

SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT AND WATERUSE LICENCE APPLICATION FOR THE PROPOSED JOHN DUBE EXTENSION 3 TOWNSHIP SITUATED ON PORTIONS OF REMAINING EXTENT 1 AND 83 OF THE FARM GROOTFONTEIN 165 IR, GAUTENG PROVINCE



DRAFT SCOPING REPORT

July 2020

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Note: This project commenced in March 2019 and was allocated a project reference No: **Gaut 002/18-19/E0262** by Gauteng Department of Agriculture and Rural Development. Initial PPP for the scoping phase was undertaken which included placement of site notices, newspaper advertisement and a public meeting. Feedback from stakeholders and comments received were included into the Final Scoping Report which was submitted to GDARD for approval, the FSR was approved, however due to issues raised during the scoping phase stakeholder engagement; the application was halted to take into consideration stakeholder comments to ensure impartial stakeholder engagement. This resulted in the project application to expire.

A new application has been lodged with GDARD, and the current application has been allocated the project reference number **GAUT 002/20-21/E2613**.

PROJECT DETAILS

GDARD Reference No. : **GAUT 002/20-21/E2613**
Title : **The Proposed John Dube Extension 3 Township situated on Portions of remaining extent 1 and 83 of the Farm Grootfontein 165 IR, Gauteng Province**

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Client : **Alleyroads Consortium (Pty) Ltd**

Status : Draft Scoping Report for Public Review

Review period : The 30-day period for review is from
29 July 2020 – 31 August 2020

Reviewed by: Mr Gesan Govender

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Envirovolution Consulting (Pty) Ltd was contracted by Alleyroads Consortium (Pty) Ltd as the independent environmental consultants to undertake the Environmental Basic Assessment Process for the proposed project. Envirovolution is not a subsidiary or affiliated with Alleyroads Consortium (Pty) Ltd. Furthermore, Envirovolution Consulting does not have any interests in secondary developments that may arise out of the authorisation of the proposed project. Envirovolution Consulting is a specialist environmental consulting company providing holistic environmental management services, including environmental impact assessments and planning to ensure compliance with environmental legislation and evaluate the risk of development; and the development and implementation of environmental management tools. Envirovolution Consulting benefits from the pooled resources, diverse skills and experience in environmental field held by its team. We offer solutions to environmental issues that are key during our clients' planning and decision-making processes. The Envirovolution Consulting team have considerable experience in environmental impact assessments and environmental management, and have been actively involved in undertaking environmental studies, for a wide variety of projects in South Africa, including those associated with linear developments.

As required by NEMA, the qualifications and experience of the key independent Environmental Assessment Practitioners (EAPs) undertaking the EIA are detailed below and Curriculum Vitae provided in **Appendix D**

Project manager: Jubilee Bubala the principal author of this report holds a Master's of Science degree from the Witwatersrand University. She has 12 years of experience consulting in the environmental field. Her key focus is on environmental impact assessments and advice; project management of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; environmental auditing and compliance reporting; developing and implementing ISO 14001:2004; the identification of environmental management solution and mitigation/risk minimising measures. Jubilee has been a project manager for various EIA's in Africa notably South Africa. Jubilee is currently a Project Manager at Envirovolution Consulting Pty Ltd.

Technical Reviewer: Gesan Govender the reviewer of this report is a registered Professional Natural Scientist No: 400049/12) and holds an Honours degree in Botany. He has over 15 years of experience within the field of environmental management. His key focus is on strategic environmental assessment and advice; management and co-ordination of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; compliance reporting; the identification of environmental management solutions and mitigation/risk minimising measures; and strategy and guideline development. He is currently responsible for the project management of EIA's for several diverse projects across the country.

The curriculum Vitae and a sworn affidavit by the EAP confirming that the information provided to the Department was at no stage influenced by the applicant and that the EAP has explained the potential consequences of submitting this application are attached within **Appendix D** of this report.

EXECUTIVE SUMMARY

INTRODUCTION

Alleyroads Consortium (Pty) Ltd proposes the establishment of a Township development and associated infrastructure in Nigel area, Gauteng Province. The total study area proposed for development is 141.53 hectares in extent located on Portions of remaining extent 1 and 83 of the Farm Grootfontein 165 IR, within the boundary of Ekurhuleni Metropolitan Municipality.

The Township Development entails the construction of the following land uses: Residential 1 Erven nits, Residential 3 Units, Residential 4 Units, Business 2 (a taxi rank and normal shops), Public Garage, Undetermined (6.7 hectare), Public Open Space, Community Facility and Public Roads. Approximately 6471 housing units are proposed which will consist of a combination of low cost to affordable housing.

Based on a pre-feasibility analysis, site identification and environmental screening process undertaken by Alleyroads Consortium (Pty) Ltd, a favourable site has been identified for consideration and evaluation through an

Environmental Impact Assessment (EIA) process..

The Residential Development is proposed on Portions of remaining extent 1 and 83 of the Farm Grootfontein 165 IR, Gauteng. The site formed part of the historic Vlakfontein gold mine, which was mined from 1942 to closure in 1977 by Gold Fields of South Africa. The site is located directly south of the Town Dunnottar, south of the M45 (Vlakfontein Road) and west of the M63 (Nigel-Dunnottar Road).

The site centre geographical coordinates of Portion of remaining extent 1 of the Farm Grootfontein 165 IR, Gauteng are: 26°21'23.56"S:28°25'42.64"E. While those of the other portion of remaining extent 83 of the Farm Grootfontein 165 IR, Gauteng are:26°21'15.04"S: 28°25'19.33"E. The site falls within the jurisdiction of Ekurhuleni Metropolitan Municipality. Refer to Figure 1-1 for the Locality Map.

In terms of sections 24(2) and 24D of the National Environmental Management Act (Act No. 107 of 1998), as read with the Environmental Impact Assessment (EIA) Regulations of GN R982, as amended by GN R326) the proposed development

triggers a listed activity for which a Scoping and Environmental Impact Assessment Process is required in order for Alley roads Consortium (Pty) Ltd to obtain environmental authorisation for the construction and operation of the proposed development

REQUIREMENT FOR AN ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The construction and operation of the proposed John Dube Ext 3 Township is subject to the requirements of the Environmental Impact Assessment Regulations (2014 EIA Regulations) in terms of the National Environmental Management Act (NEMA, Act 107 of 1998, as amended). NEMA is the National legislation that provides for the authorisation of certain controlled activities known as “listed activities”. In terms of Section 24(1) of NEMA, the potential impact on the environment associated with these listed activities must be considered, investigated, assessed, and reported on to the competent authority (the decision-maker) charged by NEMA with granting of the relevant environmental authorisation.

In terms of the EIA Regulations published in terms of Section 24(5) of the National

Environmental Management Act (NEMA, Act No. 107 of 1998, Alley roads Consortium (Pty) Ltd requires authorisation from Department of Economic Development, Small Business Development, Tourism and Environmental Affairs (GDARD) for the construction and operation of the proposed residential development.

