east from Ward 32. The Schaumburg informal settlement contributes to almost a third of the people (an estimate 6,000 people) residing in this ward. The Ward 29 of Madibeng LM is also sparsely populated although its population density is somewhat higher (56 people/km²) than the density in Ward 32, MCLM where Hekpoort is situated (Stats SA, 2011)

The table shows a housing backlog of close to 400 houses (shacks and rooms/flatlets) in the MCLM Ward 32 where Hekpoort is located as well as a housing backlog of close to 5,000 houses in the adjacent wards of Hekpoort including the areas south of Hekpoort up to the boundary of Mulderdrift in the south east. These wards also include Magaliesburg and its surrounding rural areas.

3.4 POPULATION GENDER, AGE, LANGUAGE, COUNTRY OF BIRTH

Table 1 below shows the relatively low female ratios in Ward 32 of MCLM and that could suggest high rates of single male migrants in-migrating to the area in search of jobs on farms and tourist establishments in the local area.

The area displays a fairly homogenous nature with the majority of people (52%) speaking Setswana as first language, higher than the portion in MCLM on average. However, while in-migration from other areas within South Africa to this area could be low, the area shows a relatively high portion of people born outside South Africa (9%) compared to the national average of 2%. Based on local interviews there has been a recent high influx of people aliens from other countries in Southern Africa to this area. While there is currently little evidence of xenophobia towards these immigrants, it should be considered a risk due to the high poverty and unemployment profile rates coupled with limited economic opportunities in the local area.

Table 2: Gender, Age and Race Distribution, 2011/2016

Area	% Females	% of Population 18-64 years	% Black African	% Born in SA	Majority language
MCLM Ward 32	47.50%	61.3%	83.0%	91.1%	Setswana (52%)
MCLM	49.10%	66.7%	76.0%	92.7%	Setwana (35%)
Gauteng	49.6%	65.2%	80.4%	93.9%	isiZulu (23%)
South Africa	51.0%	57.2%	80.7%	97.8%	isiZulu (24%)

Source: Stats SA 2011 and Community Survey 2016 as in <https://wazimap.co.za/>

Note: Ward information is for 2011

3.5 HOUSING IN THE LOCAL AREA

Within Ward 32, 67% of the households live in formal dwellings with 7% of the households falling within the “other” category. This figure compares favourably with the number of households living in a formal dwelling within the MCLM which stands at 63%. Ward 32 has 18% of households that live in informal shacks. The rooms or flatlets (3.8%) refer to backyard dwellings or where sub-letting is taking place. One could argue that those people renting or living in a room or backyard flat also require improved housing conditions. Adjacent wards e.g. Ward 31 and Ward 30 have large numbers of shacks where improved housing conditions are therefore also needed.

Table 3 provides a breakdown of the type of dwellings mainly found in the affected and adjacent wards in the larger study area and the number/percentage of type of household dwellings. The table shows a housing backlog of close to 400 houses (shacks and rooms/flatlets) in the MCLM Ward 32 where Hekpoort is located.

A study conducted for the Hekpoort Precinct (Urban Dynamics, 2011) estimated some 660 informal structures situated across some 14 informal settlements in the larger precinct. The settlements included:

- Panorama/Lethabong (east of the proposed development along the R560) – 90 units

- Braambos Supply (east of the proposed development along the R560) – 53 units
- Mpandlane (south west from the proposed development on the R560) – 73 units
- Masakane just outside Hekpoort precinct area (south west on the R560 close to Thorndale – 89 units
- Nine other smaller settlements scattered across the precinct (e.g. Roelofs, Active, Nooitgedacht, Radikgomo, Top Rose and Sunburst) – 235 units
- The Kromdraai and Tweefontein informal settlements in the Cradle of Humankind region south of the proposed development – 120 units

Table 3: Type of dwellings and number of households in the area, 2011

Type of dwelling	MCLM Ward 32		MCLM adjacent wards Ward 30, 31, 39	
	Households (number)	% of households	Number of households	% of households
House	1,225	67%	5,985	47.78%
Shack	326	18%	4,637	37.02%
Room / flatlet	70	4%	354	2.83%
Other	134	7%	1,017	8.12%
N/A	73	4%	534	4.26%
Total	1,828	100%	12,527	100%

Source: Stats SA 2011 as in <https://wazimap.co.za/>

As indicated in the table above, the housing backlog in the larger area close to Wards 32 was estimated at close to 5,000 houses in the adjacent Wards 30, 31 and 39 south and south-east of Hekpoort. These backlogs include close to 1, 300 units in Ward 31 (Magaliesburg area); 3,300 units in Ward 30 (the Tarlton area) and close to 350 units in Ward 39 adjacent to Mulderdrift, south east of Ward 32.

Apart from the housing backlogs in Mogale City mentioned above, there is also an informal settlement Schaumburg with an estimated 1,800 households (6,000 people) that falls under Madibeng LM Ward 29 (North West) about 10km north east along the R560 between Hekpoort and Skeerpoort. Schaumburg is also sometimes referred to as a 'Hekpoort' informal settlement (Chaskalson, 2017). Madibeng LM is also characterized by a high number of informal settlements with close to 44% or 82 000 of Madibeng households staying in shacks or backyard flats compared to 30% in Mogale City (Stats SA, 2016). The area furthermore continues to experience high levels of in-migration due to perceived economic opportunities in the mines.

3.6 AVAILABILITY OF HOUSING FOR DIFFERENT INCOME GROUPS

Hekpoort is a peri-urban area within the larger Mogale City Local Municipality. Hekpoort can be categorised predominantly as farming community with agricultural activities such as crop and livestock farming undertaken within the area. The population density is low with settlements being far apart. Houses within the local Hekpoort area are mainly spread out along the R560. These are mainly dwellings on small holdings with some informal settlements near and on the proposed site and next to the R560 in Hekpoort West. Another settlement consisting of formal and informal structures were identified to the east of the R563 approximately 1.3 km to the south of the proposed site. This could also be farm worker housing.

The proposed Hekpoort property is currently zoned for agricultural use, but a section of the site houses a relative small informal settlement.

Based on information received from the client, the residential area of KwaJanenyane which includes formal and informal structures is located on site, to the north of the R560. This settlement is expanding towards the east to the R401. This location is where the Dr. Molefi Sefularo Village of 190 RDP units is planned. Approximately 10 km to the east of the proposed Hekpoort development is the informal settlement of Schaumburg, near Skeerpoort. This settlement falls within the North West Province under the jurisdiction of the Madibeng Local Municipality.

Some of the informal settlements in the area originated as a result of historical farm evictions, mainly due to changes in the legislation with regards to the status of the residence of farm workers. It is possible that some of these residents still work on the farms (possibly as seasonal workers) and therefore still require formal housing.

Limited accommodation facilities and housing for different income groups are thus present within the area, as the majority of residents are medium income farmers. The area however does have a number of country houses, hotels and lodges aimed at tourists visiting the larger Magaliesburg area and those partaking in activities provided by the Magaliesburg Meander.

Since 2011, more than 4,000 low cost residential units have been planned or are completed in Ward 32 and in the adjacent MCLM Wards 31, 30 and 39 to the south and south east of Ward 32 (Mogale City, 2016):

- In Ward 31 close to 1,300 low cost housing units have either been completed or are planned. Completed developments include 558 low cost units built in Ga-Mohale directly east of Magaliesburg. Planned units include 260 low cost structures in Carmel Estate Vaalbank and another 479 units planned in Ga-Mohale Extension 1 as part of an integrated development including a school, clinic, community hall, church and other amenities;
- In Ward 30, a private initiative is registered in Tarlton for the development of Mogale City Ext22. The development involves 2,070 RDP type units, primary and secondary schools, crèches, a clinic and open space
- In Ward 39, some 218 low cost units are planned in Honingklip close to Muldersdrift
- In Ward 32, information regarding the proposed Dr Molefi Sefularo Village proposed in close proximity to the site (north of the R560 and west of the R401) was obtained. The housing development will entail the development of 190 RDP houses, crèche and recreational park. According to the Ward Councillor, the construction the Dr Molefi Sefularo Village is proposed to (start in March 2020).

If all these developments materialise, it will make a significant dent on the 5,400 housing backlog estimated for these Wards. In Ward 32, the planned Vogelsang development has been replaced by the Dr Molefi Sefularo Village development. Residual low cost housing backlogs in the Hekpoort area could therefore still be high after the 190 RDP units at Dr Molefi Sefularo Village, based on the

estimated 660 units in the larger Hekpoort precinct in 2011, the housing backlog could still be in the region of 500 units.

It should also be noted that Ward 32 houses the Cradle of Humankind area. As a World Heritage Site this area puts some restrictions on some developments. Any developments which fall within the Cradle of Humankind Heritage site and bordering area must therefore adhere to and be evaluated according to the Environmental Management Framework of the Cradle of Humankind World Heritage Site (2008 Report) (Urban Dynamics, 2011).

The MCLM has, however, developed a new 5 year housing development plan in order to address the housing challenge. The strategic plan seeks to pursue partnerships with other private and public entities in order to address the housing backlog (Mogale City Local Municipality, 2018). Housing and the provision of sustainable human settlements that would include allocation of stands and serviced sites has been set as a priority of the Mogale City Local Municipality.

3.7 MUNICIPAL INFRASTRUCTURE (WATER, ELECTRICITY AND WASTE)

The following table provides an outline of the state of municipal infrastructure delivery:

Table 4: Municipal Infrastructure Delivery

Service	MCLM	MCLM Ward 32
	Households Serviced %	Households Serviced %
Housing (formal dwellings)	63%	67%
Water from formal service provider	91.3%	28.6%
Sanitation (flush toilet)	90.2%	48.2%
Electricity	87%	N/A
Refuse removal	84%	21%

Source: Stats SA (2011) as in <https://wazimap.co.za/> and Mogale City LM (2018)

Due to the rural characteristics of a large section of Ward 32, only 28.6% of the households are serviced by a formal water service provider with a large percentage (45%) still making use of boreholes. In terms of sanitation 48.2% have access to a flush toilet, but also probably due to the rural characteristics, 41.7% of the households still make use of pit latrines. It is therefore also likely that there is no sewer network within the study area. Only 21% of households are serviced by a formal service provider in terms of waste removal, while 44% of households have their own dumps.

The Hekpoort area has had numerous violent service delivery protests. Residents indicated that they were not satisfied with the overall service delivery by the MCLM. Protest actions in other parts of the municipality have also been frequently reported. The informal settlement of Schaumburg, approximately 10 km to the east of the proposed Hekpoort development has also turned to violent protests to demand water, sanitation and refuse collection. This community has now requested the private sector to assist with these basic service delivery issues. Some informal townships are not supplied with electricity, as these settlements are not proclaimed in terms of the town planning regulations (Mogale City Local Municipality, 2018).

According to the Hekpoort Precinct Study (Urban Dynamics, 2011), although a pipeline from Rustenburg to MCLM runs in the vicinity of the project area, it did not have the capacity to serve the Hekpoort area and needs to be upgraded. Hekpoort was also not served by a sewer network at the time. The construction of sewer pipelines and a pump stations to the then proposed settlement of Vogelsang close to the current site, was considered prohibitively expensive especially in the light of the relatively small number of housing units (220) considered for the development at the time (also refer to Section 3.16 below).

According to the ward councillor, as part of the proposed Dr Molefi Sefularo Village (190 RDP units), water tanks and a small sewage plant are being constructed to serve the needs of the specific development.

Hekpoort (south) (approximately 8 km from the proposed development) and Springs (south) (approximately 10 km from the development) are two Eskom power sub-stations in close proximity to the proposed development (Ibid).

3.8 ROADS AND TRANSPORT SERVICES

The total road network of Mogale City is 1,100 km and made up of 960 km of paved roads and 140 km of gravel roads within the rural areas and a small number of unpaved roads in the older townships. The objectives are to continue with the paving of gravel roads in the peri-urban areas, such as Tarlton, Magaliesburg, Hekpoort, Kromdraai and Muldersdrif. Various of the rural roads that connect to tourist facilities also need to be improved and maintained although tarring does not seem to be necessary (Urban Dynamics, 2011).

The proposed Hekpoort site is in close proximity to the intersection of the regional roads R560 and the R563. The R560 traverses the proposed site. This road runs parallel to the Magaliesberg and links to the R24 leading to Rustenburg in the west and to various roads leading to the Hartebeespoort Dam area in the east. The R563 links Hekpoort (north) with Krugersdorp in the south. This road also functions as the only bus route serving the Hekpoort Study Area. It further passes Maropeng, which is a provincial tourism facility linked to the Cradle of Humankind.

These roads thus aim to facilitate regional mobility and would cater as public transport routes. Within the localized study area, both these sections of the R563 and R560 are in a good condition, although it would differ along different sections of the roads. Various accidents have been reported to take place on the R560 and R563.

Several gravel access roads lead from either side of the R560 which provides access to the farming areas. The majority of these roads require maintenance and upgrading. The state of the gravel roads hampers tourist movement and tourism development in general.

Traffic volumes on the regional roads would be moderate to high as residents from Hekpoort would use both these roads to access areas of employment, shopping and business centres, as well as social amenities within Krugersdorp CBD, Magaliesburg and the Hartebeespoort area.

A number of rural tourism routes have been identified by the MCLM, which should be the focus for tourism related developments. These include the R563, the R24 (north of Tarlton up to the R560) with Magaliesburg as tourism node, and the R560, with the Hekpoort town as tourism node. The intersections of these routes are considered to be the main gateways into the tourism areas and, as such, should be afforded specific attention in terms of environmental quality and the quality of any development.

The main modes of transport in the area include pedestrians and private vehicles. Cars and mini-bus taxis, as well as a bus services are the main transport mode to access places of employment and social amenities. There are, however, no formalised bus or taxi services operating within the area. The Hekpoort Precinct Plan (Urban Dynamics, 2011) mentions a Strategic Public Transportation Network (SPTN) that passes west of Hekpoort linking Mogale City to Rustenburg on the R24. It also mentions a low frequency bus service on the R563 along the 560 and the R1676.

It seems that the railway line traversing the study area is not operational for freight anymore. It was used as a tourism line, but those activities also seem to have ceased. It is unlikely that the infrastructure is maintained or still present to easily rectify the situation.

The West Rand District investigated the feasibility of implementing bicycle routes across rural areas in MCLM (Urban Dynamics, 2011).

3.9 EDUCATIONAL STATUS AND SERVICES

Table 5 below shows the relatively low ratios of primary and secondary schools in Gauteng Province relative to population size. In Ward 32 of MCLM there seems to be a sufficient number of schools, especially primary schools. The relatively high number of the primary schools could be ascribed to the large number of small and dispersed communities across the ward.

Table 5: Education indicators, 2017

Area	Number of primary schools/10 000 persons (equalised)	Number of secondary schools/10 000 persons (equalised)
MCLM Ward 32	7.1	2.9
Gauteng	1.4	0.8
South Africa	3.1	2.7

Source: Own estimated based on Stats SA (2011 and 2016) and Municipal Demarcation Board (2018)

In Ward 32 there are at least 3 primary schools (including Grade R) within close range the project site, the closest being Laerskool Hekpoort less than 2km south west along the R560 ; Die Poort Primary Farm School, about 3.5km north east along the R560 and FJ Kloppers Primary School (5.5km north east). All three these schools are No-fee Schools.

There is a primary and secondary school in Bekker about 9km south west from the site while Schaumburg Combined School is situated approximately 10km to the north east along the R560. There are also a number of primary schools and a few secondary schools in the Magaliesburg and

Maanhaarrand areas, about 15km south west of the site, a number of these also offer No Fees to poor learners⁶.

Apart from Schaumburg Combined School (which is reportedly over-crowded), the classroom sizes (learner to educator ratio) in other schools in the vicinity of the project site is relatively low, possibly suggesting some available capacity in these schools. All the schools in the immediate local area are public schools. Only two schools (both primary schools) are however within 2km from the site along a provincial road. Learner transport to and from the proposed project site will therefore be required.

Table 6: School Statistics, 2018

Entity	Learners	Educators	Learner/ educator ratio	No Fee School
Laerskool Hekpoort	212	11	19	YES
Die Poort Primary Farm School	163	9	18	YES
FJ Kloppers Primary School	132	5	26	YES
Laerskool Bekker	558	27	21	NO
Hoërskool Bekker (agricultural school)	670	41	16	NO
Schaumburg Combined School	978	27	36	YES

Source: Based on the Department of Basic Education EMIS data – Schools Master list for Gauteng (2018)

Table 7 below shows that the level of people that are functionally illiterate (people that did not complete primary education) in Gauteng is lower than the national average, i.e. 11% compared to 17% nationally. Functional illiteracy rates in MCLM are very high with almost a third of the adult population (31%) not having completed primary education in 2011. The skilled labour force (with tertiary qualifications) is also slightly below the national average with only 7% of the adult population having completed tertiary education in 2011.

Table 7: The Educational Level of the Adult Population 20 years and older, 2011 and 2016

Area	Functionally illiterate	Completed primary	Some secondary	Matric	Tertiary education	Total
MCLM ward 32	31%	7%	33%	22%	7%	100%
MCLM	11%	4%	34%	40%	10%	100%
Gauteng	11%	3%	32%	43%	11%	100%
South Africa	17%	4%	35%	36%	8%	100%

Source: Based on Stats SA 2011 and Community Survey 2016 as in <https://wazimap.co.za/>

Note: Ward ratios applies to 2011

3.10 HEALTH SERVICES

The percentage of the population with medical aid (and that hence would have better access to private healthcare services) is slightly higher (23%) in MCLM than nationally (18%). In rural Ward 32, the medical aid coverage would likely be lower than the District average, probably closer to the national average.