Envirovolution Consulting Pty Ltd has been appointed by Alley roads Consortium (Pty) Ltd to undertake the Scoping and Environmental Impact Reporting (S&EIR, also referred to as EIA) process required in terms of the National Environmental Management Act 107 of 1998 (NEMA). The EIA process is being undertaken in accordance with Section 21 of the EIA Regulations, 2014 (GN R982, as amended by GN R326).

In order to obtain an environmental authorisation, comprehensive, independent environmental studies must be undertaken in accordance with the EIA Regulations.

An EIA is an effective planning and decision-making tool for the project developer as it allows for the identification and management of potential

environmental impacts (and indicates whether potential environmental impacts can be avoided, minimised or mitigated to acceptable levels). It provides the opportunity for the developer to be forewarned of potential environmental issues, allows for resolution of the issues reported on in the Scoping and EIA Reports as well as facilitating dialogue with interested and affected parties (I&APs).

Comprehensive, independent environmental studies are required in accordance with the EIA Regulation to provide the competent authority with sufficient information in order to make an informed decision. Alleyroads Consortium (Pty) Ltd has appointed Envirolution Consulting (Pty) Ltd, as independent environmental consultants, to undertake the required Scoping phase and EIA process and compile the EIA Report and Environmental Management Programme (EMPr).

WATER USE LICENCE

In terms of the National Water Act No. 36 of 1998, a Water Use License is required for the development as per the following specific water uses:

- Section 21(c): Impeding or diverting the flow of water in a watercourse; and
- Section 21(i): Altering the bed, banks, course or characteristics of a watercourse.

This is a legislative process governed by Department of Water and Sanitation (DWS) for the authorisation of all water used defined in Section 21.

NEED AND DESIRABILITY OF THE PROPOSED PROJECT

Development around cities and towns are necessary to accommodate an ever growing population. One of the problems that have plagued South Africa for decades now has been the housing problem, specifically low income housing. Affordable low-income housing has been neglected by the Government. South Africa's housing problem has persisted throughout the decades, and the problem is multi-fold. Associated infrastructure such as the tank rank and normal shops will complement the socioeconomic activities within the study area. The taxi rank will bring about improved taxi operations, convenience, and safety for pedestrians and road users. The facility will enable public travellers to and from the housing development who uses taxis to board their transport at a safe

location. This business aspect of the development will provide connectivity economic hub where the previously disadvantaged can trade and improve their quality of life.

The overall development is imperative to Ekurhuleni Metropolitan Municipality as it addresses the need of basic services, housing, economic growth, job opportunities and in turn reduces informal settlements within the metropolitan. This activity is in line with the 2017 Integrated Development Plan of Ekurhuleni Metro as the area and its vicinity is earmarked for future residential development.

CONCLUSION (IMPACT STATEMENT)

A broader study area of 141.53 hectares is being considered within which the Residential Development will be constructed, although the actual development footprint will be smaller in extent. Potential issues identified to be associated with the proposed John Dube Ext3 Township Establishment include impacts on flora, fauna and ecological processes and potential impacts on heritage sites as well as social economic impacts.

Issues identified through this scoping study as being potentially associated with the proposed development include impacts on biodiversity and ecological processes, including habitat alteration and impacts to fauna, social impacts, potential impacts on heritage sites, impacts on soil and impacts on the water resources. The majority of potential impacts identified to be associated with the construction and operation of the proposed facility are anticipated to be localised and restricted to the proposed site. No environmental fatal flaws were identified to be associated with the development. Similarly no potential sensitive areas were identified at this stage any other potentially sensitive areas that may still occur on site and the presence of these features will have to be investigated and assessed in detail in the EIA phase which includes on-site investigations. A detailed sensitivity map will also be compiled for the EIA report in order to indicate areas which have been marked as potentially sensitive.

Alley roads Consortium (Pty) Ltd will prepare detailed infrastructure layouts for consideration within the EIA phase. Due to the nature of the project, surface and underground water resources will be will be assessed more in detail through the EIA

phase and any sensitive areas will be demarcated, were applicable.

Table of Contents

| | |
|---|-----|
| PROJECT DETAILS | iv |
| DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) | v |
| EXECUTIVE SUMMARY | vii |
| 1. Introduction | 4 |
| 1.1 Background and Introduction | 4 |
| 1.2 Purpose of the Report..... | 5 |
| 1.3 Structure of this Report | 5 |
| 1.4 Content of Report | 31 |
| 1.5 Assumptions and Limitations | 35 |
| 2. Governance Framework and Environmental Process | 36 |
| 2.1 South African Legislation..... | 36 |
| 2.1.1 The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) | 36 |
| 2.1.2 National Environmental Management Act (Act No. 107 of 1998) | 37 |
| 2.1.3 National Environmental Management Act (Act No. 107 of 1998) | 42 |
| 2.1.4 The National Environmental Management: Water Act, 1998 (Act No. 36 of 1998) | 42 |
| 2.1.5 National Environmental Management: Biodiversity Act 2004 (Act 10 of 2004) | 43 |
| 2.1.7 National Heritage Resources Act (Act No 25 of 1999)..... | 44 |
| 2.1.8 The National Environmental Management Waste Act 2008 (Act 59 of 2008)..... | 46 |
| 2.1.9 Hazardous Substances Act (Act No. 15 of 1973) | 47 |
| 2.1.10 The Occupational Health and Safety Act 1993 (No 85 of 1993)..... | 47 |
| 2.1.11 The National Environmental Management: Air Quality Act 2004 (No 39 of 2004)..... | 48 |
| 2.1.13 Environment Conservation Act (Act No. 73 of 1989) | 48 |
| 2.1.14 Conservation of Agricultural Resources Act (Act No 43 of 1983)..... | 48 |
| 2.1.15 Promotion of Access to Information Act, 2000 (Act No 2 of 2000)..... | 49 |
| 2.1.18 Municipal Systems Act, No 32 of 2000 | 51 |
| 2.1.20 Additional notable legislation | 51 |
| 2.1.21 Policy Guidelines | 51 |
| 2.2 Environmental Impact Assessment Process | 52 |
| 3. Project Description | 56 |
| 3.1 Background to the Project | 56 |

| | |
|---|-----------|
| 3.2 Description of the Project Area | 57 |
| 3.2.1 Regional Setting | 57 |
| 3.2.2 Project Locality..... | 58 |
| 3.2.2 Surrounding Land use | 60 |
| 3.3 Project Motivation | 61 |
| 3.3.1 Description of the Need and Desirability..... | 64 |
| 3.4 Project Alternatives..... | 68 |
| 3.4.1 Site Alternatives | 68 |
| 3.4.2 Layout Design Alternatives | 69 |
| 3.4.3 The No Go Alternative | 70 |
| 4. Description of the Affected Environment | 71 |
| 4.1 Biophysical Characteristics of the Study Area and Surrounds..... | 71 |
| 4.1.1 Topography and land use..... | 71 |
| 4.1.2 Geology and Soil | 71 |
| 4.1.3 Climate | 76 |
| 4.1.4 Air Quality | 76 |
| 4.1.5 Noise | 77 |
| 4.1.6 Hydrology and Hydrogeology | 77 |
| 4.1.7 Terrestrial Vegetation and Habitats | 79 |
| 4.1.8 Ecological Assessment (Fauna, Avifauna & Hepertofauna | 81 |
| 4.2 Human Environment..... | 83 |
| 5. Public Participation Process..... | 97 |
| 5.1 Stakeholder Engagement Activities | 97 |
| 5.2 Process followed to date | 99 |
| 5.3 Stakeholder Comments..... | 50 |
| 6. Potential Environmental and Social Impacts | 51 |
| 7. Plan of Study for the EIA | 61 |
| 7.7.1 Traffic Specialist Study | 64 |
| 7.7.2 Ecological Assessment (Flora, Hepertofauna, Fauna and Avifauna) | 65 |
| 7.7.3 Wetland Assessment | 65 |
| 7.7.4 Heritage Impact Assessment | 66 |
| 7.7.7 Soils and Rock stock pile Screening Assessment | 66 |
| 8. Conclusions and Recommendations..... | 74 |

9. References 81

1. Introduction

1.1 Background and Introduction

Alleyroads Consortium (Pty) Ltd proposes the establishment of a residential development as known as John Dube Extension 3 Township as well as associated infrastructure in Ekurhuleni Metropolitan Municipality, Gauteng Province. The total study area proposed for development is 141.5283 hectares located within the boundary of Ekurhuleni Metropolitan Municipality.

The John Dube Ext 3 Township entails the construction of the following land uses: residential 1 erven units, residential 3 units, residential 4 units, business 2 (a taxi rank and normal shops), public garage, undetermined (6.7 hectare), public open space, community facility and public roads. Approximately 6471 housing units are proposed which will consist of a combination of low cost to affordable housing.

Based on a pre-feasibility analysis, site identification and environmental screening process undertaken by Alleyroads Consortium (Pty) Ltd, a favourable site has been identified for consideration and evaluation through an Environmental Impact Assessment (EIA) process.

Consequently, and in terms of the EIA Regulations published in terms of Section 24(5) of the National Environmental Management Act (NEMA, Act No. 107 of 1998, Alleyroads Consortium (Pty) Ltd requires authorisation from Gauteng Department of Agriculture and Rural Development (hereafter "GDARD") for the construction and operation of the proposed John Dube Ext 3 Township.

In terms of the National Water Act No. 36 of 1998, a Water Use License is required for the development as per the following specific water uses:

- Section 21(c): Impeding or diverting the flow of water in a watercourse; and
- Section 21(i): Altering the bed, banks, course or characteristics of a watercourse.

This is a legislative process governed by Department of Water and Sanitation (DWS) for the authorisation of all water used defined in Section 21.

Alleyroads Consortium (Pty) Ltd has appointed Envirolution Consulting (Pty) Ltd, an independent environmental consultant, to conduct the Scoping and Environmental Impact Assessment, including the public participation process for the proposed development.

1.2 Purpose of the Report

This document is intended to guide the EIA process and specialist studies by:

Providing an overview of the legal requirements with regard to the proposed project, the proposed project description and anticipated environmental and social issues and impacts that will be further investigated in the EIA; and

Setting out the scope of the EIA process and the Terms of Reference (ToR) for specialist studies and outlining the approach and methodologies to be used in the EIA process, e.g. the proposed impact rating methodology.

This report will be submitted to GDARD for their acceptance.

1.3 Structure of this Report

This report describes the proposed activity and its context, details the stakeholder engagement process, presents the results of the Scoping Phase and sets out the Plan of Study for the Impact

Assessment Phase. The report has been prepared in accordance with Section 21 of the EIA Regulations, 2014 as amended and consists of the following sections:

Section 1: Introduction

Provides an introduction and background to the proposed project and outlines the purpose of this document and the assumptions and limitation applicable to the study.

Section 2: Governance Framework and Environmental Process

Provides a brief summary and interpretation of the relevant legislation as well as pertinent strategic planning documents, and outlines the approach to the environmental process.

Section 3: Project Description

Describes the location and current status of the site and provides a brief summary of the surrounding land uses as well as background to and a motivation for the proposed project.

Section 4: Description of the Affected Environment

Briefly describes the biophysical and socio-economic characteristics of the affected environment that will be considered in the assessment of potential project impacts.

Section 5: Stakeholder Engagement

Details the stakeholder engagement activities conducted and planned for the Scoping Phase.

Section 6: Potential Environmental and Social Impacts

Identifies the potential impacts associated with the proposed development that will require investigation during the Impact Assessment Phase.

Section 7: Plan of Study for the EIA

Presents the proposed approach to the Impact Assessment Phase, outlines the methodology that will be adopted in assessing the potential impacts during the Impact Assessment Phase, identifies the specialist studies that are required and proposes the preliminary ToR for these studies.

Section 8: Conclusions and Recommendations

Summarizes the key findings of the Scoping Phase and outlines the way forward in the Impact Assessment Phase.

The Scoping Report has been prepared in accordance with Section 21 of the EIA Regulations, 2014 as amended.