⁶ No-fee schools were introduced in 2007 with some 40% of schools that are situated in low income areas were identified that would allow learners to enrol without paying fees. In return public funds would cover expenses that were previously covered by fees. The policy only covers pupils from Grade R to Grade 9.

Public health services in the West Rand district include 18 Primary Health Care (PHC) clinics, 1 district hospital, 1 regional hospital and 4 specialised hospitals (including Sterkfontein psychiatric hospital. MCLM does not have any Community Health Centres (CHCs)⁷.

Public medical facilities in the local municipality are concentrated in the southern parts around Krugersdorp. There is one public PHC clinic in the north-west section of the MCLM where Hekpoort is located, i.e. the Hekpoort Itumeleng Clinic 2km on the R560 south-west along the R560. (Health Systems Trust, 2017). Apart from the public health facilities, there is a private medical centre in close proximity to the proposed development on the R563, i.e. Hekpoort Medical Centre in the Oostermoed Petrol Service Station. The centre provides general medical consulting services, dental services and a pharmacy.

Mogale City (about 11km south west from the site) also hosts a PHC clinic and mobile clinic as well as a polyclinic where both general and specialist examinations and treatments are available to outpatients. There are also a number of private and public medical services available in Krugersdorp (about 28km south east) as well as Roodepoort (about 38 km south east).

The incidence of HIV/AIDS in the Mogale City is about the same as the national rate with 8% of patients at clinics testing positive in 2017 compared to 10% in Gauteng. There is a relatively high incidence of lifestyle diseases such as diabetes with 4 cases reported per 1000 persons compared to 2.5 nationally. The incidence of hypertension (high blood pressure) is however lower in Mogale City with 16 cases reported per 1000 people compared to 19 nationally (Ibid).

3.11 OTHER SOCIAL INFRASTRUCTURE

Due to the limited social amenities and shopping opportunities provided in the area one can conclude that there is a strong movement pattern between the Hekpoort area and Magaliesburg (17km or 14 minute drive), Schoemansville (36km or 37 minute drive) as well as Krugersdorp CBD (93km or 1 hour's drive). The residents of the proposed development would therefore have to travel some distance for goods and services.

Figure 2 below provides an overview of social facilities close to the site. It shows a concentration of facilities along the R563 and R560 intersection close to the proposed project area.

Based on population growth rates, the Hekpoort Precinct Plan (Urban Dynamics, 2011) highlighted the potential gaps in secondary school facilities, PHC clinics (one), a community hall, public open spaces as well as business and retail facilities in the Hekpoort area in 2020.

⁷ Community Health Care (CHC) centres offers PHC, 24 hour maternity, accident and emergency services and beds where health care users can be observed for a maximum of 48 hours and which normally has a procedure room but not an operating theatre. Primary Health Care (PHC) focuses on basic family, infant and reproductive health, communicable diseases (e.g. TB and HIV/AIDS) and health education offered within an 8 hour working day.

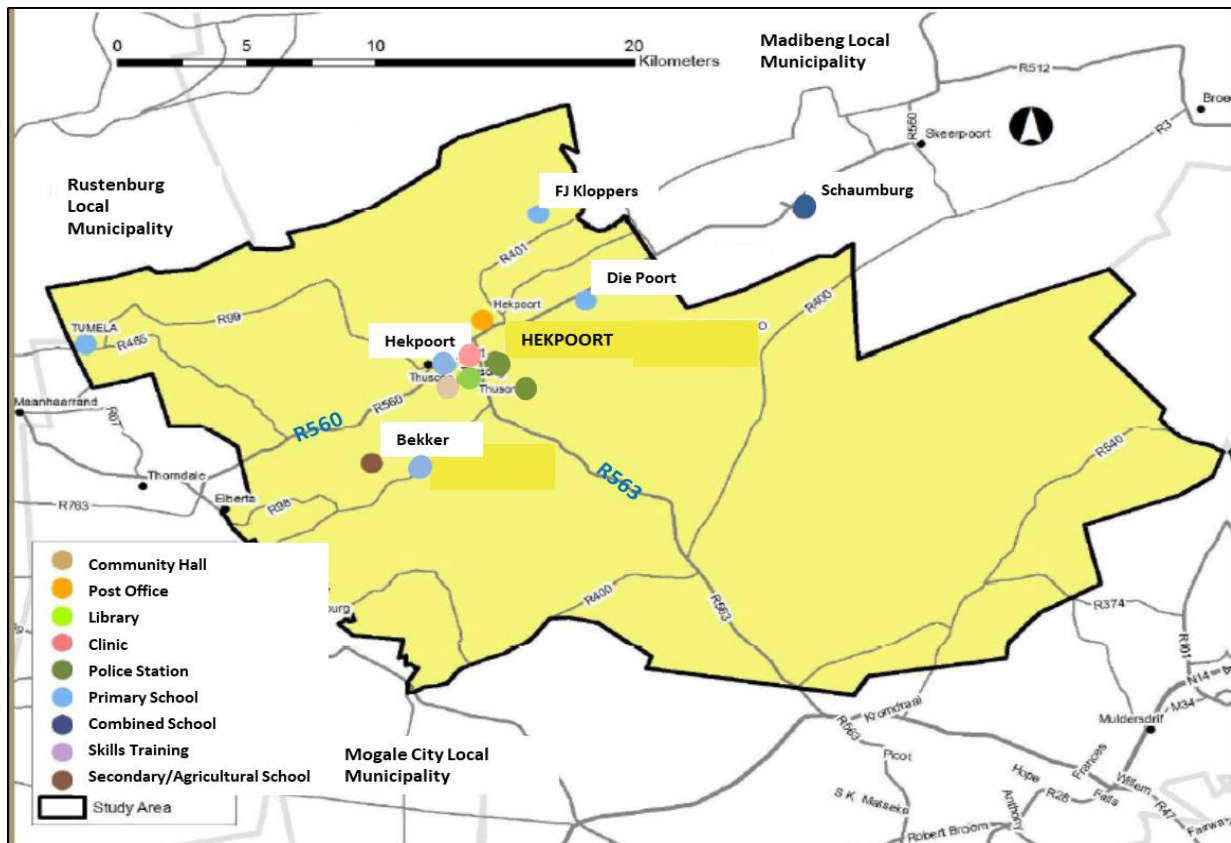


Figure 2: Social facilities close to the Proposed Hekpoort Residential Development

Source: Based on map and information from Urban Dynamics (2011)

3.12 SAFETY AND SECURITY

3.12.1 Crime

Ward 32 of the MCLM falls in the precinct of Hekpoort Police Station located less than 1km south from the southern boundary of the proposed development, along the R 563. Table 8 below shows the lower and declining per capita crime rates in South Africa, Gauteng as well as in the Hekpoort area. As indicated in Table 9 below close to 280 crimes were reported in the Hekpoort precinct in 2018 (compared to 330 cases in 2011), representing a per capita crime rate of 53 cases per 1000 persons; higher than the provincial and national averages of 41 and 36 cases per 1000 persons. The per capita crime rate in the Hekpoort area decreased somewhat with 59 cases reported per 1000 persons in 2011.

Table 8: Per capita crime rates (cases reported per 1000 persons)

Area	2011	2018
Hekpoort Precinct	59	53
Gauteng Province	53	41
South Africa	43	36

Source: Crime Stats SA (2019) and own estimates based on Stats SA (2011) and (2016)

Table 9 below shows the dominance of general theft in the area compared to its average contribution to national crimes.

Table 9: Types of Crime, 2018

Type of crime	Hekpoort cases 2018	% of precinct total	% of national total 2010-2018	% growth 2011-2018
All theft not mentioned elsewhere	70	25%	16%	-28%
Violent crimes (murder, robbery, assault)	66	24%	27%	-37%
House burglaries and robberies	42	15%	12%	-33%
Malicious damage to property	21	8%	3%	133%
Crimes related to drug/alcohol abuse	17	6%	14%	113%
Stock theft	15	5%	6%	-29%
Motor vehicles theft/theft out of a vehicle	10	4%	9%	100%
Car-jacking	3	1%	1%	0%
Burglaries and robberies at non-residential premises	15	5%	4%	650%
Other	19	7%	8%	27%
Total cases reported	278	100%	100%	-15%

Source: Crime Stats SA (2019)

Violent crimes are also prevalent in the area although not to the same degree as nationally. Violent crimes in the precinct also showed a decline since 2011. Crimes that are in the increase in the precinct include malicious damage to property; crimes related to substance abuse, motor vehicle related theft as well as burglaries and robberies at non-residential premises.

Farm attacks in the Hekpoort area receive media attention and there are media reports of some 11 people killed in farm attacks in the Hekpoort from 1999 to 2010. Two farm attacks were reported in the local media in 2018 and 2019 (Arrive Alive, 2019)

3.12.2 Community Protests

Due to the significant backlogs and rising unemployment rates in South Africa in general, there has been a steady increase in service-delivery protests since 2008. The community have become particularly violent and destructive towards public infrastructure since 2013 (Khambule et.al. 2018).

More than 60% of community protest actions between 2013 and 2017 relate to labour issues (19%), crime/policing (16%), municipal service delivery (16%) and education (12%). The proportion of 'violent' or 'disruptive' incidents increased from 43% in 2013 to 65% in 2016. A number of factors could contribute to the increased violence in community protests including increased frustration on the part of the community, lack of appropriate responses such as heavy-handed policing etc. (Lancaster, 2018). Gauteng, the Western Cape, KwaZulu Natal and the Eastern Cape are hotspot provinces in terms of community protests (Lancaster, 2018)

Two community protests were recently reported in the Hekpoort area with both of them turning violent when a protester was shot dead (2018) and two vehicles on the R563 were torched by protesting community members (2019) (Krugersdorp News, 2018 and 2019). The community protests revolved around lack of housing. At the time of this report, there were no recent reports of violence or none anticipated due to the planned Dr. Molefi Sefularo development and the Hekpoort housing development.

There have also been attempts reported of 'land grabs' on Portion 321 and 322 of the property earmarked for development.

3.13 LOCAL ECONOMIC ACTIVITY

Hekpoort is largely rural with agriculture and tourism being the dominant economic activities in the area. In 2011, the majority of the labour force was employed in the agricultural sector as unskilled labour (Urban Dynamics, 2011).

The area is characterised by small and larger agricultural units. The smaller agricultural units (less than 20ha) are used for intensive, high yielding agriculture or residential purposes. Larger farms are located in the far northern and southern parts of the precinct located mainly on lower yielding soils.

The area is also characterised by numerous tourist facilities including guest houses, game farms, resorts, spas hotels and camping areas. Many of these facilities have some ancillary facilities such as conference facilities, restaurants, tea gardens and pubs. Many of these facilities are conducted by local residents on their properties.

Within Hekpoort Village there is limited economic activity with only a couple of general dealers retailing articles for day-to day convenience. Residents of the area go for their main shopping to Krugersdorp, Magaliesburg, Hartebeestpoort, Brits, Rustenburg. West Gate Shopping Centre in Roodepoort and Key West in Krugersdorp are the two closest regional shopping centres to the area (Ibid).

Economic activity in the area has declined over the past decades with many businesses closing down. There is a general lack of capital investment in the area since the collapse of the flower industry that was the mainstay of the area in the past. The number of people involved in farming activities has declined considerably in the local area. For many it has become a part-time activity with other jobs supplementing their income. According to local farmers there is no longer enough water in the Magalies River as most water is used upstream in Tarlton by irrigation farmers. Some farmers turned to dry-land farming or grazing, even in areas with high potential soils.

The local tourism industry also faces a number of challenges including (Urban Dynamics, 2011):

- slow growth in the tourism industry;
- deteriorating road infrastructure;
- lack of motivated and trained staff;
- perceptions of high crime rates in the local area; and
- a poor understanding of the important role that aesthetics play in the tourism industry.

Figure 3 provides an overview of the distribution of different economic activities in the Hekpoort Precinct.

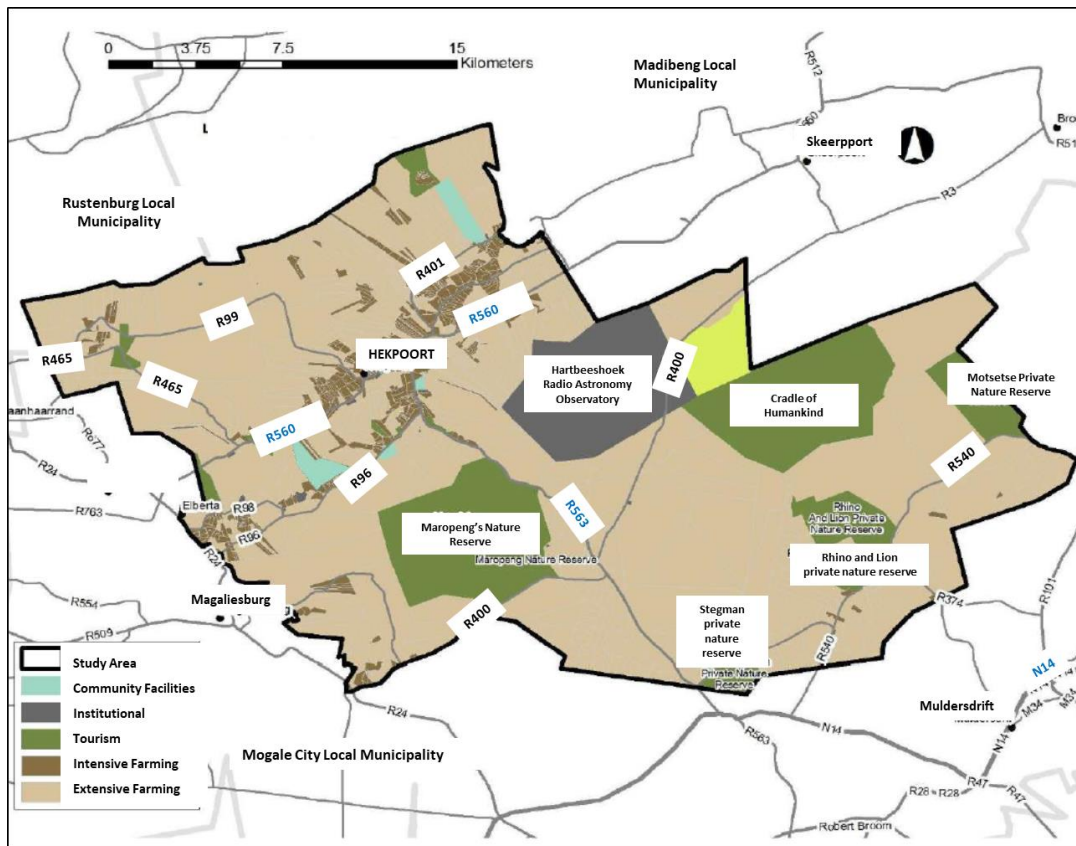


Figure 3: Main land-uses in Hekpoort Precinct

Source: Based on map and information from Urban Dynamics (2011)

The area around the R563 is dominated by tourism, agriculture and related businesses, small scale restaurants, small scale retail and transport related businesses. The areas around the R560 shows more diverse activities including tourism, small scale agriculture, retail, wholesalers, local municipal offices and service functions as well as a primary school. There are numerous tourism and ancillary activities on the R 465 (e.g. Askari); the R 96 (e.g. Black Horse Brewery), the R 401 (e.g. Saddle Creek Ranch, Clements Retreat, Pecan View, Wild Boar Inn) and the R400 (e.g. The Cradle of Humankind Maropeng Visitor Centre). There is still potential for local tourism development especially along the R560 and the R 563.

The R99 is mainly characterised by agricultural activities. Along the R560 to the north east of the proposed development intensive horticulture (vegetable tunnel farming) are increasing. There is also an integrated horticulture and fish farm (Integrated Aquaculture) to the north east of the site along the R560 as well as a number of chicken batteries along the R 560. These commercial agricultural concerns on this route mainly deliver on contract to large retailing groups in Gauteng (e.g. Woolworths and Pick and Pay).

3.14 THE COMPOSITION OF THE LABOUR FORCE

As indicated in Table 10 below, the official/narrow unemployment rate of Gauteng showed similar trends than the South African economy, increasing from 25% in 2011 to 31% in 2019, slightly higher than the national unemployment rate in 2019.

Table 10: Unemployment rates, 2011 and 2019

Rate	Gauteng		South Africa	
	2011	2019	2011	2019
Unemployment rate (narrow)	25%	31%	24%	29%
Unemployment rate (expanded)	30%	35%	35%	39%

Source: Stats SA (2019) Quarterly Labour Force Survey

Table 11 shows the distribution of the labour force in the Ward 32 where the proposed Hekpoort Residential Development is situated. The relatively low unemployment rate, as well as a high share of the labour force employed in formal jobs in the local area masks the low earning potential from unskilled and seasonal jobs that dominates in the local economy.

Table 11: Unemployment rates, 2011 and 2019

AREA	MCLM Ward 32	MCLM	Gauteng	South Africa
Domestic workers	459	21,467	567,753	1,721,600
Formal employment	1,796	98,043	3,493,322	10,829,951
Informal employment	261	15,125	406,295	1,784,863
Unemployed	461	43,846	1,598,044	4,467,325
Discouraged work-seekers	60	8,197	296,450	3,156,983
Total labour force	3,037	186,678	6,361,864	21,960,722
Unemployment rate (narrow)	15%	25%	26%	24%
Unemployment rate (expanded)	17%	28%	30%	35%

Source: Stats SA 2011 as in <https://wazimap.co.za/> and Stats SA (2019) Quarterly Labour Force Survey

3.15 INCOME LEVELS

Table 12 below shows the percentage of households that earned R 20 000 and less in 2011. This poverty rate roughly equates to the upper bound poverty income line⁸ of Stats SA. While unemployment rates in Ward 32 are low as discussed above, the percentage of households that live in poverty is on par with the national average and higher than in MCLM or Gauteng in general. Furthermore only 10% of households in the area earned an annual income higher than R 150 000 in 2011, compared to 14% nationally and 17% in MCLM. This situation underscores the dominance of seasonal and unskilled agricultural employment in the local area.

Table 12: The percentage of households in different annual income categories, 2011

AREA	MCLM Ward 32	MCLM	Gauteng	SA
Less than R 20 000	43.0%	40.0%	37.0%	45.0%
R20 000 - R75 000	39.0%	33.0%	31.0%	32.0%
R75 000-R150 000	8.0%	10.0%	11.0%	9.0%
R 150 000- R 300 000	4.0%	8.0%	9.0%	7.0%
More than R300 000	6.0%	9.0%	12.0%	7.0%
Total	100.0%	100.0%	100.0%	100.0%

Source: Stats SA 2011 as in <https://wazimap.co.za/>

⁸ The upper bound poverty rate include income for basic needs (clothing, housing, food) as well as some basic medical and educational expenses

3.16 LOCAL DEVELOPMENT PRIORITIES

Tourism Development is an important component of MCLM's Local Economic Development objectives as the local municipality aims to build on its current draw cards (Cradle of Humankind, Magaliesburg and Mulderdrift) to become a leading tourism destination in Gauteng (Ibid).

The spatial objectives of MCLM as outlined in Mogale City (2018):include

- Spatial equality;
- High mobility within the municipality through an effective transport system⁹;
- For communities to be settled strategically close to economic opportunities;
- Providing a range of habitation options that enables choice and ensure quality of living; and
- Sustainable resource use and development.

Municipal wards across MCLM listed the following as priority areas for local development in their areas (Mogale City, 2018):

- Housing;
- Economic development and employment opportunities;
- Lack of services in informal settlements;
- Shelters for bus stops and upgrading of taxi ranks;
- Infrastructure maintenance (water supply, storm water drainage and sewage, roads);
- Establishment of parks, recreational facilities and gym equipment;
- Upgrading of informal sports facilities in rural areas;
- Illegal dumping and lack of grass cutting at open spaces;
- Municipal billing systems;
- Need for increased Early Childhood Development (ECD) centres;
- The need for youth centres and frail care services;
- Clinics and CHCs;
- ABET programmes in rural areas; and
- Agricultural Furtehr Education Training (FET) colleges in rural areas.

The Hekpoort Precinct Plan (Urban Dynamics, 2011) recognised the need for a new rural residential settlement in Hekpoort as far back as 2010. While several sites were identified (as discussed below) preference was to consolidate the settlement in one location. As part of the precinct plan, a number of considerations were provided for the new rural settlement. These include:

- The importance to apply appropriate architecture that is sensitive to the rural nature and tourism activities. The report emphasised that the Hekpoort area is highly reliant on the tourism industry and is sensitive to changes in its rural character. In this regard walk-ups (flats) were not recommended. It was further advised that the development should be of a expansive low density kind (20 unit or less per hectare);
- Water is a scarce resource and recycling and purifications methods should be considered;

⁹ West Rand District as part of larger Gauteng City Region plans to increase interconnectivity by providing public transport that connects MCLM to the City of Johannesburg (CoJ)

- In situ waste treatment should be undertaken at a high standard to avoid the pollution of boreholes and the Magalies River at all costs;
- The use of solar technology should be considered;
- The settlement should be within walking distance to a public transport route;
- The settlement must contain or have access to major social facilities;
- Settlements should be located where there is sufficient economic potential/opportunities;
- While the residential development will be located outside the urban development boundary, the rural settlement was intended to accommodate rural households currently living in the Hekpoort precinct and would therefore not constitute urban expansion. The settlement should therefore be of a predetermined size and eternal growth should be curtailed so that it does not become a high-density urban area;
- It is preferable that residents of the development should be dependent on the Hekpoort area for employment opportunities;
- The development should provide access to farmland that can be used for community-based commercial farming purposes; and
- Economic facilities need to be developed to ensure that residents have access to economic opportunities. As an example a small regional shopping centre of about 20,000 square metres were proposed in the plan as well as the importance to develop tourist facilities.

In terms of the community-based agricultural project, the plan recommended focusing on fresh produce (e.g. eggs and vegetables) that is currently transported at an expense to the local area or bought by local residents in other economic centres outside Hekpoort. It was further recommended that commercial principles should apply (i.e. it should be a bankable enterprise); use sustainable methods and that the project should be run by experienced project managers with retired farmers as mentors (Urban Dynamics, 2011).

Five sites were identified for low cost residential settlements based on the prescribed principles above (Ibid):

- Vogelsang north of the R560 (222 units on 11 ha at the intersection of the R560 and R401) - first option;
- Hartebeesfontein West on the R1676 on both sides of the road (318 units on 28 ha) -second option;
- Hekpoort rural node situated on a parcel of land further along on the R560 – (70 units) – third option;
- Hartebeesfontein East also on the R1676 on the eastern boundary of the Hekpoort area (1 120 residential units on 35ha) – last option since a cemetery is situated on a large area of the site; and
- The intersection between the N14 and R540 was also proposed as a possible site for relocation of the Kromdraai and Tweefontein informal settlements within the Cradle of Humankind (120 informal houses to be relocated to a 10ha site).

At the time it was agreed with the community that the Vogelsang housing development would be the priority development for low income residential units in Hekpoort and that it would include a mixed- use node with informal markets, tourist facilities, community facilities and a sports field. The

land was owned by MCLM and Gauteng Department of Housing would be the project developer. Community based commercial farming was also planned as part of the development. The preference was also that the Vogelsang site should be expanded if possible, to consolidate all residential developments into one site (Urban Dynamics, 2011). As indicated in Figure 4 below, the Hekpoort Precinct Plan that was formulated as far back as 2011 envisages a new low-cost residential development as central part of its plan.

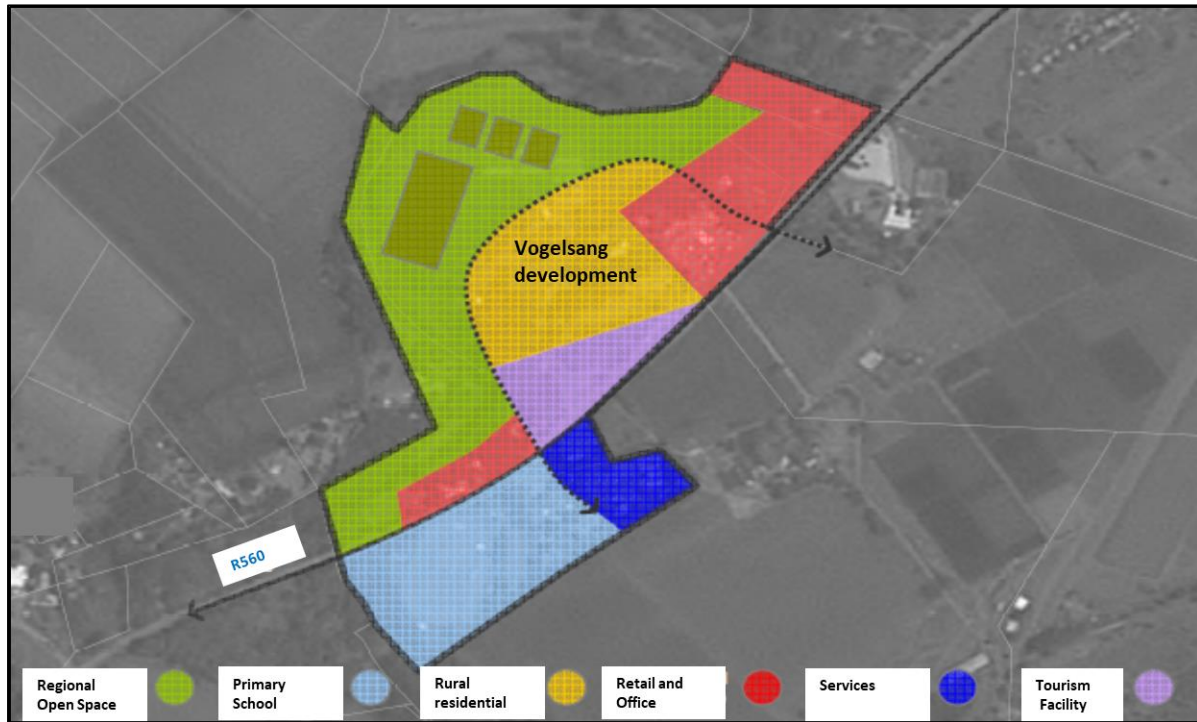


Figure 4: Hekpoort Precinct Plan:2020

Source: Based on map and information from Urban Dynamics (2011)

Apart from the limited business activities currently at Hekpoort Village opposite the primary school located east of the proposed development, the plan also made provision for the development a small retail centre further north east along the R560. It estimated that a size of around 20 000 square meters could be feasible but emphasised that proper studies were needed to investigate the feasibility of such a development. The plan also made provision for regional open space to the north of the R560.

3.17 GENERAL SOCIO-ECONOMIC RISKS RELATED TO GOVERNMENT HOUSING PROJECTS

As discussed in the introduction, South Africa's public housing programme faces a number of challenges including slow progress in delivery, high and rising development costs etc. A literary review of the most discussed challenges related to public housing programmes in South Africa lists the following as the most prominent challenges in the programme (Manomano et.al, 2016; 71point4, 2018):

- The role of corruption and mismanagement in public housing projects: In 2010, 1,910 government officials were arrested over benefiting from the subsidies meant for housing

beneficiaries. Furthermore, 20 housing projects were identified to be jeopardised by dodgy contracts between the contractors and the government officials costing the country some R2bn;

- Poor design, low quality of building materials and workmanship: Many low-income houses are too small for a family living with their children and relatives. Some even consist of just one room with a complete lack of privacy;
- Lack of involvement of stakeholders and beneficiaries;
- Poor location of housing projects away from job opportunities and social amenities combine with the lack of integrated housing developments without social infrastructure such as schools. This results in high costs for public infrastructure and increase road congestion;
- The problem above is exacerbated by the lack of progress in integrated public transport planning to develop the current public transport system away from the dominant minibus taxi system and to replace it with a fleet of large vehicles in dedicated bus lanes to improve road congestion and safety;
- Lack of flexible options for the poor, e.g. tying the poor to a fixed asset that they cannot readily dispose of or rent out when their circumstances change (due to the rules of government subsidy housing);
- The lack of financial sustainability of the traditional approach to provide every qualifying low-income household with a serviced top structure¹⁰;
- Perceived corruption in the management of the Housing Demand Database formerly known as the 'waiting list'. The list is managed by the National as well as the Provincial Departments of Human Settlements. The Gauteng list is being cleaned up with the aim of making it public by publishing it for all to see in the Province, each region will have its own database. Priority will be given to those registered first, starting from 1996. Priority will also be given to health status, age, child-headed homes and disability;
- Concerns over the implementation of the FLISP subsidy and that it is not suited to secondary market transactions. In this regard it is thus imperative that the proposed homeowners be assisted in the transaction process;
- Low take-up of GAP housing has been low due to lack of affordable stock for income earners below R15 000, insufficient awareness of the programme and lengthy bureaucratic processes for application and disbursement; and
- There are challenges related to the slow regulatory process of approving new residential areas and transferring title deeds to owners. While over 3 million RDP houses have been built since democracy, less than two thirds of these properties have been registered. The estimated title deed backlog for RDP properties built prior to 2014 is in the region of 500 000 and close to 400 000 for newer properties.

¹⁰ The new approach is to develop alternative development and delivery strategies, e.g. increasing rental stock, upgrading informal settlements, improving access to housing opportunities in the GAP market, allow self-built on serviced land, regulating private-property developers to dedicate a portion of their new developments to low-income earners. The latter was adopted as a policy in the CoJ in 2019 for private housing developments of 20 residential units or more (CAHF, 2019)

4. THE POTENTIAL SOCIO-ECONOMIC IMPACTS OF THE PROJECT DURING CONSTRUCTION

4.1 LOCAL EMPLOYMENT AND INCOME OPPORTUNITIES FOR LOW SKILLED WORKERS AND SMALL CONTRACTORS DUE TO CONSTRUCTION ACTIVITIES

The project could provide income and up-skilling opportunities for a number of workers, including unskilled and semi-skilled local workers during the construction period. Based on a high level cost estimate and as indicated in Table 13 below, the project could potentially generate income in the form of profits, salaries and wages or Gross Value Added (GVA) close to R 19m per year for the estimated 3 years duration of the project. This, in turn, could provide employment opportunities to some 38 workers for 3 years, of which 14 could be unskilled.

Table 13: Potential Economic Impacts during Construction

Component	Unit	Value
Bulk infrastructure & township development costs	ZAR million	50
Estimated construction costs	ZAR million	190
Construction period	Years	3
GVA direct	ZAR million/year	19
Direct employment	Nr/year	38
Unskilled	%	37%
Semi-skilled	%	46%
Skilled	%	17%
Flow-on GVA	ZAR million/year	40
Flow-on employment	Nr/year	82

Sources: Burrows et.al (2013), Reddy et.al. (2016), Astra Brokers (2017) , Urban Dynamics (2011)

Assumptions

500 RDP residential units – building costs R 90 000 per unit; 300 social housing units R 120 000 per unit ;R 9,000 bulk services per stand

Township establishment R 40 000 per stand

Secondary School (R 20m); 3ha recreation node (R 4.7m); agriculture (R 19m); small office retail park (10 000 sqm)(R 63m)

Bulk water and WWTP required

The project will also create numerous sub-contracting opportunities (e.g. tiling, paving, security, plant-hire and fencing) for small contractors. Together with the induced impact¹¹ the spending on suppliers could add to another 82 jobs, most likely within the broader Gauteng region (CoJ, Ekurhuleni or City of Tshwane).

Table 14: Positive Economic Impacts during Construction

Nature: Positive Economic Impacts from Construction Activities		
	Without enhancement	With enhancement
Extent	Regional (3)	Regional (3)
Duration	Short Term (2)	Short Term (2)
Magnitude	Low (4)	Moderate (6)
Probability	Definite (5)	Definite (5)
Significance	Medium (45) (+)	Medium (55) (+)
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	Yes

¹¹ Induced impacts are further income and employment impacts from increased spending of salaries and wages earned from construction, sub-contracting and supply activities

Enhancement:

- In the light of challenges faced by low income housing projects in South Africa it is imperative that a transparent and fair process is followed in the procurement and management of contractors. Project management should be based on the requirements of National Treasury's SIPDM
- Adhere to Gauteng Government procurement requirements. If no particular procurement policy applies, a certain percentage could be set aside to vulnerable groups, e.g. females, youth and disabled workers. The Gauteng Department of Roads for example require that 40% of construction jobs should be set aside for females, 60% to youth and 2% to disabled workers. It is also required that the contractor should provide the necessary skills training to people directly employed by the project.
- Communicate job and contractor opportunities and recruitment processes through the local media and local civic organisations
- Develop and implement a contractor management plan and include specifications for:
 - Up-skilling of unskilled local labour
 - Sub-contracting to SMMEs (% of contract value)
 - % of contract value to be allocated to black owned and female owned companies
- As part of the infrastructure maintenance plan required for public/government it is recommended that preference is given to use willing unskilled, and semi-skilled people residing in the residential development

Cumulative impacts: None foreseen

Residual impacts: Not applicable

4.2 IMPACT ON ROADS AND TRANSPORT SERVICES

During the construction phase, building material and goods required for the construction would mainly be transported from the Krugersdorp CBD, Pretoria and Johannesburg. The main access to the proposed Hekpoort site and Hekpoort area are along the regional roads R563 and R560. Regional road R560 traverses the site. This road would be the main access route to the proposed development. Usually, these types of regional roads (R560 and R563) have moderate-high traffic volumes, limited access and moderate speeds and mobility are maintained on these roads.

The nuisance factors associated with construction vehicles (traffic intensity, congestion and pollution) will mainly be felt on these two roads. Construction vehicles making use of the R563 and R560 on a regular basis would further increase the risks of accidents. Non-compliance of construction vehicles to speed limits would further escalate the risks to the other motorists and pedestrians within the vicinity of the site.

The Hekpoort Primary School is approximately 2 km to the west of the site. It should be noted that the majority of residents within the site-specific area are pedestrians who have to make use of the R560 to travel to the Hekpoort business area and also children walking to the local school. Should the Dr. Molefi Sefularo development be established, additional pedestrian movement in the area could be impacted on.