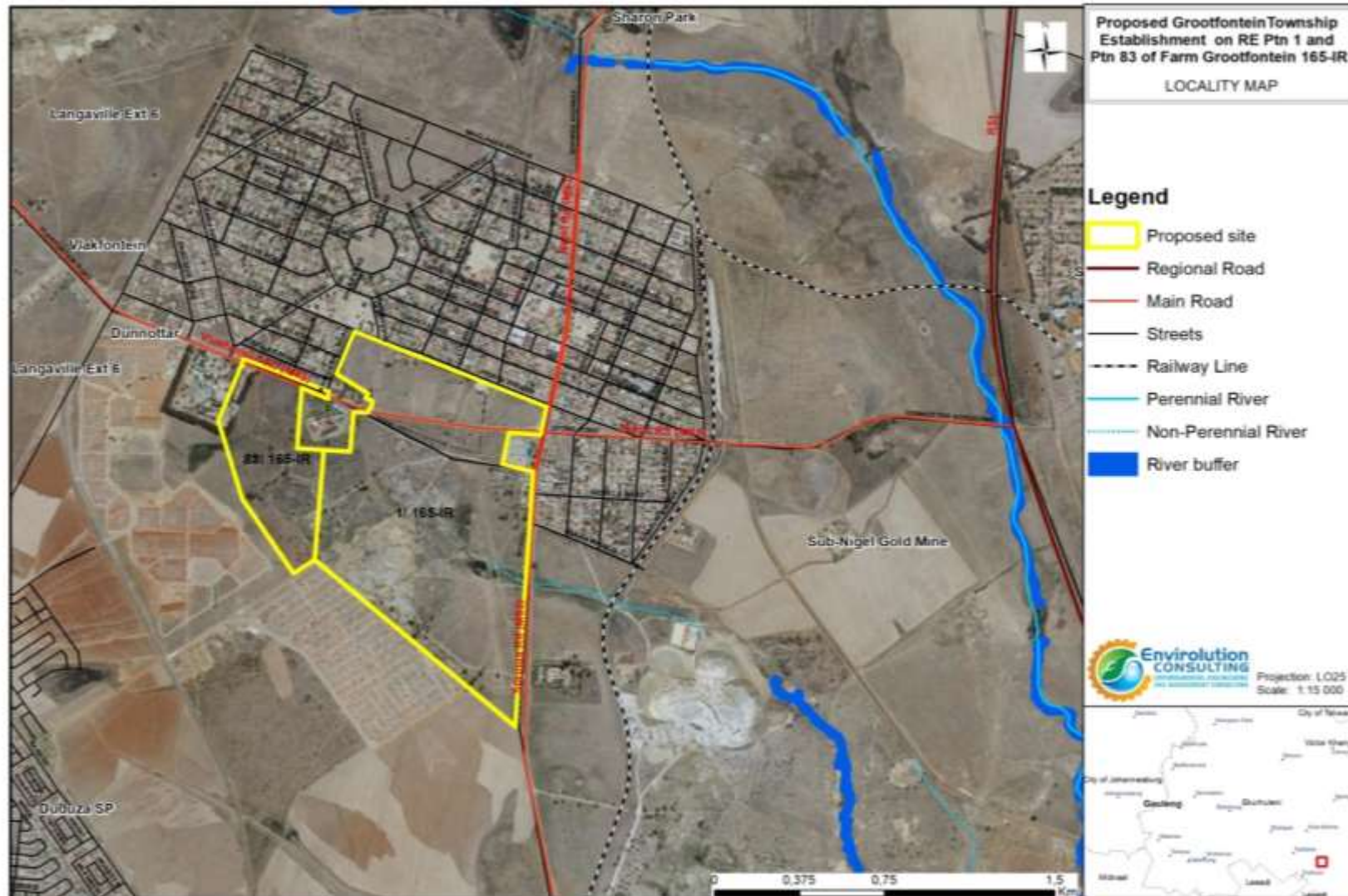


Figure 1-1 Locality Plan

1.4 Content of Report

The EIA Regulations, 2014 (Government Notice (GN) 982 which came into effect on 8 December 2014, as amended by GN R326 of 2017, Appendix 2), prescribe the required content in a Scoping Report. These requirements and the sections of this Scoping Report in which they have been addressed, are summarized in Table 1-1 and will guide the reader to the relevant pages of the report.

Table 1-1: Content of Scoping Report as per EIA Regulations, 2014

| GN 982, App 2 Ref.: | Requirement | Reference section within document |
|------------------------|---|---|
| (2) (a) | Details of: | |
| (2) (a) (i) | The EAP who prepared the report | Page iii |
| (2) (a) (ii) | The expertise of the EAP, including a Curriculum Vitae | Page iii & Appendix D |
| (2) (b) | Location of the activity, including: | |
| (2) (b) (i) | 21 digit Surveyor General code of the property | 3 |
| (2) (b) (ii) | Physical address and farm name (where available) | 3 |
| (2) (b) (iii) | The coordinates of the boundary of the property (where (2) (b) (i) and (2) (b) (ii) are not available) | 3 |
| (2) (c) | A plan indicating the location of the proposed activities and associated infrastructure, or: | 1.3 |
| (2) (c) (i) | For linear activities: a description and coordinates of the corridor in which the proposed activity is to be undertaken | |
| (2) (c) (ii) | On land where the property has not been defined, the coordinates within which the activity is to be undertaken | |

| | | |
|---------------|---|---|
| | | |
| (2) (d) | A description of the scope of the proposed activity, including | |
| (2) (d) (i) | All listed and specified activities triggered | 2.1.2 |
| (2) (d) (ii) | A description of activities to be undertaken, including associated infrastructure | 3 |
| (2) (e) | A description of the policy and legislative context | 2 |
| (2) (f) | Motivation for need and desirability for the proposed development | 3.3, 3.3.1 |
| (2) (h) | A full description of the process followed to reach the proposed preferred activity, site and location within the site, including | |
| (2) (h) (i) | Details of all alternatives considered | 3.4 |
| (2) (h) (ii) | Details of public participation process undertaken, including copies of the supporting documents and inputs | 5 |
| (2) (h) (iii) | A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them | 5.3 |
| (2) (h) (iv) | The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects | 4 |
| (2) (h) (v) | The impacts and risks identified, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be reversed, may cause irreplaceable loss of resources, and can | <i>To be provided in the EIA Report. Potential impacts are described in Section 6</i> |

| | | |
|----------------|---|--|
| | be avoided, managed or mitigated | |
| (2) (h) (vi) | The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks | 7.8 |
| (2) (h) (vii) | Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected, focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects | <i>To be provided in the EIA Report. Potential measures are described in Section 6</i> |
| (2) (h) (viii) | Possible mitigation measures that could be applied and level of residual risk | <i>To be provided in the EIA Report. Potential measures are described in Section 6</i> |
| (2) (h) (ix) | Outcome of the site selection matrix | |
| (2) (h) (x) | If no alternative development locations for the activity were investigated, the motivation for not considering such | 3.4 |
| (2) (h) (xi) | A concluding statement indicating the preferred alternative development location within the approved site | 3.4 |
| (2) (i) | A plan of study for the EIA, including: | 7 |
| (2) (i) | A description of the alternatives to be considered and assessed including the option of not proceeding | |
| (2) (i) (ii) | A description of the aspects to be assessed as part of the environmental impact assessment process | 6 |
| (2) (i) (iii) | Aspects to be assessed by specialists | 7.3 |

| | | |
|----------------|---|--|
| (2) (i) (iv) | A description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists. | 7 |
| (2) (i) (v) | A description of the proposed method of assessing duration and significance | 7.8 |
| (2) (i) (vi) | An indication of the stages at which the competent authority will be consulted | 5 |
| (2) (i) (vii) | Particulars of the public participation process that will be conducted during the environmental impact assessment process | 5.2 & 7.2 |
| (2) (i) (viii) | A description of the tasks that will be undertaken as part of the environmental impact assessment process | 7 |
| (2) (i) (x) | Identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored | <i>To be provided in the EIA Report. Potential measures are described in Section 6</i> |
| (2) (j) | Undertaking under oath or affirmation by the EAP in relation to: | |
| (2) (j) (i) | The correctness of the information provided in the report | Appendix D |
| (2) (j) (ii) | The inclusion of comments and inputs from stakeholders and interested and affected parties | Appendix D |
| (2) (j) (iii) | Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties | Appendix D |

| | | |
|---------|--|-------------------------------------|
| (2) (k) | An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment | <i>No comments received to date</i> |
| (2) (l) | Any specific information required by the competent authority. | <i>To be confirmed</i> |

1.5 Assumptions and Limitations

As is standard practice, this Scoping Report is based on a number of assumptions and is subject to certain limitations. These are as follows

- It is assumed that information provided by **Alley roads Consortium (Pty) Ltd** and other consultants and specialists is accurate;
- Detailed assessment of the potential positive and negative environmental impacts of the proposed development will only be undertaken during the Impact Assessment Phase; and
- An application for a township establishment to the requirements of the Municipality is excluded from the Scope of Work.

Notwithstanding the above, Envirolution Consulting is confident that these assumptions and limitations do not compromise the overall findings of this report.