Construction vehicles entering and exiting the site will increase the safety risks for these pedestrians and children living in close proximity to the construction area.

Table 15: Impact on roads and transport services

Nature: Impact on roads and transport services		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Highly Probable (4)
Significance	Medium (50) -	Medium (40) -
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
Mitigation:		
<ul style="list-style-type: none"> • Access and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents, especially for pedestrians. • Construction vehicles should adhere to the speed levels. • Construction vehicles and those transporting materials and goods should be inspected to ensure that these are in good working order and not overloaded. • Install warning signs to indicate pedestrian movement and to indicate the risks associated with construction vehicles 		
Cumulative impacts: Proposed development of the Dr. Molefi Sefularo housing development		
Residual Risks: Road wear and tear due to heavy traffic from construction vehicles		

4.3 NUISANCE FACTORS (NOISE, DUST, LITTERING)

Noise related impacts created during the construction phase of the project are highly probable. These are anticipated to emanate from general construction activities, the movement of construction workers, heavy vehicles travelling to and from the site, the noise created by the 'reverse indication' of the trucks, and the noise generated by the general construction activities. This noise could be particularly intrusive as the area can be classified as an area with existing low ambient noise levels and moderate regional traffic through the area. It should, however, be noted that the existing low ambient noise levels could change once the development of the Dr. Molefi Sefularo Village has been completed. The added noise of the construction phase in the local area could then be perceived to have a lesser impact.

Dust pollution could be possible due to the construction activities. Residents within the immediate area would be negatively affected e.g. those residents of the informal settlement directly to the east of the proposed site, as well as residents of the formal and informal settlement to the east of the site and north of the R560. Braambos Camp and Conference Venue situated to the north of the R560 opposite the proposed development could be affected.

Littering on and around the site is also a source of concern.

Disturbance of the visual environment during the construction phase would lead to temporary negative visual impacts, although it is expected to diminish once the construction phase has been completed. Properties nearby the development e.g. to the north and east of the site would be

mostly affected and possibly commuters making use of the R560 and R563 as the construction site would possibly be visible from both these roads.

Table 16: Nuisance factors during construction

Nature: Increase in noise and dust levels, as well as movement of vehicles during the construction phase, visual impact		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Highly Probable (4)
Significance	Medium (50)-	Medium (40)-
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
Mitigation:		
<ul style="list-style-type: none"> • Establish a representative forum of local community members that could have an interest in the project • During the entire construction process engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues (related to the development (e.g. labour draw down, safety and nuisance issues etc.) • Construction workers should be confined to the construction area as far as possible and should be easily identified. • Construction activities should keep to average working hours e.g. 7 am until 5 pm. • Noise should be kept to the minimum. • The construction area should be fenced to avoid unauthorised entry by animals or children. • Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents. • Construction vehicles should adhere to the speed levels. • Construction vehicles and those transporting materials and goods should be inspected to ensure that these are in good working order and not overloaded. • Dust suppression methods should be implemented on-site if and where required 		
Cumulative impacts: Proposed development of the Dr. Molefi Sefularo housing development		
Residual Risks: None anticipated		

4.4 IMPACT ON COMMUNITY SAFETY

Informal settlements in the area are home to several unemployed individuals. Due to the unemployment levels within the Ward 32 and the location of the informal settlements to the proposed development, the inflow of jobseekers is highly likely. Jobseekers could also originate from the proposed Dr. Molefi Sefularo Village. The presence of construction workers and jobseekers in the area could impact on the living and movement patterns of the neighbouring landowners, especially if trespassing of properties occur.

Theft of crops, damage to fences and/or stealing of infrastructure, poaching of livestock, illegal squatting, increased fire risks and possible increase in crime are all concerns that could impede the daily living and movement patterns of landowners and the nearby communities.

Further safety concerns during the construction phase relate to unauthorised entry to the construction site, and the movement of heavy vehicles or machinery on the R560 in close proximity to existing settlements with concentrated pedestrian movement.

Further safety concerns during the construction phase relate to on-site construction workers that would be exposed to construction related safety risks.

Table 17: Impact on Community Safety

Nature: Impact on community safety		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (40) -	Medium (30) -
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
<ul style="list-style-type: none"> • Establish a representative forum of local community members that could have an interest in the project • During the entire construction process engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues (related to the development (e.g. labour draw down, safety and nuisance issues etc.) • Before construction commences, representatives from the MCLM, and the ward councillors, as well as neighbouring communities and landowners should be informed of the details of the construction company, size of the workforce and construction schedules • On-site construction workers should always be supervised. • Construction activities should be kept to average working hours e.g. from 7 am until 5 pm during weekdays. • Property owners surrounding the construction areas should be informed of the construction schedules and activities. • Security on-site should be active prior to the construction period. • Workers conduct should be guided by a code of conduct to be developed by the contractors. • The construction areas should be fenced to avoid unauthorised entry by animals or people. • Access and entrances to the site should be carefully planned to limit any risks of accidents, especially for pedestrians • Install warning signs to indicate pedestrian movement and to indicate the risks associated with construction vehicles 		
Cumulative impacts: Proposed development of the Dr. Molefi Sefularo housing development		
Residual Risks: Migrants drawn to the project-area in view of potential opportunities could remain behind in the local area potentially resulting in challenges related to perceptions related to community safety		

4.5 IMPACT ON SOCIAL COHESION AND SENSE OF PLACE

Due to the extent of Hekpoort town and the rural character of the area, the size of the population and its density, one could describe the residents of the area as a close-knit, cohesive community. The cohesiveness, however, can be influenced by the proposed development of the Dr. Molefi Sefularo Village. Once the construction phase of the proposed Hekpoort development is completed, the local community is anticipated to change therefore affecting the existing rural sense of place.

During the construction phase of the proposed project conflict regarding employment opportunities between the locals themselves and between the locals and outsiders could impact on the normal community social interaction patterns. Should a large number of outsiders be employed, and if these individuals interfere with local community affairs this could have a more marked impact. It is also common for construction workers, being separated from their families, to embark on short-term unsustainable relationships with local women resulting in long-term negative social consequences, even changing the family structures of the present community.

Should the contractors further fail to employ locals as part of the labour force, one could anticipate protests and unrest as previously experienced within the area.

Table 18: Impact on Community Cohesion and Sense of Place

Nature: Impact on community cohesion and sense of place		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Short Term (2)	Short Term (2)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (40) -	Medium (30) -
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
<ul style="list-style-type: none"> Establish a representative forum of local community members that could have an interest in the project During the entire construction process engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared (related to the development (e.g. labour draw down, safety and nuisance issues etc.) Maximise the use of local labour and contractors where possible by developing a strategy to involve local labour in the construction process e.g. communicate the construction requirements through the local leaderships such as the ward committees, ward councillors and representatives of the MCLM, and advertise in the local newspapers in the local languages. Specify the conduct of contract workers in worker related management plans and employment contracts 		
Cumulative impacts: Proposed development of the Dr. Molefi Sefularo housing development		
Residual Risks: Migrants drawn to the project-area in view of potential opportunities could remain behind in the local area potentially resulting in declining social cohesion		

4.6 IMPACT ON OTHER LOCAL ECONOMIC ACTIVITIES

Due to the magnitude and visibility of the project the development could impact negatively on other sectors by influencing the wage costs of construction labour and ‘drawing down’ unskilled and medium skilled labour from other sectors in Hekpoort, most notably farmers in the area as well as small tourism establishments. Increasing crime levels due to project-induced in-migration as well as nuisance factors (heavy construction vehicles, dust and noise) could further impact negatively on tourism and other businesses on the R560 and R563. Specific concerns are the Braambos Adventure Camp and Roelof’s Nursery opposite the proposed development.

Table 19: Impact on Local Businesses during Construction

<i>Nature: Negative impact on other businesses during construction</i>		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Short Term (2)	Short Term (2)
Magnitude	High (10)	Medium(6)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (56) (-)	Medium (36) (-)
Status (positive or negative)	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources?	Yes	Yes
Can impacts be mitigated?	Yes, to some extent	Yes, to some extent
<p>Mitigation:</p> <ul style="list-style-type: none"> • Establish a representative forum of local community members that could have an interest in the project • During the entire construction process engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues (related to the development (e.g. labour draw down, safety and nuisance issues etc.) • Recruit unskilled labour at rates that is on par with unskilled labour wage rates in the local economy • In order to mitigate against project-induced in-migration, maximise the use of local unskilled and semi-skilled labour and contractors where possible by developing a strategy to involve local labour in the construction process e.g. communicate the construction requirements through the local leaderships such as the ward committees, ward councillors and representatives of the MCLM, and advertise in the local newspapers in the local languages. • Communicate well in advance of the project in the broader local media covering Madibeng LM, MCLM and Rustenburg LM that preference will be given to unskilled and semi-skilled labour in the Hekpoort area, specifying the boundaries of the area • Specify the conduct of contract workers in worker-related management plans and employment contracts 		
<p>Cumulative impacts: Unemployed migrants already within the area as a result of the construction phase of the Dr. Molefi Sefularo settlement</p>		
<p>Residual Risks: Migrants drawn to the project-area in view of potential opportunities could remain behind in the local area potentially resulting in challenges related to perceptions related to community safety, pressure on local social services and declining social cohesion impacting negatively on local businesses, especially related to tourism</p>		

5. THE POTENTIAL SOCIO-ECONOMIC IMPACTS OF THE PROJECT DURING OPERATIONS

5.1 ACCESS TO IMPROVED HOUSING/ REDUCTION OF HOUSING BACKLOGS

As discussed in Section 3.6 above, the housing backlog (people in shacks and backyard dwellers) in the larger Hekpoort Precinct could be between 400 and 500 units. The proposed project is anticipated to absorb the residents within the informal settlements on site and directly adjacent the site as part of the RDP section of the project, if these residents have applied for housing and qualify and adhere to the criteria.

Residents from the informal settlement of Schaumburg, approximately 10 km to the east of the proposed Hekpoort development, that falls within the Northwest Province (Madibeng Municipality) are expected to lobby for residency as part of this proposed RDP project. The process of allocating beneficiaries has not been finalised and would thus be a challenging process as it is anticipated to become a cross border issue between the Gauteng and Northwest Authorities.

It should however be noted that the beneficiaries of the RDP houses would still be required to pay for all municipal rates which may include water and electricity or other service charges. Many beneficiaries however may not be in a financial position to be able to afford these rates and service charges. They may then again use their houses to generate income by renting them out to people from outside the area. If such a situation develops it would be a setback to the development and the process of social integration.

The average income levels within Ward 32 will enable residents within the required income brackets to obtain housing as part of the Social Housing section of the proposed development with subsequent positive socio-economic impacts for those homeowners. About 51% of households in MCLM Ward 32 (an estimated 1 000 households) earns between the qualifying R 1 501 and R15 000 per month for social housing. Looking at the larger Hekpoort Precinct, the number could be closer to 5 000 households (based on Stats SA 2011 and Urban Dynamics, 2011).

Table 20: Access to Improved Housing

Nature: Access to improved housing		
	Without enhancement	With enhancement
Extent	Regional (3)	Regional (3)
Duration	Long Term (4)	Long Term (4)
Magnitude	Moderate (6)	High (8)
Probability	Highly Probable (4)	Definite (5)
Significance	Medium (48) (+)	High (75) (+)
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	Yes
<ul style="list-style-type: none"> An assessment/survey of the existing informal dwellings on the affected properties within the boundaries of the project as well as the within the larger Hekpoort Precinct must be undertaken prior to the development to be used as baseline. It is advised that the boundaries of the Hekpoort Precinct as determined in the 2011 study be followed The legal process as required with regards to the development of the beneficiary lists must be followed 		

- The beneficiary list must be publicised
- As per the recommendations of the Hekpoort Precinct Plan (2011) establish a beneficiary screening criterion that gives preference to current residents of the Hekpoort Precinct. In terms of the social housing units, preference should also be given to people working in the Hekpoort Precinct area
- Alternative sources of energy should be integrated into the designs to avoid a situation of non-payment for basic services or unaffordable services

Cumulative impacts: None anticipated

Residual Risks: Potential risk that additional people in search of housing migrate into the Hekpoort area

5.2 ACCESS TO ECONOMIC OPPORTUNITIES FOR PREVIOUSLY DISADVANTAGED COMMUNITIES

The proposed Hekpoort development does not only provide opportunities for housing but also plans to comprise of an agricultural development and potentially some other commercial activities. Details of such agricultural developments are not known at this stage. The Hekpoort Precinct Plan (Urban Dynamics, 2011) proposed a number of relevant principles to consider for a new low-income residential development in Hekpoort. These include:

- The development should provide access to farmland that can be used for community-based commercial farming purposes, i.e. a for-profit agricultural project owned by the community-residents but run by experienced farm managers with the aid of mentors if possible
- In terms of the community-based agricultural project, the plan recommended focusing on fresh produce that is currently transported at an expense to the local area or bought by local resident
- It is recommended that the agricultural project use sustainable methods with a minimum environmental impact (e.g. of crop spraying, noise or unpleasant smells)
- Not necessarily close to the development but in close proximity to it, economic facilities need to be developed to ensure residents' access to economic opportunities. As example a small regional shopping centre of about 20,000 square metre were proposed in the plan as well as the importance to develop tourist facilities

Table 21: Access to Economic Opportunities

Nature: Access to Agricultural Opportunities		
	Without mitigation	With mitigation
Extent	Regional (3)	Regional (3)
Duration	Long Term (4)	Permanent (5)
Magnitude	Low (4)	High (8)
Probability	Improbable (2)	Highly Probable (4)
Significance	Low (22) +	High (64) +
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	Yes
<ul style="list-style-type: none"> • It is important to be aware of the high risk related to community-based commercial projects. There are few examples of successful community based for-profit entities in South Africa. Due to the high risk of failure it is imperative that agricultural and commercial developments of Hekpoort Residential Development should be informed by detailed feasibility studies. The objectives of these study/studies should be to investigate the best possible income generation options for of the Hekpoort area. A suggested terms of reference for such studies would include the following: <ul style="list-style-type: none"> ○ Consult closely with the local residential community as well as existing neighbouring economic 		

<p>concerns</p> <ul style="list-style-type: none"> ○ Develop an appropriate governance model for the community entity (including communication strategy, profit-sharing principles, management model etc.) ○ Ensure that the project is commercially viable (including market assessments, development of an operational model) ○ Ensure the maximum development impact of the project in terms of potential income for low income groups, up-skilling potential etc.) ○ Ensure that the project has synergies with economic activities in larger Hekpoort economy and does not out-crowd existing commercial activities ○ Considering the use of sustainable methods with a minimum environmental impact ○ Considering projects that are water and energy efficient ○ Identifying potential partnerships (e.g. NGOs, other government departments, mentors from neighbouring economic concerns)
<p>Cumulative impacts: None anticipated</p>
<p>Residual Risks: Not applicable</p>

5.3 NEGATIVE IMPACT ON EXISTING LOCAL ECONOMIC ACTIVITIES

The change in the rural character of Hekpoort could have negative impacts on the local tourism industry. As anecdotal evidence, one tourist operator in the area ascribes his decline in business to the tourist market's expectation of the low-cost housing developments right opposite and adjacent his establishment.

Local economic activities planned within the residential development could also impact negatively on economic activities in the vicinity, e.g. polluting scarce water resources, increasing labour costs, replacing market demand etc. Since commercial developments within the residential development will probably receive substantial public sector/NGO support, it is important that these activities should not out-crowd or impact negatively on private sector initiatives in the local area.

Table 22: Impact on Local Businesses

<i>Nature: Negative impact on other businesses during construction</i>		
	Without mitigation	With mitigation
Extent	Regional (3)	Regional (3)
Duration	Long term (4)	Long Term (4)
Magnitude	High (8)	Medium (6)
Probability	Highly probably (4)	Probable (3)
Significance	Medium (60) (-)	Medium (39) (-)
Status (positive or negative)	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources?	High	High
Can impacts be mitigated?	Yes, to some extent	Yes, to some extent
Mitigation:		
<ul style="list-style-type: none"> • Establish a representative forum of local community members that could have an interest in the project • The representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues (related to the development (e.g. labour draw down, safety and nuisance issues etc.) • Consult with the local community as well as the broader Hekpoort community with regard to the design 		

<p>of the development</p> <ul style="list-style-type: none"> As per the recommendations of the Hekpoort Precinct Plan (2011), it is important that the development apply appropriate architecture that is sensitive to the rural nature and the surrounding tourism activities. Walk-ups (flats) should not be considered as part of the design. Since there is enough space available, an expansive low density type development is proposed (20 unit or less per hectare) As per the mitigation measures recommended above, ensure that commercial businesses activities for the development is planned in such a way that it does not impact negatively on existing local economic activities either through negative social impacts (e.g. increase crime, traffic or nuisance factors), economic factors (closing out of existing businesses or increasing labour costs through 'drawing down' labour to the development or environmental factors (e.g. polluting the Magalies River that would have a dire effect on horticulture producers for large commercial retail facilities downstream)
Cumulative impacts: None anticipated
Residual Risks: Impact on sense of place due to visual impact with possible negative impacts on the local tourism sector

5.4 IMPACT ON CURRENT LAND-USE

The land under discussion is the property of the MCLM and is currently zoned as 'agricultural'. The site is located within an area that has a high agricultural soil potential. Historical crop farming did take place on site. A portion of the land (section to the north of the R560) is currently used for livestock farming. Based on information received from the client, the rental agreement with the relevant farmer will cease in due course.