2. Governance Framework and Environmental Process

2.1 South African Legislation

Appendix 2 of the 2014 Environmental Impact Assessment Regulations states that one of the purposes of the scoping report is to identify the relevant policies and legislation relevant to the activity. The scoping report must include a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process. It has been determined that a Scoping & Environmental Impact Assessment Report (S&EIR) process must be completed in respect of activities listed in a notice issued by the Minister in terms of section 24D of the NEMA. The scope and content of this draft scoping report has been guided by the following additional legislation and guidelines. A synopsis of Envirolution's understanding of the relevant Acts and Regulations that are applicable to this study is provided below. Note that other legislative requirements may also pertain to the project. As such, the summary provided below is not intended to be definitive or exhaustive, and serves only to highlight key environmental legislation and obligations.

2.1.1 The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)

The Constitution of the Republic of South Africa, 1996 has major implications for environmental management. The main effects are the protection of environmental and property rights, the drastic change brought about by the sections dealing with administrative law such as access to information, just administrative action and broadening of the locus standi of litigants. These aspects provide general and overarching support and are of major significance in the effective implementation of the environmental management principles and structures of the Environment Conservation Act and NEMA. Section 24 in the Bill of Rights of the Constitution specifically states.

"Everyone has the right –

- *To an environment that is not harmful to their health or well-being; and*
- *To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -*
 - *Prevent pollution and ecological degradation;*
 - *Promote conservation; and*
 - *Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*

Legal requirements for this project:

Section 24 of the Constitution therefore places a duty on all spheres of government to take reasonable steps, including making laws, preventing pollution, promoting conservation and ensuring sustainable development.

2.1.2 National Environmental Management Act (Act No. 107 of 1998)

The proposed project is subject to the requirements of the Environmental Impact Assessment Regulations (2014 EIA Regulations) in terms of the National Environmental Management Act (NEMA, Act 107 of 1998, as amended). NEMA is a national legislation that provides for the authorization of certain controlled activities known as "listed activities". In terms of Section 24(1) of NEMA, the potential impact on the environment associated with these listed activities must be considered, investigated, assessed, and reported on to the competent authority (the decision-maker) charged by NEMA with granting of the relevant environmental authorization.

NEMA requires, inter alia, that development must be socially, environmentally, and economically sustainable." Disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimized and remedied." A risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions. "EIA Regulations have been promulgated in terms of Chapter 5. Activities which may not commence without an environmental authorization are identified within these Regulations. In terms of S24(1) of NEMA, the potential impact on the environment associated with these listed activities must

be considered, investigated, assessed and reported on to the competent authority charged by NEMA with granting of the relevant environmental authorization.

Legal requirements for this project:

In terms of sections 24(2) and 24D of the National Environmental Management Act (Act No. 107 of 1998), as read with the Environmental Impact Assessment (EIA) Regulations of GN R982, as amended by GN R326) Alleyroads Consortium (Pty) Ltd requires an Environmental Authorization to be issued for the project for the following listed activities.

Table 1-1: NEMA activities applicable to the proposed project

| The number of the relevant Government Notice: | Activity No (s) (relevant notice): e.g. Listing notices 1, 2 or 3 | Description of each listed activity as per the wording in the listing notices |
|---|---|---|
| <i>e.g. GN. R 983, 8 December 2014</i> | <i>1.(i)</i> | <i>the development of facilities or infrastructure for the generation of electricity from a renewable resource where – the electricity output is more than 10 megawatts but less than 20 megawatts</i> |
| GN 983, 08 Dec 2014 as Amended Listing Notice 1 (327) of 7 April 2017 | Listing notice 1 | <p>Activity 19: The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells grit, pebbles or rock of more than 10 cubic metres from a watercourse.</p> <p>There is a watercourse on site and rehabilitation of the watercourse on site to make it more aesthetically appealing will occur. The proposed project will result in infilling or removal of 10m³ or more of material into/from a watercourse during the rehabilitation of the watercourse.</p> |
| GN 983, 08 Dec 2014 as Amended Listing Notice 1 (327) of 7 April 2017 | Listing notice 1 | <p>Activity 14: The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres</p> <p><i>A public filling station is proposed on site. The</i></p> |

| | | |
|---|-------------------------|---|
| | | <i>combined capacity of the station will have a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres</i> |
| GN 983, 08 Dec 2014 as Amended Listing Notice 1 (327) of 7 April 2017 | Listing notice 1 | <p>Activity 28: Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:</p> <p>i. <u>will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or</u></p> <p>excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.</p> <p><u>The development will occur inside an urban urqe and the total area to be developed is 141.53 hectares.</u> The development is proposed on a site considered undetermined agricultural land with a 'Special' zoning allocated to the Rock Stockpiles servitude area</p> <p>The John Dube Ext 3 Township will comprise of Residential 1 Erven, Residential 3 Units, Residential 4 Units, Business 2 (taxi rank with normal shops), Public Garage, Undetermined (6.7 hectare), Public Open Space and a Community Facility. Approximately 6471 housing units are proposed which will consist of a combination of low cost to affordable housing</p> |
| GN 984, 08 Dec 2014 as Amended Listing Notice 2 (325) of 7 April 2018 | Listing Notice 2 | <p>Activity 15: The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for—</p> <p>(i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan</p> |

| | | |
|--|--------------------------------|--|
| | | <p><i>The site is 141.53 hectares and the clearance of an area of 20 hectares or more of indigenous vegetation will occur prior to initiating construction.</i></p> |
| <p>GNR.985, 08 Dec 2014 as Amended</p> | <p>Listing Notice 3</p> | <p>Activity 12: The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan</p> <p>c. Gauteng</p> <p>i. Within any critically endangered ecosystem listed in terms of section 52 NEMBA or prior to the publication of such a list within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004.</p> <p>ii. Within critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans; or</p> <p><i>The area falls mainly within the <u>Tsakane Clay Grassland</u>, which is an endangered vegetation type (Mucina & Rutherford 2006; SANBI & DEAT 2009).</i></p> <p><i>The site area has been used for mining since the 1940's and many surrounding areas have been used for maize agriculture. All vegetation units on the site are highly disturbed, rather transformed by previous anthropogenic activities. However the clearance of an area of 300 square metres or more of indigenous vegetation within the critically endangered ecosystems mentioned above will occur during construction.</i></p> <p><i>Works will also occur within a watercourse an area</i></p> |

| | | |
|--|--------------------------------|--|
| | | <p><i>identified as a sensitive area and also an Ecological Support Area by the Gauteng Conservation Plan of which 300 square metres of vegetation will be cleared from the ecosystem.</i></p> |
| <p>GNR.985, 08 Dec 2014 as Amended</p> | <p>Listing Notice 3</p> | <p>Activity 14: The development of:–</p> <p>(vi channels exceeding 10 square metres in size:–)</p> <p>(xii) infrastructure or structures with a physical footprint of 10 square meters or more – where such development occurs -</p> <p style="padding-left: 40px;">a) within a watercourse;</p> <p style="padding-left: 40px;">b) In Gauteng:</p> <p>iv. sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) Gauteng Conservation Plan or in bioregional plans;</p> <p>v. sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vi) Sensitive areas identified in an environmental management framework adopted by relevant environmental authority.</p> <p><i>There is a watercourse on site and rehabilitation of the watercourse on site to make it more aesthetically appealing will occur. Rehabilitation activities will result in the construction of infrastructure or structures with a physical footprint of 10 square meters or more within a watercourse and or its buffer area. A wetland area is identified as a sensitive area and also an Ecological Support Area by the Gauteng Conservation Plan.</i></p> <p><i>A watercourse is regarded as a watercourse and a sensitive areas protected by the National Water Act.</i></p> |

The Gauteng Department of Agriculture and Rural Development (GDARD) will be the relevant decision-making authority as the applicant is neither a parastatal nor an Organ of State. The EIA authorizations need to be granted by the GDARD for approval and setting of conditions prior to commencement of any construction activities.

2.1.3 National Environmental Management Act (Act No. 107 of 1998)

Section 28 of NEMA creates a general duty of care on every person, and “person” is very widely defined, to take reasonable measures to prevent significant pollution or degradation of the environment from occurring, continuing or recurring, or, in so far as such harm to the environment is authorized by law or cannot reasonably be avoided or stopped, to minimize and rectify such pollution or degradation of the environment.

Legal requirements for this project:

While no permitting requirements arise from this section of the Act, this will be applicable during construction in order to ensure minimization of impacts on the environment.

2.1.4 The National Environmental Management: Water Act, 1998 (Act No. 36 of 1998)

Water use in South Africa is controlled by the NWA. The executive authority is the Department of Water and Sanitation (DWS). The NWA recognizes that water is a scarce and unevenly distributed national resource in South Africa. Its provisions are aimed at achieving sustainable and equitable use of water to the benefit of all users and to ensure protection of the aquatic ecosystems associated with South Africa’s water resources. The provisions of the Act are aimed at discouraging pollution and wastage of water resources. In terms of the Act, a land user, occupier or owner of land where an activity that causes or has the potential to cause pollution of a water resource has a duty to take measures to prevent pollution from occurring. If these measures are not taken, the responsible authority may do whatever is necessary to prevent the pollution or remedy its effects, and to recover all reasonable costs from the responsible party. Section 21 of the NWA specifies a number of water uses. These water uses require authorization in terms of Section 22 (1) of the Act, unless they are listed in Schedule 1 of the NWA, are an existing lawful use, fall under a General Authorization issued in terms of Section 39 or if the responsible authority waives the need for a licence.

Legal requirements for this project:

Section 21: As the application includes works in a watercourse. In terms of the National Water Act No. 36 of 1998, a Water Use License is required for the development as per the following specific water uses:

- Section 21(c): Impeding or diverting the flow of water in a watercourse; and
- Section 21(i): Altering the bed, banks, course or characteristics of a watercourse.

This is a legislative process governed by Department of Water and Sanitation (DWS) for the authorisation of all water used defined in Section 21.

Section 19: Of specific importance to this application is Section 19 of the National Water Act, 1998 (Act No. 36 of 1998), which states that an owner of land, a person in control of land or a person who occupies or uses the land which thereby causes, has caused or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring and must therefore comply with any prescribed waste standard or management practices.

Legal requirements for this project:

In terms of Section 19, the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to prevent and remedy the effects of pollution to water resources from occurring, continuing or recurring.

2.1.5 National Environmental Management: Biodiversity Act 2004 (Act 10 of 2004)

The National Environmental Management Biodiversity Act) NEMBA (Act 10 of 2004); NEMBA Chapter 4 and 5 are important to this project, in terms of the following Regulations:

- National List Of Ecosystems that are threatened and in need of protection (Published under Government Notice 1002 in Government Gazette 34809 of 9 December 2012)
- Publication Of Lists Of Critically Endangered, Endangered, Vulnerable And Protected Species (Published under Government Notice R151 in Government Gazette 29657 of 23 February 2007)

- Threatened Or Protected Species Regulations (Published under Government Notice R152 in Government Gazette 29657 of 23 February 2007)
- Alien And Invasive Species Regulations (Published under Government Notice R598 in Government Gazette 37885 of 1 August 2014).
- Publication Of National List Of Invasive Species (Published under Government Notice R507 in Government Gazette 36683 of 19 July 2013).

Legal requirements for this project:

- This Environmental Impact Assessment will assist the Developer to take cognisance of the regulations of NEMBA when approaching this project for the construction of the John Dube Ext 3 Township Development.
- There is a single red data listed plant species (*Hypoxis hemerocallidea*) and no protected plant species in any of these plant communities. The loss of (*Hypoxis hemerocallidea*) during the establishment of the development is highly likely. A plant removal permit will be obtained to remove and transplant these species to adjacent areas

2.1.6 National Environment Management Protected Areas Act, 2003 (Act No. 57 of 2003).

Wetlands and other critical Biodiversity areas are regulated under the NEM: BA. Activities that fall within the parameters of these areas require specialist assessment to determine the impacts and the residual effects of mitigation measures

Legal Requirements

Specialists have been appointed to determine any critical biodiversity areas and provided recommendations on the project and mitigation measures to be included in the requirements of the EMPr.

2.1.7 National Heritage Resources Act (Act No 25 of 1999)

South Africa's unique and non-renewable archaeological and paleontological heritage sites are 'generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, Section 35) and may not be disturbed at all without a permit from the relevant heritage

resources authority. The National Heritage Resources Act (Act No. 25 of 1999, Section 38) provides guidelines for Cultural Resources Management and prospective developments:

“38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as :)

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;

(c) any development or other activity which will change the character of a site:

(i) exceeding 5 000 m² in extent; or (ii) involving three or more existing erven or subdivisions thereof; or (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority; (d) the re-zoning of a site exceeding 10 000 m² in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.”

And:

“38 (3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:

(a) The identification and mapping of all heritage resources in the area affected;

(b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;

(c) an assessment of the impact of the development on such heritage resources;

(d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;

(e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;

(f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and

(g) plans for mitigation of any adverse effects during and after the completion of the proposed development.”

Legal requirements for this project:

- In terms of Section 35, a paleontology impact assessment will be undertaken to ascertain the presence archaeological and paleontological material on site.
- In accordance to Section 38 a Heritage Impact Assessments (HIAs) will be undertaken for the following associated developments: (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length; (b) the construction of a bridge or similar structure exceeding 50 m in length; (c) any development or other activity which will change the character of a site (i) exceeding 5000m² in extent...)

2.1.8 The National Environmental Management Waste Act 2008 (Act 59 of 2008)

The National Environmental Management Waste Act (NEMWA) reforms the law regulating waste management in order to protect health and the environment providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.

Legal requirements for this project:

In terms of GNR921, no waste license is required for the project. No waste license activities are applicable to this project. The developer will however be required to store and manage waste in accordance with the requirements of this Act and associated Standards.

2.1.9 Hazardous Substances Act (Act No. 15 of 1973)

This Act regulates the control of substances that may cause injury, or ill health, or death due to their toxic, corrosive, irritant, strongly sensitizing, or inflammable nature or the generation of pressure thereby in certain instances and for the control of certain electronic products. To provide for the rating of such substances or products in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, modification, disposal or dumping of such substances and products.