The informal settlement residents would also have to be moved to other temporary accommodation facilities during the construction phase until they are absorbed (and if they are absorbed) by the proposed housing development. The allocation of housing to suitable beneficiaries can result in conflict among community members and delays in the implementation of the project.

As was mentioned above, agricultural activities considered within the development would have to be carefully considered to limit any possible negative impacts on the high potential agricultural soil and not to negatively impact on the water sources. If environmentally sound agricultural practices are implemented the possible negative impact on the conservation and agricultural value of the land will be mitigated.

Table 23: Impact on Land-Use

Nature: Impact on Land-Use		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Permanent (5)	Permanent (5)
Magnitude	Low (4)	Low (4)
Probability	Definite (5)	Definite (5)
Significance	Medium (55) -	Medium (65) -
Status (positive or negative)	Negative	Negative
Reversibility	No	No
Irreplaceable loss of resources?	Yes, except on the section that will be used for agriculture	Yes, except on the section that will be used for agriculture
Can impacts be mitigated?	Yes	Yes

- In terms of current agricultural activities:
 - The development footprint area would have to be rezoned which would result in a change of the existing land-use. Any agricultural activities undertaken on site would not be able to continue once construction start.
- In terms of the current informal residents that will have to be temporarily relocated:
 - Accurate information needs to be collected in terms of households currently located on the property. This information is required for project planning and implementation. This information is also needed to mitigate against the risk of additional households squatting on the property before construction commences
 - The identification of beneficiaries must be undertaken in accordance with the legal requirements.
 - The future of the residents of the existing informal settlement on site must be decided and a plan and process to deal with these residents must be outlined. The same is required for the residents of the informal settlement directly adjacent the site.
 - The details of such a plan must be discussed with the existing informal settlement residents
 - The selection criteria used by the municipality and/or the provincial government must be communicated to avoid unrealistic expectations
 - Beneficiary lists must be publicised
 - Residents must be informed of the process to register on the municipality's Housing Demand Database in order to be selected as a beneficiary of the housing development
- In terms of planned on site agricultural activities:
 - The agricultural project considered for the area should make use of sustainable methods with a minimum environmental impact. Other selection criteria include water and energy efficiencies
 - Environmental awareness campaigns to be launched to make the residents aware of ways to limit the pressure on the natural environment

Cumulative impacts: None anticipated

Residual Risks: Poor agricultural practices with negative impacts on the environment especially with regards to water sources and soil conditions

5.5 IMPACT ON LOCAL PROPERTY VALUES

The proposed low-income development could impact negatively on the prices of higher income properties in the neighbourhood¹². In a rural setting perceived increase in crime levels as well as the change in the social character of the place could potentially have a negative impact on local properties, especially properties in the tourism industry that relies on a certain aesthetic character of the area.

Table 24: Impact on Local Property Values

Nature: Impact on Local property Values		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Probable (3)
Significance	Medium (60) -	Medium (36) -
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A

¹² International literature suggests that low cost housing development does not impact materially on adjacent properties of higher market value (University of North Carolina (2017). Surprisingly little research has been conducted in South Africa in this regard. A study by Nelson Mandela Metropolitan University (2012) found that there is a perception by high income households that their property could devalue by 7% -10% when situated within 100m of a low-cost housing development. There is however a lack of local studies to substantiate this claim.

Can impacts be mitigated?	Yes	Yes
Mitigation:		
<ul style="list-style-type: none"> • Consult with the local community as well as the broader Hekpoort community with regard to the design of the development • Establish a representative forum of local community members that could have an interest in the project • The representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues (related to the development (e.g. labour draw down, safety and nuisance issues etc.) • As per the recommendations of the Hekpoort Precinct Plan (2011), it is important that the development apply appropriate architecture that is sensitive to the rural nature and the surrounding tourism activities. Walk-ups (flats) should not be considered as part of the design. Since there is enough space available, an expansive low density type development is proposed (20 unit or less per hectare) 		
Cumulative impacts: None		
Residual Risks: Impact on sense of place due to visual impact with possible negative impacts on the local tourism sector		

5.6 IMPACT ON ROADS AND TRANSPORT SERVICES

The R560 and R563 are the main roads within the study area. The proposed development would obtain access from the R560. The proposed development will thus provide easy access to the local road infrastructure, which will again provide access to areas of employment and business nodes within the Hekpoort, but also the regional area.

No registered and regulated bus or taxi services formally operate in the area. Taxi's however do intermittently operate within the area, but there are no taxi stand or bus shelters/stops. The residents of the proposed development would be almost totally dependent on an affordable and efficient public transport system. It is thus critical that the public transport network serving the area be upgraded to accommodate the needs of the residents, and to provide better and more cost-effective public transport, even though the area is situated in an outlying area. Taxi routes and subsidised bus routes (including bus and taxi stop shelters) should thus form part of the development plan for this area and/or should link with the business nodes within the Hekpoort and wider area.

Gravel roads would have to be tarred and a bicycle lane along the regional road between the housing development and the Hekpoort School and business area must be considered. Pedestrians must be accommodated through the construction of wide sidewalks.

A pedestrian bridge or alternative measures to cross the R560 from one side of the development to the other must be considered to limit accident risks to the residents and pedestrians.

Table 25: Impact on Roads and Transport Services

Nature: Impact on roads and transport services		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)

Probability	Highly Probable (4)	Probable (3)
Significance	Medium (48) -	Medium (36) -
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
Mitigation:		
<ul style="list-style-type: none"> • Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents. • Upgrading of local gravel roads would be required. • The public transportation network in the area must be upgraded to accommodate the residents' needs. • Pedestrians must be accommodated through the construction of wide sidewalks. • A bicycle lane along the regional road between the development and the Hekpoort School and business area must be considered 		
Cumulative impacts: None anticipated		
Residual Risks: Increased accident risks within the vicinity of the development		

5.7 IMPACT ON SOCIAL INFRASTRUCTURE

The proposed development is aimed to provide housing for lower income levels. One can thus argue that these individuals would also require access to nearby health, education, recreational facilities and business centres. At this stage, it is unclear as to the exact number of additional residents that the proposed development will bring to the area, but it should be noted that there is a lack of recreational and business centres within the area.

If the development is 100% occupied by people from outside the Hekpoort Precinct, it could lead to an additional 800 households (an estimated 2 500 people) moving into the precinct. This represents almost 47% of households already present in MCLM Ward 32 and about 10% of households in the larger Hekpoort Precinct. If the cumulative impact of Dr. Molefi Sefularo Village (190 RDP units) is also taken into consideration, this could potentially lead to close to an additional 1 000 households in the precinct, i.e. 12% of precinct population in 2011. This represents a considerable increase in households over the short to medium term.

The existing Clinic will come under pressure as the majority of the population profile would make use of free basic health services. The clinic would require additional staff and infrastructure and/or operate for longer hours. An additional clinic could also be required.

The increased population profile would include families with children who would significantly increase the need for early learning facilities for infants, as well as primary schools for younger schoolchildren and secondary schools. It is highly likely that the existing schools within the area function at capacity with a high teacher-learner ratio. Additional learners will thus not be easily accommodated without compromising the learning environment. This will result in some possible subsequent negative impacts on the achievements of learners.

It is estimated that, if only households from outside Hekpoort precinct occupies the development, it could potentially increase primary school learners with close to 400 pupils and secondary learners with 300 pupils, i.e. about 24% of current primary learners and 28% of secondary learners in the area (see Table 6 above).

It should further be noted that some of these learners could already be accommodated at the existing schools in the area as the beneficiaries of the RDP housing would most likely be from the local area. It is, however, difficult to determine the real need as the beneficiaries, and the area from where these people would be settled from, are not known at this stage.

Table 26: Impact on Social Infrastructure

Nature: Impact on social infrastructure		
	Without mitigation	With mitigation
Extent	Regional (3)	Regional (3)
Duration	Long term (4)	Long term (4)
Magnitude	High (8)	Moderate (6)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (60) -	Medium (39) -
Status (positive or negative)	Negative (education)	Negative (education)
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced/mitigated?	To some extent	To some extent
Mitigation:		
<ul style="list-style-type: none"> • As per the recommendations of the Hekpoort Precinct Plan (2011) establish a beneficiary screening criterion that gives preference to current residents of the Hekpoort Precinct. In terms of the social housing units, preference should also be given to people working in the Hekpoort Precinct area • The decision on the type of social infrastructure to be included in the development should be done in close consultation with the local community as well as be based on an objective analysis of the needs of the local area: Based on the socio-economic analysis and recommendations of the Hekpoort Precinct Plan (Urban Dynamics, 2011) the following social infrastructure could be possibilities: <ul style="list-style-type: none"> ○ early childhood development centres/crèches ○ a recreational area for the residents, including a play area for small children ○ secondary school facilities ○ a PHC clinic ○ a small regional office and retail centre • The Gauteng Department of Human Settlement should take note of the possible negative impact on the existing schools and impact on learners and should aim to address the issue, in cooperation with the Gauteng Department of Education. • Upgrading and/or extension of the Itumeleng Clinic would be required. 		
Cumulative impacts: - The increase of residents as a result of the proposed Dr. Molefi Sefularo Village together with the proposed Hekpoort Housing Development		
Residual Risks: Potential risk that additional people in search of housing migrate into the Hekpoort area		

5.8 IMPACT ON MUNICIPAL INFRASTRUCTURE

Although the proposed housing development is a government initiative, it should be noted that a project of this nature would result in an increase in the requirements for basic infrastructure and

services such as roads, medical services, emergency services, safety and security services, electricity, water and sewage and so forth. The MCLM and other relevant government departments would thus have to meet some of the infrastructure requirements such as the bulk services (water and sewerage services), construction of internal roads, and the installation of other infrastructural requirements.

Careful planning is thus required to enable these governmental bodies to meet the operational requirements and to avoid any budget constraints.

Pro-active planning, budgeting and “start-up funding” would be required prior to the construction phase to adequately address the increase in the infrastructure requirements. Of concern is the fact that the Mogale City Local Municipality already has various challenges and infrastructural needs to attend to and that it would be difficult to address the additional needs created by the proposed development.

The success of the proposed development is thus subject to the development of municipal services and community facilities. The development of municipal services in particular, can be a constraint if not addressed in a pro-active manner. In Ward 32, with its rural characteristics, a large percentage (45%) of the households still use of boreholes. The Hekpoort area currently has no additional water supply capacity, and without this, it would not be possible to develop rural settlements to address the need of the local communities.

The existing water network would thus have to be extended and/or upgraded and it would have to be determined whether there is sufficient bulk water capacity to cater for the additional needs. It is anticipated that the sewage network would also require extensions and upgrading. With regards to the electricity network, various distribution lines from the nearest substations would be required. It would further be possible that the local substations would have to be upgraded.

The municipal infrastructure constraints can be addressed through the use and implementation of alternative sources of energy and specific building designs.

Table 27: Impact on Municipal Infrastructure

Nature: Impact on municipal infrastructure		
	Without mitigation	With mitigation
Extent	Regional (3)	Regional (3)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (52) -	Medium (39)-
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
	In worst case scenario: environmental impact on water sources	In worst case scenario: environmental impact on water sources
Can impacts be enhanced/mitigated?	To some extent	To some extent
Mitigation:		
<ul style="list-style-type: none"> • Upgrading and/or extension of the water and sewage network would be required. • A dedicated wastewater treatment plant might be required for the proposed development • As per the requirements of the Hekpoort Precinct Plan, in situ waste treatment should be done at such 		

<p>as high standard to avoid the pollution of boreholes and the Magalies River at all costs</p> <ul style="list-style-type: none"> • Due to the area being a tourism node and due to capacity constraints, the building designs should accommodate alternative sources of energy (e.g. solar systems) and alternative sources of building material that would have a limited impact on the natural environment • Water supply capacity must be assessed to ensure that the water sources will be able to accommodate the proposed development.
<p>Cumulative impacts: Environmental risks and impacts due to lack of potable water</p>
<p>Residual Risks: Potential risk that additional people in search of housing migrate into the Hekpoort area</p>

5.9 IMPACT ON COMMUNITY SAFETY

An increase in the number of people in one area is usually associated with an increase in crime. The crime level (specifically general theft) is, according to the statistics are, although declining, above the national capita crime rates. Movement of additional people in and around the Hekpoort town and surrounding area could thus increase criminal activities especially burglaries and theft. The proposed project could thus result in negative impacts on the safety of the Hekpoort community, especially on the more vulnerable sectors of the community such as the poor, farm or smallholding owners and the elderly.

The proposed development could thus assist by ensuring that safety and security features form part of the development e.g. some form of access control, security guards patrolling the area, and the placement of security cameras and lighting at strategic places.

In addition, it is critical that the local police force (SAPS) with the assistance of community members and other law enforcement agencies respond effectively to any criminal activities in the area. A local programme must ensure that the appropriate policing resources, solutions and tactics are assigned and implemented to address the specific safety and security needs, demands and desires of the area.

Crossing of the R560 from one side of the development to the other would create safety risks. A pedestrian bridge should be considered, or traffic calming measures would have to be implemented. This would depend on the volume of traffic on the R560 and the volume of traffic created by the proposed development.

Table 28: Impact on Community Safety

Nature: Impact on community safety		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Highly Probable (4)
Significance	High (60) -	Medium (48) -
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes, to some extent	Yes, to some extent

Mitigation:

- The development should implement safety and security features as part of the development e.g. access control, security guards patrolling the area, and the placement of security cameras at strategic places.
- Lighting as security measure at night should be implemented as part of the development
- Sub-letting as part of this development should not be allowed to ensure that the quality of life of the residents in the area remain high.
- The local policing services should respond effectively to any criminal activities, but should further focus on street crimes, assaults, and robberies

Cumulative impacts: - The increase of residents as a result of the proposed Dr. Molefi Sefularo Village

Residual Risks: Potential risk that additional people in search of housing migrate into the Hekpoort area; increased crime risk

5.10 IMPACT ON LOCAL SPATIAL OBJECTIVES

The proposed development will result in an increase in the local population in Hekpoort. The area has some social amenities, although the more advanced facilities are located within the larger urban centres. The available employment opportunities in the Hekpoort area are also limited and thus extend to Magaliesburg, Pretoria, Krugersdorp and Johannesburg. Urban densification through this development will put pressure on the area to create additional social amenities and employment opportunities in order for the urban densification to be successful.

The area must thus reach a specific threshold in order for the local population to support the businesses within this area rather than travelling far distances to meet their daily requirements. There must thus be a link between the housing development and the business area of Hekpoort. The rural programme and development strategy can assist in this regard.

The land-use strategy and urban densification can therefore only be feasible if it is linked to the creation of employment opportunities and if it provides opportunities for the local community to become involved in local economic development initiatives.

The Hekpoort Precinct Plan (2011) identified the need for a low-income residential project as early as 2010. The following qualifications were however provided to ensure a spatially sound development occur in the precinct. To recapture, the specific spatial planning principles included the following qualifications:

- The settlement should be within walking distance to a public transport route;
- The settlement must contain or have access to major social facilities;
- Settlements should be located where there is sufficient economic potential/opportunities;
- While the residential development will be located outside the urban development boundary, the rural settlement is intended to accommodate rural households currently living in the Hekpoort precinct and would therefore not constitute urban expansion. The settlement should therefore be of a predetermined size and eternal growth should be curtailed so that it does not become a high density urban area; and
- It is preferable that residents of the development should be dependent on the Hekpoort area for employment opportunities.

Table 29: Impact on Spatial Objectives

Nature: Impact on Local Spatial Objectives		
	Without mitigation	With mitigation
Extent	Regional (4)	Regional (4)
Duration	Long Term (4)	Long Term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Probable (3)	Highly Probable (4)
Significance	Medium (42) +	Medium (48) +
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	No	No
Can impacts be enhanced?	Yes, to some extent	Yes, to some extent
Enhancement:		
<ul style="list-style-type: none"> • As per the mitigation measures related to access to housing economic above (Section 5.1) • As per the mitigation measures related to access to economic opportunities above (Section 5.2) • As per the mitigation measures related to transports, road infrastructure above (Section 5.6) • As per the mitigation measures related to social facilities above (Section 5.7.) 		
Cumulative impacts: None anticipated		
Residual Risks: Not applicable		

5.11 IMPACT ON SOCIAL COHESION AND SENSE OF PLACE

The social impact associated with the impact on the sense of place relates to the change in the landscape character and visual impact of the proposed development.

The area is characterised by agricultural holdings surrounding the proposed development, as well as the neighbouring Braambos Camp, which is a camp and conference venue west of the proposed housing. The development would have a permanent visual impact on the existing traditional rural character of the site on which it would be located. The change to a densely populated settlement would thus impact negatively on the sense of place. For some it would also alter the aesthetic quality of the area.

It is anticipated that the residents of the agricultural holdings’ lifestyles and their perceptions of the community would change especially in terms of their feeling of safety. These property owners could experience the proposed development to have a severe negative impact on their quiet, rural lifestyle. The increase in the population size and density, change in land-use and encroachment of development nearer to their properties would possibly be viewed in a negative light.