- Group I and II: Any substance or mixture of a substance that might by reason of its toxic, corrosive etc., nature or because it generates pressure through decomposition, heat or other means, cause extreme risk of injury etc., can be declared to be Group I or Group II hazardous substance;
- Group IV: any electronic product;
- Group V: any radioactive material. The use, conveyance, or storage of any hazardous substance (such as distillate fuel) is prohibited without an appropriate license being in force.

Legal requirements for this project:

It is necessary to identify and list all the Group I, II, III, and IV hazardous substances that may be on the site and in what operational context they are used, stored or handled.

2.1.10 The Occupational Health and Safety Act 1993 (No 85 of 1993)

The Occupational Health and Safety Act make provision in regulation Section 8 for the general duties of employers to their employees. Section 9 of the Regulations makes provision for general duties of employers and self-employed persons to persons other than their employees.

Legal requirements for this project:

While no permitting or licensing requirements arise from this legislation, this Act will find application during the construction phase of the project. Health and safety precautions measures must be put in place for the construction crew and the public

2.1.11 The National Environmental Management: Air Quality Act 2004 (No 39 of 2004)

National Environmental Management: Air Quality Act (NEM: AQA) which provides for the control of dust, noise and offensive odours.

- S18, S19 and S20 of the Act allow certain areas to be declared and managed as “priority areas”.
- Declaration of controlled emitters (Part 3 of Act) and controlled fuels (Part 4 of Act) with relevant emission standards.
- The Act provides that an air quality officer may require any person to submit an atmospheric impact report if there is reasonable suspicion that the person has failed to comply with the Act.

Legal requirements for this project:

While no permitting or licensing requirements arise from this legislation, this Act will find application during the construction phase of the project. Dust control regulations promulgated in November 2013 may require the implementation of a dust management plan during the construction phase of the project for dust management.

2.1.13 Environment Conservation Act (Act No. 73 of 1989)

National Noise Control Regulations (GN R154 dated 10 January 1992)

Legal requirements for this project

There is no requirement for a noise permit in terms of the legislation. However the act finds applicability in ensuring construction noise is below the legislated 85 decibels

2.1.14 Conservation of Agricultural Resources Act (Act No 43 of 1983)

Prohibition of the spreading of weeds (S5)

Classification of categories of weeds & invader plants & restrictions in terms of where these species may occur - Regulation 15 of GN R1048 and Regulation 598 GN 37885 of NEM:BA (Act No. 10 of 2004)

This Act will find application throughout the life cycle of the project. In this regard, soil erosion prevention and soil conservation strategies must be developed and implemented. In addition, a weed control and management plan must be implemented.

2.1.15 Promotion of Access to Information Act, 2000 (Act No 2 of 2000)

Legislation that allows the public access to information about activities that influence their well-being and to make contributions to decision making.

Legal requirements for this project:

No permitting is required the act finds applicability during the public participation process phase of the scoping and environmental impact assessment

2.1.16 Mineral and Petroleum Resources Development Act, 2002 (Act No 22 of 2002)

The site formed part of the historic Vlakfontein gold mine, which was mined from 1942 to closure in 1977 by Gold Fields of South Africa. The property does not have any historic mining infrastructure that still exists on site. However the rehabilitated shaft enclosure is present on the property. The property does however have approximately 70 000m³ of rock that was stockpiled from the historic mining activities on various locations and at varying heights. Approximately 1.2km from the property in a south – easterly direction is a quarry and concrete batching plant that is owned and operated by Afrisam. Afrisam is currently systematically removing the rock stockpiles on the property for use in the concrete batching plant.

Section 53. Use of land surface rights contrary to objects of the Act of the MPRDA states that

(1) Subject to subsection (2), any person who intends to use the surface of any land in any way which may be contrary to any object of this Act or which is likely to impede any such object must apply to the Minister for approval in the prescribed manner.

(2) Subsection (1) does not apply to—

- (a) farming or any use incidental thereto; or
- (b) the use of any land which lies within an approved town-planning scheme which has applied for and obtained approval in terms of subsection (1); or
- (c) any other use which the Minister may determine by notice in the Gazette.

Legal requirements for this project:

A township establishment application for this development will be applied for in accordance to subsection 53 1(b) by a town planner. Township establishment application will be lodged as a separate application and is therefore outside the scope of this scoping and EIA process.

2.1.17 National Development Plan 2030

The National Development Plan (NDP) offers a long-term perspective for development in the country. The NDP aims to eliminate poverty and reduce inequality by 2030. According to the plan, South Africa can realize these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society.

- The planning is that the NDP and its proposals are to be implemented in the right order over the next 17 years. Three phases have been identified.
- Government has already started a process to align the long term plans of departments with the NDP and to identify areas where policy change is required to ensure consistency and coherence.
- The NDP is a plan for the whole country. Government will engage with all sectors to understand how they are contributing to implementation, and particularly to identify any obstacles to them fulfilling their role effectively.
- The Plan will shape budget allocation over the next 17 years.
- The Plan identifies the task of improving the quality of public services as critical to achieving transformation. This will require provinces to focus on identifying and overcoming the obstacles to achieving improved outcomes, including the need to strengthen the ability of local government to fulfil its developmental role.

Legal requirements

Provisions of housing infrastructure and job opportunities (such as the Proposed John Dube Ext 3 Township project) are in support of the NDP.

2.1.18 Municipal Systems Act, No 32 of 2000

Legislation requires each municipality to develop a plan for the development of its area of jurisdiction. Such a plan, in terms of the law, should be holistic and integrated in its approach and content. According to the Municipal Systems Act, No 32 of 2000, the IDP is the principal strategic planning instrument which guides and informs all planning, budgeting, investment, development, management and implementation processes in the municipality. In terms of Chapter 5 of Municipal System Act, 2000 (Act 32 of 2000), a municipal council is expected to annually review their IDP in accordance with an assessment of its performance measures and to the extent that changing circumstances so demands, the municipality may also amend its IDP in accordance with a prescribed process. This plan identifies 'broad spatial planning categories' for all land in the Ekurhuleni Metropolitan Municipality, as well as various structuring elements that are critical to the future development and restructuring of the Ekurhuleni Metropolitan Municipality.

Legal requirements for this project:

In accordance to the EMM the applicant will be required to submit a township establishment application to the requirements of the Municipality.

2.1.20 Additional notable legislation

Other applicable legislation includes:

- National Road Traffic Act (Act No. 93 of 1996); and
- Subdivision of Agricultural Land Act (Act 70 of 1970)

2.1.21 Policy Guidelines

The following Guideline documents have been considered in the preparation of this report:

- Department of Environmental Affairs (DEA) Integrated Environmental Management Guideline Series 7, Public Participation in the EIA Process as published in Government Gazette No. 33308, 18 June 2010;
- Implementation Guidelines (published for comment) in Government Notice 603 of 2010
- Integrated Environmental Management Information Series (Booklets 0 to 23) (DEAT, 2002 – 2005);
- DEAT (2004) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7.