It is unlikely that the residents of the existing informal settlements located within the study area would have similar viewpoints with regards to the change in focus compared to those of the residents of the agricultural holdings. Those that would benefit from the accommodation types being made available through this development would welcome the change in the focus of the community.

The different viewpoints from different stakeholder groupings could negatively affect the social cohesion within the area. The allocation of housing to suitable beneficiaries can also result in further conflict among community members should the process be deemed unfair or irregular.

Hekpoort is considered as a tourism and agricultural focused area. Any development in this area must thus be sensitive to its environmental impact and its impact of the tourism industry. The aesthetics of the development should be in line with the goal of promoting the tourism industry while also not impacting on the natural environment.

The way in which the development is implemented could lessen the negative impacts on the overall sense of place of the area. Mitigation measures to limit social conflict could relate to ongoing communication with residents, addressing the concerns of residents in a transparent and trustful manner, attend to the architectural theme of the development, involvement of local community members and existing farmers with regards to the agricultural component of the project and so forth.

Buildings should take note of the rural environmental setting and should link to the characteristics of the rural area as well as the potential of future tourism development. It can e.g. be linked to a farmer’s market to create a sense of place of a rural agricultural area, also focused on the tourism sector.

Table 30: Impact on Social Cohesion and Sense of Place

Nature: Impact on social cohesion and sense of place		
	Without mitigation	With mitigation
Extent	Local (2)	Local (2)
Duration	Permanent (5)	Long Term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Highly Probable (4)
Significance	High (65) -	Medium (48) -
Status (positive or negative)	Negative	Negative
Reversibility	No	No
Irreplaceable loss of resources?	Yes	N/A
Can impacts be mitigated?	Yes, to some extent	Yes, to some extent
<ul style="list-style-type: none"> • Attention should be given to the architectural theme of the development so that the building designs take the character of the area into account and not detract from the existing sense of place • Buildings designs for a rural settlement should be appropriated in form, style and scale to limit the negative impacts on the agricultural and tourism environments. • Designing of walls, roofs and buildings should be done in such a manner to blend in with the natural environment. • Lighting issues should receive the attention it deserves to avoid any light pollution at night but still ensure that safety requirements are met. • Alternative building materials and alternative sources of energy should be considered and integrated into the designs of the buildings. • Limit social conflict through on-going communication with residents, and addressing the concerns of residents in a transparent and trustful manner • The involvement of local community members and existing farmers with regards to the agricultural component of the project is key to the success and social cohesion within the area • The aesthetics of the development and the proposed agricultural component of the project should be in line with the local tourism objectives • The development must consider a low-density approach where the building units are integrated with 		

the agricultural component.

- The agricultural component must be stringently planned and implemented to ensure a sustainable development that will again lead to social cohesion

Cumulative impacts: The development of the Dr. Molefi Sefularo Village

Residual Risks: Impact on sense of place due to visual impact with possible negative impacts on the local tourism sector

6. SOCIO-ECONOMIC MANAGEMENT PLAN

The following are measures are proposed to mitigate potential negative economic impacts of the development and enhance benefits of potential positive economic impacts. These measures should be included in the Environmental Management Programme:

OBJECTIVE 1: Enhance the positive economic impacts during the construction phase

Project component/s	Construction	
Potential Impact	Positive impact on targeted groups in terms of direct and supply-linked; efficient, transparent and fair management of the project to create value for public money	
Activity/risk source	Limited local participation in labour and supply to the construction project/ public perceptions of project mismanagement and waste of public money	
Enhancement Target/Objective	Improve local employment opportunities for targeted groups; efficient, transparent and management of the project	
Enhancement: Action/control	Responsibility	Timeframe
In the light of challenges faces by low income housing projects in South Africa it is imperative that a transparent and fair process is followed in the procurement and management of contractors. Project management should be based on the requirements of National Treasury's SIPDM	Gauteng Government as project implementer	Pre-Construction & Construction Phase
Adhere to Gauteng Government procurement requirements. If no particular procurement policy applies, a certain percentage could be set aside to vulnerable groups, e.g. females, youth and disabled workers. The Gauteng Department of Roads for example require that 40% of construction jobs should be set aside for females, 60% to youth and 2% to disabled workers. It is also required that the contractor should provide the necessary skills training to people directly employed by the project.	Project implementer and main contractor	Pre-Construction & Construction Phase
Communicate job and contractor opportunities and recruitment processes through the local media and local civic organisations	Project implementer and main contractor	Pre-Construction & Construction Phase
Develop and implement a contractor management plans and include specifications for: <ul style="list-style-type: none"> • Up-skilling of unskilled local labour • Sub-contracting to SMMEs (% of contract value) • % of contract value to be allocated to black owned and Female owned companies 	Project implementer and main contractor	Pre-Construction & Construction Phase
As part of the infrastructure maintenance plan required for public/government it is recommended that preference is given to use willing unskilled, and semi-skilled people residing in the residential development	Project implementer	Post- construction phase
Performance Indicator	<ul style="list-style-type: none"> • Meet provincial employment and procurement targets • Sign-off on project by Treasury in terms of adherence to SIPDM phases • Meet annual targets related to the asset maintenance plan 	
Monitoring	Gauteng government. Communicated to local community forum by main contractor	

OBJECTIVE 2: Reduce nuisance impacts (noise, dust, littering) related to construction activities

Project component/s	Construction	
Potential Impact	Noise, dust and littering related to construction activities	
Activity/risk source	Increase in nuisance factors could lead to negative perceptions related to the project	
Mitigation Target/Objective	Reduce noise and dust during construction	
Mitigation: Action/control	Responsibility	Timeframe
Establish a representative forum of local community members that could have an interest in the project and engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues	Implementer and main contractor	Construction
Construction workers should be confined to the construction area as far as possible and should be easily identified.	Implementer and main contractor	Construction
Construction activities should keep to normal working hours e.g. 7 am until 5 pm.	Implementer and main contractor	Construction
Noise should be kept to the minimum.	Implementer and main contractor	Construction
The construction area should be fenced to avoid unauthorised entry by animals or children.	Implementer and main contractor	Construction
Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents.	Implementer and main contractor	Construction
Construction vehicles should adhere to the speed levels.	Implementer and main contractor	Construction
Source material and goods locally as far as possible to limit transportation of these over long distances	Implementer and main contractor	Construction
Dust suppression methods should be implemented on-site if and where required	Implementer and main contractor	Construction
Performance Indicator	<ul style="list-style-type: none"> • Limited complaints from local community related to nuisance factors • Good air quality • Noise levels within limits 	
Monitoring	Contractor to meet on a regular basis (e.g. every two months) to discuss socio-economic issues and report project progress	

OBJECTIVE 3: Reduce the potential negative impacts on traffic and road infrastructure

Project component/s	Construction and Operations	
Potential Impact	Negative impact on local traffic and road infrastructure	
Activity/risk source	Damage to roads, decrease in road safety	
Mitigation Target/Objective	Maintain road infrastructure and mitigate potential increase of traffic on local roads	
Mitigation: Action/control	Responsibility	Timeframe
The public transportation network in the area must be upgraded to accommodate the residents' needs. Facilitate the delivery of an effective public transport system in the local area	Gauteng Department of Human Settlements to liaise with Gauteng Department of Transport	Operations
Upgrading of local gravel roads would be required.	Project implementer and main contractor	Construction and Operations
Pedestrians must be accommodated through the construction of wide sidewalks.	Project implementer and main contractor	Construction and Operations
A bicycle lane along the regional road between the development and the Hekpoort School and business area must be considered	Project implementer and main contractor; West Rand District Municipality	Construction and Operations
Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents.	Project implementer and main contractor	Construction and Operations
Construction vehicles should adhere to the speed levels.	Main contractor	Construction
Construction vehicles and those transporting materials and goods should be inspected to ensure that these are in good working order and not overloaded.	Project implementer and main contractor	Construction
Performance Indicator	<ul style="list-style-type: none"> • Minimum community complaints related to traffic and road infrastructure • No speeding of construction and mining related vehicles on local roads • No increase in road accidents • No increase in potholes in local area • Efficient and affordable public transport system in the local area • Availability and frequency of public transport 	
Monitoring	<ul style="list-style-type: none"> • Monitoring on a bi-annual basis by property representatives, users, and representatives of the MCLM 	

OBJECTIVE 4: Minimise the negative impacts on the social cohesion and sense of place

Project component/s	Prior to construction, Construction and Operations	
Potential Impact	Minimise the negative impact on the sense of place and risks of social conflict	
Activity/risk source	Visual impact, environmental degradation, social conflict	
Mitigation Target/Objective	Visual pleasing environment that assist to sustain the natural environment and the tourism sector.	
Mitigation: Action/control	Responsibility	Timeframe
Establish a representative forum of local community members that could have an interest in the project and engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues	Gauteng Department of Human Settlements & Planners	Construction
Maximise the use of local labour and contractors where possible by developing a strategy to involve local labour in the construction process e.g. communicate the construction requirements through the local leaderships such as the ward committees, ward councillors and representatives of the MCLM, and advertise in the local newspapers in the local language	Gauteng Department of Human Settlements & Planners	Prior to construction
Specify the conduct of contract workers in worker related management plans and employment contracts	Gauteng Department of Human Settlements & Planners	Prior to construction
Architectural theme of the development to take the character of the area into account and not detract from the existing sense of place	Gauteng Department of Human Settlements & Planners	Prior to construction
Buildings designs for a rural settlement should be appropriated in form, style and scale	Gauteng Department of Human Settlements & Planners	Prior to construction
Lighting to avoid any light pollution at night but still ensure that safety requirements are met.	Gauteng Department of Human Settlements & Planners	Prior to construction
Alternative building materials and alternative sources of energy should be considered and integrated into the designs of the buildings	Gauteng Department of Human Settlements & Planners	Prior to construction
Limit social conflict through ongoing communication with residents, and addressing the concerns of residents in a transparent and trustful manner	Gauteng Department of Human Settlements & Planners & MCLM	Prior to construction, Construction and Operation
The involvement of local community members and existing farmers with regards to the agricultural component of the project is key to the success and social cohesion within the area	Gauteng Department of Human Settlements & Planners & MCLM & Dept. of Agriculture	Construction and Operation
The aesthetics of the development and the proposed agricultural component of the project should be in line with the local tourism objectives	Gauteng Department of Human Settlements & Planners & MCLM & Dept. of Agriculture	Prior to construction
The development must consider a low-density approach where the building units are integrated with the agricultural	Gauteng Department of Human Settlements & Planners & MCLM & Dept. of Agriculture	Prior to construction
The agricultural component must be stringently planned and implemented to ensure a sustainable development that will again lead to social cohesion	Gauteng Department of Human Settlements & Planners & MCLM & Dept. of Agriculture	Prior to construction
Performance Indicator	<ul style="list-style-type: none"> Sustainable development that fits in with character of area, visually pleasing and with no negative impacts on the tourism sector 	
Monitoring	Monitoring on a bi-annual basis by property representatives, tourist associations, and representatives of the MCLM	

OBJECTIVE 5: Limit the negative impact on existing economic concerns

Project component/s	Prior to construction, Construction and Operations	
Potential Impact	Minimise the negative impact on local businesses through change in rural character, nuisance factors, increased traffic flows and crime rates	
Activity/risk source	visual impact, sense of place, nuisance factors, decline in community safety	
Mitigation Target/Objective	Keep business climate neutral for current economic activities	
Mitigation: Action/control	Responsibility	Timeframe
Establish a representative forum of local community members that could have an interest in the project and engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues	Gauteng Department of Human Settlements & Planners	Construction and operations
Recruit unskilled labour at rates that is on par with unskilled labour wage rates in the local economy	Gauteng Department of Human Settlements & Planners	Prior to construction
Maximise the use of local unskilled and semi-skilled labour and contractors where possible by developing a strategy to involve local labour in the construction process	Gauteng Department of Human Settlements & Planners	Prior to construction
Communicate well in advance of the project in the broader local media covering Madibeng LM, MCLM and Rustenburg LM that preference will be given to unskilled and semi-skilled labour in the Hekpoort area, specifying the boundaries of the area	Gauteng Department of Human Settlements & Planners	Prior to construction
Specify the conduct of contract workers in worker-related management plans and employment contracts	Gauteng Department of Human Settlements & Planners	Prior to construction
Consult with the local community as well as the broader Hekpoort community with regard to the design of the development	Gauteng Department of Human Settlements & Planners	Prior to construction
Apply appropriate architecture that is sensitive to the rural nature and the surrounding tourism activities. Low density design should apply	Gauteng Department of Human Settlements & Planners	Prior to construction
Performance Indicator	<ul style="list-style-type: none"> • Level of water, air and visual pollution • No complaints from the local business sector related to nuisance factors, labour draw down, increased traffic and environment pollution • Design that fits the rural character of the local area 	
Monitoring	Monitoring on a bi-annual basis by property representatives, tourist associations, and representatives of the MCLM for at least 2 years after the development is completed	

OBJECTIVE 6: Improve access of local households to the development

Project component/s	Pre-construction, Operations		
Potential Impact	Increase access to local housing for the local residents of Hekpoort Precinct		
Activity/risk source	No impact on housing shortages in Hekpoort area		
Enhancement Target/Objective	Improve the opportunity of local residents to access housing in the proposed development		
Enhancement: Action/control	Responsibility	Timeframe	
An assessment/survey of the existing informal dwellings on the affected property as well as the larger Hekpoort Precinct must be undertaken prior to the development to be used as baseline	Gauteng Department of Human Settlements & Planners	Pre-construction	
The legal process as required with regards to the development of the beneficiary lists must be followed	Gauteng Department of Human Settlements & Planners	Pre-construction	
The beneficiary list must be publicised	Gauteng Department of Human Settlements & Planners	Construction	
Establish beneficiary screening criteria that give preference to: <ul style="list-style-type: none"> • current residents of the Hekpoort Precinct • people working in the Hekpoort Precinct area 	Gauteng Department of Human Settlements & Planners	Construction	
Performance Indicator	<ul style="list-style-type: none"> • Number of people from informal areas currently residing in the boundaries of the project area relocated to the development • Number of people from in Hekpoort Precinct relocated to the development • Number of low-income households in Hekpoort Precinct relocated to the development • % of residents located to the Hekpoort residential development emanating from Hekpoort Precinct • % of residents located to the Hekpoort residential employed in close range (within 5km of site) 		
Monitoring	Monitoring once off one year after the development is completed by the Gauteng Department of Human Settlements and MCLM		

OBJECTIVE 7: Limit the pressure on municipal infrastructure

Project component/s	Prior to construction, construction and operations		
Potential Impact	Limited capacity of existing municipal infrastructure to sustain the development		
Activity/risk source	Environmental pollution and no service delivery		
Mitigation Target/Objective	Create the necessary capacity in terms of the supply of municipal infrastructure		
Mitigation: Action/control	Responsibility	Timeframe	
Upgrading and/or extension of the water and sewage network would be required.	Gauteng Department of Human Settlements & MCLM	Prior to construction	
A dedicated wastewater treatment plant might be required for the proposed development	Gauteng Department of Human Settlements & MCLM	Prior to construction	
In situ waste treatment should be done at such as high standard to avoid the pollution of boreholes and the Magalies River at all costs	Gauteng Department of Human Settlements & MCLM	Prior to construction	
Due to the area being a tourism node and due to capacity constraints, the building designs should accommodate alternative sources of energy (e.g. solar systems) and alternative sources of building material that would have a limited impact on the natural environment	Gauteng Department of Human Settlements & MCLM	Prior to construction	
Water supply capacity must be assessed to ensure that the water sources will be able to accommodate the proposed development	Gauteng Department of Human Settlements & MCLM	Prior to construction	
Performance Indicator	<ul style="list-style-type: none"> Municipal services with capacity to address the needs 		
Monitoring	Monitoring on a bi-annual basis by property representatives, community representatives and MCLM		

OBJECTIVE 8: Minimise the risks to community safety

Project component/s	Construction and Operations	
Potential Impact	Increased population profile and pedestrian movement pose safety risks for the local community	
Activity/risk source	Formal and informal in-migration to the area could increase crime rates and road accidents in the local area	
Mitigation Target/Objective	Minimise impacts on local safety	
Mitigation: Action/control	Responsibility	Timeframe
Establish a representative forum of local community members that could have an interest in the project and engage with a representative forum including adjacent farmers that meets regularly to discuss and resolve potential negative impacts or shared issues	Gauteng Dept Human Settlements & Planners	Construction and operations
Before construction commences, representatives from the MCLM, and the ward councillors, as well as neighbouring communities and landowners should be informed of the details of the construction company, size of the workforce and construction schedules	Gauteng Dept Human Settlements & Planners	Construction
On-site construction workers should always be supervised.	Gauteng Dept Human Settlements & Planners	Construction
Construction activities should be kept to average working hours e.g. from 7 am until 5 pm during weekdays.	Gauteng Dept Human Settlements & Planners	Construction
Property owners surrounding the construction areas should be informed of the construction schedules and activities.	Gauteng Dept Human Settlements & Planners	Construction
Security on-site should be active prior to the construction period.	Gauteng Dept Human Settlements & Planners	Construction
Workers conduct should be guided by a code of conduct to be developed by the contractors	Gauteng Dept Human Settlements & Planners	Construction
The construction areas should be fenced to avoid unauthorised entry by animals or children	Gauteng Dept Human Settlements & Planners	Construction
Implement safety and security features as part of the development e.g. access control, security guards patrolling the area, and the placement of security cameras at strategic places.	Gauteng Dept Human Settlements & Planners	Construction
Lighting as security measure at night should be implemented as part of the development	Gauteng Dept Human Settlements & Planners	Construction and Operation
Sub-letting should not be allowed	Community and local SAPS, MCLM	Operation
The local policing services should respond effectively to any criminal activities, but should further focus on street crimes, assaults, and robberies	Community and local SAPS	Operation
Performance Indicator	<ul style="list-style-type: none"> • All complaints related to faulty streetlights attended to within one week • No increase in criminal activities • No speeding of construction and mining related vehicles on local roads • No increase in road accidents • Minimal number of complaints received during construction related to safety issues 	
Monitoring	Monitoring on a bi-annual basis by property representatives, users, and representatives of the MCLM	

OBJECTIVE 9: Optimise access for low income groups to local economic opportunities

Project component/s	Operations	
Potential Impact	Increase access to local economic opportunities for the local residents of Hekpoort Precinct	
Activity/risk source	Lack of income, non-payment for rates and services, distance from work places increase pressure on transport services	
Enhancement Target/Objective	Improve the opportunity of local residents to access economic opportunities close to place of residence	
Enhancement: Action/control	Responsibility	Timeframe
<p>Due to the high risk of failure it is imperative that agricultural and commercial developments of Hekpoort Residential Development should be informed by detailed feasibility studies. The objectives of these study/studies should be to investigate the best possible income generation options for of the Hekpoort area. A suggested Terms of Reference for such studies would include the following:</p> <ul style="list-style-type: none"> • Consult closely with the local residential community as well as existing neighbouring economic concerns • Develop an appropriate governance model for the community entity (including communication strategy, profit-sharing principles, management model etc.) • Ensure that the project is commercially viable (including market assessments, development of an operational model) • Ensure the maximum development impact of the project in terms potential income for low income groups, up-skilling potential etc.) • Ensure that the project has synergies with economic activities in larger Hekpoort economy and does not out-crowd existing commercial activities • Considering the use of sustainable methods with a minimum environmental impact • Considering projects that area water and energy efficient • Identifying potential partnerships (e.g. NGOs, other government departments, mentors from neighbouring economic concerns 	Gauteng Department of Human Settlements & Planners	Pre-construction since the study should inform the design/outlay of the development
Performance Indicator	<ul style="list-style-type: none"> • Number of job opportunities created for Hekpoort residents • Up-skilling of local residents due to economic opportunities • Water and energy efficiency of economic projects • Commercial sustainability of projects (profits after tax, cash reserves) 	
Monitoring	Monitoring on an annual basis the Gauteng Department of Human Settlements and MCLM	

OBJECTIVE 10: Reduce potential negative impacts on social infrastructure

Project component/s	Operations		
Potential Impact	Increase in number of households could place pressure on social infrastructure (schools, health facilities, social facilities and municipal infrastructure that could jeopardise the ease of access for local community		
Activity/risk source	Over-use of facilities and deteriorations of infrastructure		
Mitigation Target/Objective	Minimise negative impact on local infrastructure and maintenance thereof Assist in making public transport options more accessible to the residents of the housing development		
Mitigation: Action/control	Responsibility	Timeframe	
Establish beneficiary screening criteria that give preference to: <ul style="list-style-type: none"> • current residents of the Hekpoort Precinct • people working in the Hekpoort Precinct area 	Gauteng Department of Human Settlements & Planners	Construction	
The decision on the type of social infrastructure to be included in the development should be done in close consultation with the local community as well as be based on an objective analysis of the needs of the local area: Based on the socio-economic analysis the following social infrastructure could be possibilities: <ul style="list-style-type: none"> • early childhood development centres/crèches • a recreational area for the residents, including a play area for small children • secondary school facilities • a PHC clinics • a small regional office and retail centre 	Gauteng Department of Human Settlements & Planners	Pre-construction as part of design phase	
The Gauteng Department of Human Settlement should take note of the possible negative impact on the existing schools and impact on learners and should aim to address the issue, in cooperation with the Gauteng Department of Education.	Gauteng Department of Human Settlements & Gauteng Department of Education	Operations	
Upgrading and/or extension of the Itumeleng Clinic would be required.	Gauteng Department of Education & West Rand District	Operations	
Performance Indicator	<ul style="list-style-type: none"> • Design elements incorporated to address local infrastructure issues • Proximity of recreational, educational, health and other social facilities to community • Infrastructure and service needs are met • Maintenance of the local roads is undertaken • No negative impacts on the health services and infrastructure, water and electricity services and road infrastructure 		
Monitoring	During operations implementer ideally to monitor on a quarterly basis, one year after structure is completed		

OBJECTIVE 11: Reduce the potential negative impacts related to changes in land-use

Project component/s	Operations		
Potential Impact	Reduction of impact on current tenants and residents on land; reduce the likelihood of future degradation of high potential agricultural land		
Activity/risk source	Social protests if current tenants perceive their treatment is not fair, degraded high potential agricultural land		
Mitigation Target /Objective	Avoid negative impacts on current tenants and reduce the likelihood of the degradation of agricultural land for the future		
Mitigation: Action/control	Responsibility	Timeframe	
Terminate the contract with the current tenant so any agricultural activities currently undertaken on site cease	Gauteng Department of Human Settlements & Planners	Pre-construction	
In terms of the current informal residents that will have to be temporarily relocated: <ul style="list-style-type: none"> • Accurate information needs to be collected in terms of households currently located on the property • The identification of beneficiaries must be undertaken in accordance with the legal requirements. • The future of the residents of the existing informal settlement on site must be decided and a plan and process to deal with these residents must be outlined. The same is required for the residents of the informal settlement directly adjacent the site. • The details of such a plan must be discussed with the existing informal settlement residents • The selection criteria used by the municipality must be communicated to avoid unrealistic expectations • Beneficiary lists must be publicised • Residents must be informed of the process to register on the municipality's Housing Demand Database in order to be selected as a beneficiary of the housing development 	Gauteng Department of Human Settlements & Gauteng Department of Education	Pre-construction	
In terms of planned on site agricultural activities as part of the development: <ul style="list-style-type: none"> • The agricultural project considered for the area should make use of sustainable methods. Other selection criteria include water and energy efficiencies • Environmental awareness campaigns to be launched to make the residents aware of ways to limit the pressure on the natural environment 	Gauteng Department of Education & West Rand District	Pre-construction and Operations	
Performance Indicator	<ul style="list-style-type: none"> • Water and energy efficiency of economic projects • Number of people from informal areas currently residing in the boundaries of the project area relocated to the development • No soil, surface or groundwater pollution from the site 		
Monitoring	Monitoring on an annual basis the Gauteng Department of Human Settlements and MCLM		

OBJECTIVE 12: Enhance spatial planning objectives

Project component/s	Pre-construction/design, Operations		
Potential Impact	Enhance spatial planning objectives of bringing people closer to economic opportunities and social facilities		
Activity/risk source	Residents traveling far distances to work, school or other social activities		
Enhancement Target /Objective	Improve the spatial efficiency of the local area: reducing the need to travel long distances		
Enhancement: Action/control	Responsibility	Timeframe	
Establish beneficiary screening criteria that give preference to: <ul style="list-style-type: none"> • current residents of the Hekpoort Precinct • people working in the Hekpoort Precinct area 	Gauteng Department of Human Settlements & Planners	Construction	
Agricultural and commercial developments of Hekpoort Residential Development should be informed by detailed feasibility studies. The objectives of these study/studies should be to investigate the best possible income generation options for of the Hekpoort area	Gauteng Department of Human Settlements & Planners	Pre-construction since the study should inform the design/outlay of the development	
The public transportation network in the area must be upgraded to accommodate the residents' needs. Facilitate the delivery of an effective public transport system in the local area	Gauteng Department of Human Settlements to liaise with Gauteng Department of Transport	Operations	
The decision on the type of social infrastructure to be included in the development should be done in close consultation with the local community as well as be based on an objective analysis of the needs of the local area: Based on the socio-economic analysis the following social infrastructure could be possibilities: <ul style="list-style-type: none"> • early childhood development centres/crèches • a recreational area for the residents, including a play area for small children • secondary school facilities • a PHC clinics • a small regional office and retail centre 	Gauteng Department of Human Settlements & Planners	Pre-construction as part of design phase	
Performance Indicator	<ul style="list-style-type: none"> • Number of people from in Hekpoort Precinct relocated to the development • Number of low-income households in Hekpoort Precinct relocated to the development • % of residents located to the Hekpoort residential development emanating from Hekpoort Precinct • % of residents located to the Hekpoort residential employed in close range (within 5km of site) • Number of job opportunities created for Hekpoort residents • Up-skilling of local residents due to economic opportunities • Efficient and affordable public transport system in the local area • Availability and frequency of public transport • Proximity of recreational, educational, health and other social facilities to community 		
Monitoring	Monitoring on an annual basis the Gauteng Department of Human Settlements and MCLM		

7. SUMMARY AND CONCLUSION

The Hekpoort Precinct Plan identified the need for an integrated low-income residential project in the Hekpoort area as early as 2010. The Precinct Plan identified a number of qualifying principles for sound low-income residential project in the area, the main objectives would be to focus on providing residents of the Hekpoort Precinct with access to housing in the development, ensure that there are public transport and social facilities close to the site and, importantly, to bring economic opportunities closer to the residents living in the residential development. The report also stressed the need to avoid negative impacts on an already challenged local economy through potential negative impacts on the rural character of the Hekpoort area.

The key employment sectors in the Hekpoort area are agriculture and tourism. The project's agricultural component needs to be supported by the existing expertise within the agricultural sector. Due to the limited employment opportunities in the area, the success of the housing project would be based on the successful implementation of a sustainable agricultural programme and possibly other economic opportunities whereby local residents could benefit. A critical success factor for the project that economic projects in the project area are based on detailed feasibility studies to optimise income and up-skilling opportunities for local residents in a sustainable way.

The following table provides a summary of the impacts anticipated during the construction and operational phases of the proposed project:

Table 31: Summary of Anticipated Socio-Economic Impacts

IMPACTS ANTICIPATED DURING THE CONSTRUCTION PHASE		
Impact Category	Significance without Mitigation	Significance with Mitigation
Positive economic impacts during construction	Medium (45) +	Medium (55) +
Negative impacts on roads and traffic	Medium (50) -	Medium (40) -
Negative impacts due to nuisance factors	Medium (50) -	Medium (40) -
Impact on community safety	Medium (40) -	Medium (30) -
Impact on community cohesion, sense of place	Medium (40) -	Medium (30) -
Negative economic impacts on local economic activities	Medium(56) -	Medium (36) -
IMPACTS ANTICIPATED DURING THE OPERATIONAL PHASE		
Impact Category	Significance without Mitigation	Significance with Mitigation
Access to improved housing	Medium (48) +	High (75) +
Access to economic opportunities	Low (22) +	High (64) +
Negative economic impacts on local economic activities	Medium (60)-	Medium (39)-
Impact on Land-Use	Medium (55) -	Medium (55) -
Decline in local property values	Medium (60) -	Medium (36) -
Negative impacts on roads and traffic	Medium (48) -	Medium (36) -
Negative impacts on local social infrastructure	Medium (60) -	Medium (39) -
Negative impact on municipal infrastructure	Medium (52)-	Medium (39)-
Negative impacts on community safety	High (60) -	Medium (48)-
Positive impact on local spatial objectives	Medium (42) +	Medium (48) +
Negative impact on social cohesion and sense of place	High (65) -	Medium (48)-

The table shows that Hekpoort Residential Development could potential have high negative impacts on community safety due to potential population influx as well as an increase in traffic flows and road accidents. The development could also change the rural character of the local area with potential high negative impacts on local residents' sense of place. However, it is likely that these impacts could be effectively mitigated.

Limited cumulative impacts are foreseen for the project mainly due to the general lack of large scale capital projects in the local area, although the possible cumulative impacts of the proposed Dr. Molefi Sefularo Village development should be noted. There is a cumulative environmental risk related to water use in the area and the lack of potable water. This situation underscores the importance of investigating water saving technologies as part of the project design; ensure that economic activities on the premises have no negative impacts on surface or water pollution and are water efficient.

There are a number of potential residual risks (after mitigation) related to the project. These include:

- Deterioration of the road infrastructure during construction due to the movement of heavy construction vehicles over an extended period (an estimated 3 years);
- Increased road accident risks due to increased traffic flows within the vicinity of the development during the operational period;
- Negative impacts on water sources and soil conditions due to poor agricultural practices of the agricultural activities within the development during the operational period; ;
- Migrants drawn to the project-area in view of potential opportunities in the large and highly visible construction project could remain behind in the Hekpoort local area. This in turn could result in challenges related to perceptions related to community safety and put pressure on local social infrastructure;
- Additional people in search of housing could migrate into the Hekpoort area placing an increased burden on social services, in particular low cost housing; and
- A negative residual visual impact could impact on the local sense of place with possible negative impacts on the local tourism sector.

Despite these concerns it is concluded that, if well-designed and underpinned by feasibility studies to optimise economic opportunities for local residents, the development could make a high positive contribution towards the housing backlog for low income households in the Hekpoort area and provide them with improved access to economic opportunities. On the basis of the socio-economic assessment, the environmental authorization of the project is recommended.

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9. LIST OF STAKEHOLDER INTERVIEWS

Name	Organization	Date
1. Angus Roberston	Integrated Aquaculture	16 January 2020
2. Henri van Vuuren	Braambos Kamp	16 January 2020
3. Cllr Shane Moilwanyane	MCLM Ward 32	16 January 2020 27 January 2020
4. Project manager	MDV Housing Developments	22 January 2020
5. Andre Botes	Mogale City: Roads and Transport Department	24 January 2020
6. Given Masuku	Mogale City: Dept. of Energy	28 January 2020

10. CURRICULUM VITAE OF SPECIALISTS

CURRICULUM VITAE OF THE SOCIAL SPECIALIST: INGRID SNYMAN

Ms. Ingrid Snyman holds a BA Honours degree in Anthropology. She has 20 years' experience in the social field. Ms. Snyman has been involved in various Social Impact Assessments during her career as social scientist. These project themes consist of infrastructure development, waste management, road development, water and sanitation programmes, township and other residential type developments. She has also been involved in the design and management of numerous public participation programmes and communication strategies, particularly on complex development projects that require various levels and approaches.

:

Name:	Ingrid Helene Snyman	Name of firm:	Batho Earth
Profession:	Social Development Consultant		
Years of Experience:	20 years		

KEY QUALIFICATIONS

- Social Impact Assessment (SIA)
- Public Participation programmes
- Communication, development of community structures and community facilitation
- Community-based training and
- Workshop reports

EDUCATION

1992:	B A (Political Science) University of Pretoria
1995:	B A (Hons) Anthropology University of Pretoria
1996 - 1997:	Train the Trainers Centre for Development Administration - UNISA

EXPERIENCE RECORD

2000 to date **Independent Development Consultant: Batho Earth**

- SIA for the proposed Manganese Mine North West of Hotazel, Northern Cape (Mukulu Environmental Authorisation Project)
- Proposed Ngonye Falls Hydro-Electric Power Plant Project, Western Province, Zambia: Biodiversity Assessment: Stakeholder Engagement Plan and Social Assessment for the Ecosystem Services Review (ESR)
- SIA for the proposed Mixed Land Use Development situated on the Remainder of Allandale 10 IR, known as Rabie Ridge Ext 7, Midrand, Gauteng
- SIA for the proposed Mixed Land Use Township Establishment on the Remainder of Portion 406 of the Farm Pretoria Town and Townlands 351 JR, Salvokop, Tshwane CBD
- SIA for the proposed Crowthorne-Lulamisa power line, Midrand, Gauteng
- SIA as part of the Basic Assessment for the proposed development of Project One (1) of the Vosloorus Extension 9 High Density Housing Project, Ekurhuleni Metropolitan Municipality
- Public Participation for the Water Use Licence Application Process for the proposed Water Uses at the Clewer Siding, Clewer, near Emalahleni, Mpumalanga Province
- Public Participation for the proposed development of a Truck Stop, Buffelspoort, North West Province
- SIA for the proposed development of the new Tshwane Regional General Waste Disposal Facility (Multisand

Landfill), Pretoria, Gauteng Province

- SIA as part of the Basic Assessment for the proposed K97 Road northbound of the N4 at Bon Accord, Pretoria, Gauteng
- SIA for the proposed Mapochsgronde Residential Development, Roosenekal, Limpop Province
- SIA as part of the Basic Assessment for the extension of the Komati coal stockyard, Mpumalanga
- SIA as part of the Basic Assessment for the proposed Crowthorne Underground Cable, Gauteng
- SIA as part of the Basic Assessment for the proposed Diepsloot East Servitude and substation, Gauteng
- SIA as part of the Basic Assessment for the proposed construction of a 400 kV transmission line between the Ferrum substation (Kathu) and the Garona substation (Groblershoop), Northern Cape Province
- SIA as part of the Basic Assessment for the proposed construction of the Eskom Rhombus-Lethabong 88kv Powerline and Substation, North West Province
- Public Participation for Sable Platinum for the proposed prospecting application on the farm Doornpoort, Pretoria, Gauteng
- SIA for the proposed Aberdeen-Droerivier 400 kV Transmission Power Line, Eastern and Western Cape Province
- SIA for the proposed Houhoek Substation Upgrade and Bacchus-Palmiet Loop-In and Loop-Out, near Botrivier, Western Cape Province
- Public Participation for the prospecting application on the farms Frischgewaagd and Kleinfontein, Mpumalanga Province for PMG MINING
- Public Participation for the prospecting application on the farm Klipfontein, Gauteng for TGME
- SIA for the proposed Western Bushveld Joint Venture Project (Maseve Platinum Mine), North West Province
- SIA to determine the impact of the Tharisa Mine on the neighbouring properties and property owners, Buffelspoort area, near Marikana, North West Province
- SIA for the proposed Arnot-Gumeni 400 kV Transmission Power Line, Mpumalanga
- SIA for the proposed 400 kV Transmission Power Line for approximately 10km to the west of the existing Marathon Substation, Nelspruit area, Mpumalanga
- SIA for the proposed Christiana PV facility on the farm Hartebeestpan, North West Province
- SIA for the proposed Hertzogville PV facility on the farms Albert and Wigt, Free State Province
- SIA for the proposed Morgenzon PV facility on the farm Morgenzon, Northern Cape Province
- Public Participation Process for the proposed Western Bushveld Joint Venture Project, North West Province
- SIA for the proposed Aggeneis-Oranjemond Transmission Line project, Northern Cape Province
- SIA as part of the Basic Assessment Process for the Exxaro Photovoltaic Facility, Lephallale, Limpopo Province
- SIA for the Upington Solar Energy Facility, Northern Cape Province
- SIA for the Kleinbegin Solar Energy Facility, Northern Cape Province
- SIA for the proposed Ilanga solar thermal power plant facility on a site near Upington, Northern Cape Province
- SIA and public participation for the proposed Karoo Renewable Energy Facility, Northern Cape Province
- SIA for the Wag'nbiokiespan Solar Energy Facility, Northern Cape Province
- SIA for the proposed Kathu and Sishen Solar Energy Facilities, Northern Cape Province
- Public Participation and SIA for the proposed Thupela Waterberg Photovoltaic Plant, Limpopo Province
- SIA for the proposed Mitchells Plain-Firgrove-Stikland Transmission Line, Western Cape
- SIA for the proposed Ariadne-Venus Transmission Line, KwaZulu Natal
- Socio-Anthropological Study for the proposed Boysendal Mine, Steelpoort area, Mpumalanga
- SIA for the proposed Dominion Reefs Power Line project, North West Province
- SIA for the proposed Kannikwa Vlakte Wind Farm Project, Northern Cape
- SIA for the proposed extension of the Wemmershoek Wastewater Treatment Works (WWTW), decommissioning of the Franschhoek WWTW and construction of a transfer and outfall sewer between the two works, Franschhoek, Western Cape

- Public Participation process as part of the EIA for the proposed new Ferrochrome Smelter near Brits in the North West Province
- SIA for the proposed Lefaragathle, Mogono, Rasimone, Chaneng outfall sewer and Chaneng sewer treatment plant, Rustenburg (Phokeng), North West Province
- SIA for the proposed Vlakfontein Residential Development, Brakpan, Gauteng
- SIA for the proposed Dorstfontein Mine Western Expansion Project, Kriel, Mpumalanga
- SIA for the proposed upgrading of railway stations and railway line in Mamelodi, Gauteng
- SIA for the proposed Kyalami Strengthening Project, Kyalami, Gauteng
- SIA for the proposed APMG MINING Remote Aprons Project, O.R. Tambo International Airport, Gauteng
- SIA for the proposed Cullinan Estate Development, Cullinan, Gauteng
- SIA for the proposed Apollo Lepini 400 kV Transmission Line Project, Tembisa, Gauteng
- SIA for the proposed Grootboom Platinum Mine, Steelpoort, Limpopo Province
- SIA for the proposed Dorstfontein Mine Expansion Project, Kriel, Mpumalanga
- SIA for the proposed Postmasburg Sishen Rail Link, Postmasburg, Northern Cape
- Public participation assistance for the proposed Eskom Johannesburg East Strengthening Project, Kempton Park, Gauteng
- SIA for the proposed new Soweto Integration Project (Etna to Orlando Substation)
- Proposed Conroast Platinum Smelter, Rustenburg, North West Province: Public Participation assistance
- SIA for the proposed township development/eco-estate on the farm Grants Valley, Eastern Cape SIA for the proposed new 400 kV Transmission Line between Glockner Substation (near Rothdene) to the Etna Substation (near Ennerdale)
- Public participation assistance for the proposed construction of a brewery and associated industrial activities for Heineken Supply Co (Pty) Ltd, Kempton Park, Gauteng.
- SIA for the existing Buffelsfontein Mine, Stilfontein, North West Province
- SIA for the proposed Thaba Lesodi Golf and Game Estate, Mabatlane, Limpopo Province
- Mooi-Mngeni Transfer Scheme Phase 2: Spring Grove Dam and Appurtenant Works: Social research as part of SIA
- Proposed Township Development on the Farm Klipfontein 268-JR, Soshanguve Ext 9, Gauteng: SIA
- Public Participation assistance: Proposed Wesizwe Platinum Mine: Application for mining rights, North West Province
- Public Participation for various exemption studies for proposed residential developments in the Gauteng area (Raslouw A.H., Rayton, Rooihuiskraal)
- Social training for the Bekkersdal Farmer Support Programme
- Public Participation for the Gautrain variant alignments in the Centurion area as proposed by the Bombela Consortium
- Public Participation for the upgrading of the Menlyn Road Network
- Public Participation for the New Multi-Products Pipeline project for Petronet: Jameson Park-Langlaagte section
- Public Participation for exemption from an Environmental Impact Assessment for the proposed Township Development on Portion 49 of The Farm Rooikopjes 483 JR, Rayton
- Public Participation for exemption from an Environmental Impact Assessment for the proposed Residential Development on the remainder of a Portion of Portion 1 Of The Farm Brakfontein 399 JR
- Public Participation for the proposed new coal-fired power station in the Lephalale area, Limpopo Province
- Public Participation for the proposed Open Cycle Gas Turbine (OCGT) plant and associated transmission lines and substation at Atlantis, Western Cape Province
- Public Participation for the proposed residential and commercial development of the Isidleke region in the western portion of the AECl Modderfontein site
- Public Participation for the upgrading of Boundary Road, Kya Sands area

- Marketing for the Eskom Energy Efficient Design Competition
- Management assistance for the public participation process for the development of the Tshwane Integrated Environmental Policy
- SIA and public participation for the proposed 765 kV transmission power line between Hydra Substation (near de Aar) and the proposed Gamma Substation (near Victoria West), Northern Cape Province
- Public Participation as part of the Environmental Scoping Study for the proposed upgrading of the intersection at Road D374 and Road D540 in the Muldersdrift area
- Public Participation and SIA as part of the Environmental Scoping Study for the proposed upgrading of the Waterval Water Care Works
- Public Participation for the return-to-service of the Camden Power Station, Mpumalanga
- Public Participation for the development of an Environmental Management Framework for the western part of the Kungwini Local Municipality area
- Public Participation for the proposed section of the PWV 5 from road K71 to road R21, including interchanges, Gauteng Province
- Public Participation and SIA for the proposed Poseidon-Grassridge No. 3 400 kV Transmission line and the extension of the Grassridge Substation, Eastern Cape Province
- Public Participation and SIA for the proposed construction of power lines between the Grassridge Substation (near Port Elizabeth) and the Coega Industrial Development Zone, Eastern Cape Province
- Public Participation and SIA for the Matimba-Witkop No. 2 400 kV Transmission line in the Limpopo Province
- Public Involvement for the prospecting permit application of De Beers, Premier Mine to the Department of Minerals and Energy (DME)
- Public Participation for the proposed Toboggan Track with related facilities on Portion 155 of the farm De Rust 478 JQ (Kosmos region)
- SIA as part of the Environmental Scoping Study for the proposed Kruidfontein platinum mine in the North West Province

1995 to 2000: Afrosearch (Pty) Ltd.

- Public participation and SIA for the proposed Platinum Highway Project from the N1 to the Botswana Border
- Public participation process for the Pretoria East Mobility Study (Menlyn Node): First and Second Phase
- Public participation process and SIA for the proposed C-Cut project in Cullinan
- Public participation process for the proposed N4 Toll Road between Pretoria and the Mpumalanga Border
- Public Participation and Social Scoping for the development of a regional hazardous landfill site in the western portion of the Lekoa Vaal Metropolitan Area
- Public Participation for the identification of an acceptable end-use for the Garstkloof Landfill Site
- Public participation and Social Scoping for the proposed Soshanguve/Akasia Activity Spine
- Public Involvement and SIA for the development of a landfill site at Hatherley (Mamelodi)
- Facilitation of the public participation process to determine an acceptable closure and end-use of the Eersterust landfill site
- Public participation process for the proposed modal transfer facility in Pretoria North and the linking of Zambesi Drive and Rachel de Beer Street
- Public participation and establishment of the Akasia and Tswaing Planning Zone Forums as part of the Integrated Development Process
- Public participation process for the Ekangala Cost Recovery Pilot Project
- Public Participation for the identification of a landfill site in the South-western side of Centurion
- Public participation process for the extension and upgrading of the Vaalwater landfill site
- Public Participation process and SIA for the East Rand Water Care Company: DD5A sub-drainage regional outfall sewer and water care works

CURRICULUM VITAE OF THE ECONOMIC IMPACT ASSESSMENT PRACTITIONER: AN KRITZINGER

An Kritzinger (Masters Economics) has been working as consultant in the economic development field for the past seventeen years. Her work has concentrated on applied economic modelling in South Africa, Namibia, Botswana and Mozambique including macro-economic impact analysis, economic cost benefit analysis, economic impact assessments, social incidence studies and macroeconomic forecast modelling. She also has extensive experience in the socio-economic profiling and economic development plans for local authorities and districts in South Africa and has designed and implemented a training project for capacity training in sustainable local economic development monitoring for district municipalities throughout South Africa in collaboration with the Development Bank of Southern Africa.

Name:	Anna Sophia Kritzinger	Name of firm:	Southern Economic Development
Profession:	Economic Development Specialist		
Years of Experience:	18 years		

KEY QUALIFICATIONS

- Economic impact assessments
- Applied economics (macro-economic and social impact analysis; economic cost benefit analysis, economic incidence analysis, scenario planning)
- Skills development in development profiling and strategies
- Economic databases & economic reviews
- Local social and economic development strategies
- Industry and market analysis
- Analyses of higher education systems in Africa (analyses of demand and supply factors)

EDUCATION

1985:	B.Admin (Hons) (Economics) (University of Pretoria)
1992:	M.Admin (Economics) (University of Stellenbosch)

EXPERIENCE RECORD (1998- current)

Economic impact analyses:

- High level economic impact assessment for various projects (including tourism projects) related to the mine closure programme for Sishen Mine, Northern Cape (South Africa (2019)
- High level economic impact assessment including economic cost benefit assessment, direct and flow-on impacts for a number of tourism projects for the national tourism department South Africa (2018)
- Cost effectiveness assessment of a space technology applied for early fire detection in South Africa (BDO-UK, 2018)
- Socio-economic impact assessment of the Animal Health Technology Innovation Programme of the Technical Innovation Agency, South Africa (2017)
- Socio-economic impact assessment for the Cape Health Technology Park (South Africa (2016)
- Socio- economic impact assessment for the closure of Ezulwini gold mine, Gauteng (2016)
- Socio- economic impact assessment for Herculite Ferrochrome Complex, North West (2016)

- Socio-economic impact assessment of the Cape Health Technology Park, Western Cape (2016)
- Socio-economic impact assessment for route selection of power lines in Mpumalanga (2016)
- Study lead for revenue management study, entailing the identification of mitigation strategies related to project –related revenues (employment and public revenues) for a large-scale gas project for Anadarko petroleum in Mozambique (2012-2014)
- Socio-economic impact assessment for Jeanette mine, Free State (2015)
- Economic study for a waste disposal site in Tshwane, Gauteng (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) of a Glencore/Xtrata chrome mine in Rustenburg, Mpumalanga (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) for the extension of a mining right application for Boschmanspoort coal mine in Mpumalanga (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) for a casino/retail project in Delmas, Mpumalanga (2014)
- Economic study for a private regional landfill in the Ga-Rankuwa area of City of Tshwane (2014)
- Economic impact assessment as part of SIA for a CFB coal plant in Delmas area, Mpumalanga, South Africa (2013)
- Economic impact assessment as part of SIA of a coal mine in Chrissiesmeer, Mpumalanga, South Africa (2013)
- Economic impact assessment as part of SIA for an existing vanadium mine in the Brits area (2012)
- Economic impact assessment as part of SIA for selected wind farms and solar plants in the Northern Cape, Sivest (2012)
- Economic impact assessment as part of SIA for a diamond mine in Alexander Bay area, West Coast, South Africa (2012)
- Measured the impact of the global financial crisis on the mining industry of 8 SADC countries including South Africa (SADC countries; 2009)
- Conducted an analysis of the economic contribution of state owned enterprises to the Namibian economy (Namibia; 1999 and 2009)
- Conducted a socio economic impact analysis for the development of an Africa centre and sustainable housing development project in the Western Cape (South Africa; 2007)
- Developed economic criteria for the evaluation of projects for the Strategic Infrastructure Programme (SIP) for the Western Cape Province (2005)
- Conducted the economic evaluation of an infrastructure project in the Mosselbay area (South Africa; 2001);
- Economic impact assessment for horse-mackerel industry (Namibia 2003)

Local Economic Development- related work:

- Conducted the economic impact analyses for a SMME development finance institution (CEDA) in Botswana, (Deloitte Botswana, 2016)
- Managed and conducted a research project pertaining to Business Retention and Attraction Strategies to inform strategic inputs to improve programmes on behalf of Deloitte Namibia for the Local Economic Development Association (LEDA) of Namibia (Namibia, 2013)
- Designed and implemented a training project for capacity training in sustainable local economic development (including the “green economy”) monitoring for district municipalities throughout South Africa. The project was developed in collaboration with Inwent and the Development Bank of Southern Africa (South Africa; 2008 – 2011). The project has been developed further as one of the courses that forms part of the University of Johannesburg’s Centre of Local Economic Development degree programme;
- Evaluated local economic development projects in the Western and Eastern Cape. These studies involved the evaluation of existing economic development projects and the identification of LED projects that the NGO-client could potentially get involved in (South Africa, 2002);

- Managed a team in conducting a business survey and Local Economic Development action plan for the eastern parts of Cape Town, including township areas such as Mfuleni and parts of Macassar. The project included extensive consultation sessions with community organisations (South Africa; 2007);
- Compiled various socio economic development profiles for various South African local authorities including profiles for George municipality; Drakenstein municipality, the Overberg region and Oudtshoorn municipality that were used to inform the Local Development for the towns and district. The profiles and identification of relevant projects involved community facilitation work (South Africa;1998-2008);
- Developed a socio economic database for the Cape Metropolitan Area. The study was updated to an extensive economic analysis of the city and some indicators were extended to include all the different regions of the Western Cape (South Africa;1998, 2001);

Industry profiles and market analysis:

- Conducted research and compiled the synthesis report for geothermal potential in the African rift valley (2011)
- Conducted various research reports on global sectors e.g. the global oil and gas industry and ship building and repairs (Global, Africa, South Africa; 2003-2007)
- Managed the compilation of an “invest in Cape Town report” for Wesgro (2011)
- Managed a sector survey and profile for the Cape Town Boat building industry (South Africa, 2008);
- Compiled an industry profile for the City of Johannesburg. The study involved a survey of numerous companies and informed the city about the relative importance of the sector for the City of Johannesburg on the hand of various development criteria (South Africa; 2003).

Higher education analyses in Africa:

- Conducted a demand and supply review of the higher education system of Namibia including a gap analyses of current and forecasted labour demand and supply of higher education qualifications (Namibia; 2012 and 2014)
- Managed a situational analysis and done a market analysis as well as economic cost benefit analysis for Botswana Export Development Agency with Deloitte SA to investigate the feasibility of a tertiary education hub to diversify the Botswana economy (Botswana; 2009).

Economic cost benefit analysis:

- Conducted a high level economic cost benefit analyses for a regional landfill project in Ga-Rankuwa, City of Tshwane as extension for an economic impact assessment (South Africa, 2014)
- Conducted an economic cost benefit analyses for a coal mine near Chrissiesmeer, Mpumalanga as part of alternative land-use study for a mining application study (South Africa, 2013)
- Conducted an economic cost benefit analysis for an agricultural irrigation project in the Pandamatenga area (Botswana, 2010);
- Conducted an economic cost benefit analysis for Botswana Export Development Agency with Deloitte SA to investigate the feasibility of a tertiary education hub to diversify the Botswana economy (Botswana; 2009)

Other macro-economic modeling:

- Developed an economic forecast model for the City of Cape Town and the Western Cape economy (City of Cape Town; 2005 updated in 2011, extended to Western Cape in 2014);
- Conducted research to establish the economic contribution of agricultural research in South Africa to assist the motivation of increased public grants to the main agricultural research body (South Africa; 2011)
- Conducted a comparative economic incidence analysis between fuel levies and motor vehicle licence fees for the Western Cape (South Africa; 2007 updated in 2011)