2.2 Environmental Impact Assessment Process

2.2.1 Principles

The general approach to this study is guided by the principles contained in Section 2 of NEMA and those of Integrated Environmental Management (IEM). NEMA lists a number of principles that apply to the actions of organs of state and also serve as reference for the interpretation of environmental legislation and administration of environmental processes. The principles most relevant to environmental assessment processes and projects for which authorization is required are summarized below.

Principles Relevant to the EIA Process

- Adopt a risk-averse and cautions approach
- Anticipate and prevent or minimise negative impacts
- Pursue integrated environmental management
- Involve stakeholders in the process; and
- Consider the social, economic and environmental impacts of activities

Principles Relevant to the EIA Process

- Place people and their needs at the forefront of concern and serve their needs equitably
- Ensure development is sustainable, minimise disturbance of ecosystems and landscapes, pollution and waste, and achieves responsible use of non-renewable resources and exploitation of renewable resources.

- Assume responsibility for project impacts throughout its life cycle; and
- Polluter bears remediation cost

This S&EIR process compiles with these principles through its adherence of the EIA Regulations, 2014 and associated guidelines, which set out clear requirements for inter alia, impact assessment and stakeholder involvement (see below) and through the assessment of impacts and identification of mitigations measure during the impact assessment phase.

In accordance with the IEM information Series (DEAT 2004); an open transparent approach which encourages accountable decision-making has been adopted.

The underpinning principles of IEM require:

- Informed decision making
- Accountability for information on which decisions are made
- A broad interpretation of the term “environment”;
- An open participatory approach in the planning of proposals;
- Consultation with Interested and Affected Parties
- Due to consideration of alternatives
- An attempt to mitigate negative impacts and enhance positive impacts of proposals
- An attempts to ensure that social costs of development proposals are outweighed by the social benefits
- Democratic regard for individual rights and obligations
- Compliance with these principles during all stages of the planning, implementation and decommissioning of proposals and
- The opportunity for the public and specialist input in the decision making process

2.3.2 Submission of Applications

Various environmental authorisations, permits or licences may be required before the John Dube Ext 3 Township can commence with construction and operation. Certain application forms must be submitted at the outset of the S&EIR process (e.g. in terms of the EIA Regulations, 2014), while a licence in terms of the NWA would only be issued after EA.

| Application | Authority | Status |
|-------------|-----------|---|
| EA | DEA | The application is being submitted to GDARD in compliance with Section 16 of the EIA Regulations, 2014. |
| WUL | DWS | Requirements will be discussed with DWS at a later stage. |

2.3.3 Scoping and EIA Process and Phasing

The Scoping & EIA Process consists of three phases, namely the Pre-application Phase, Scoping Phase (current phase) and an Impact Assessment Phase (see **Figure 2-3**).

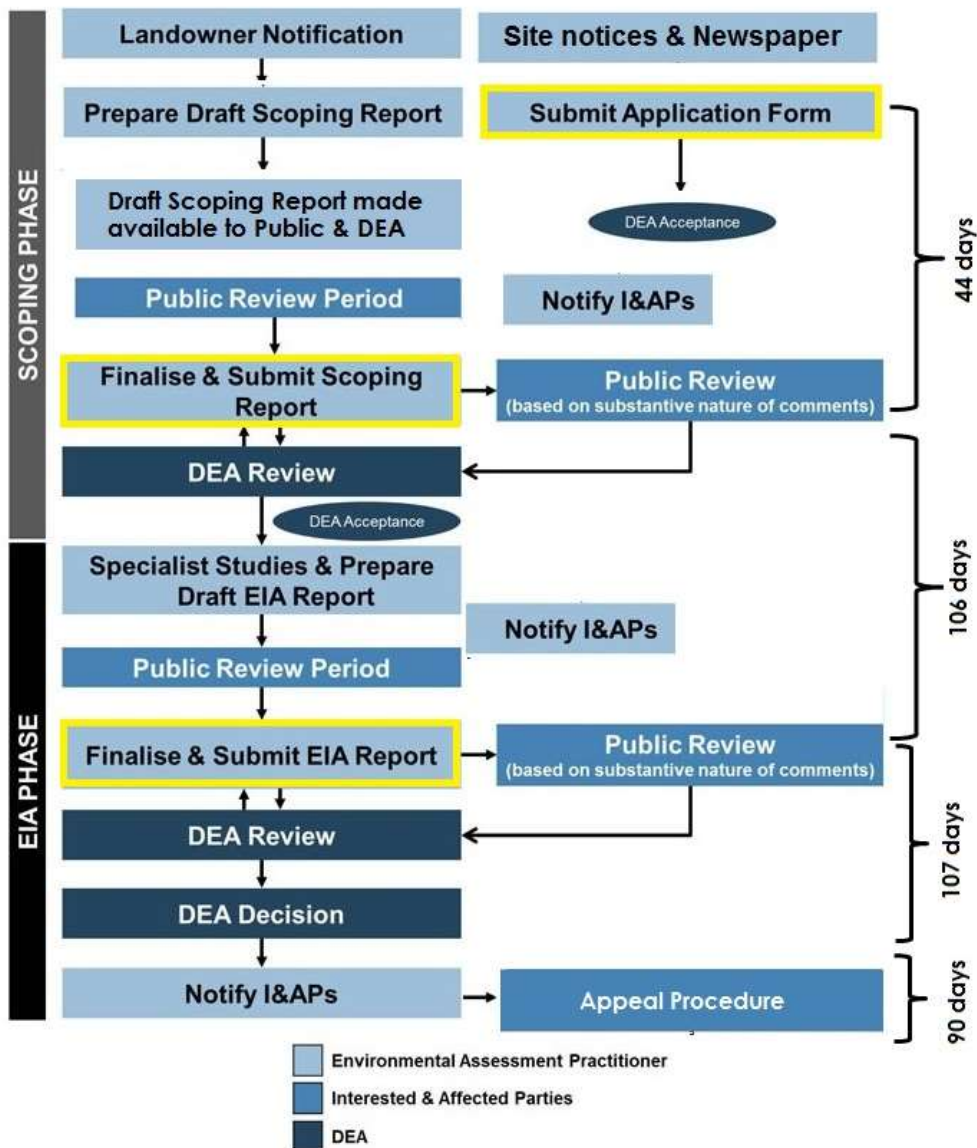


Figure 2-3: Overview of the Overview of EIA Process

The objectives of the Pre- Application Phase are to:

- Identify stakeholders, including neighbouring landowners, residents and authorities
- Compile a draft Scoping Report describing the affected environment and present an analysis of the potential environmental issues and benefits arising from the proposed project that require further investigation in the Impact Assessment Phase
- Develop Terms of Reference (ToR) for specialist studies to be undertaken in the Impact Assessment Phase:

The Objectives of the Scoping Phase are to:

- Inform stakeholders of the proposed activity, feasible alternatives and the S&EIR process;
- Provide stakeholders with the opportunity to participate effectively in the process and identify any issues and concerns associated with the proposed activity, review specialist study ToR and the Plan of Study for RAI; and
- Submit a Scoping Report to the relevant authorities (in this case GDARD and DWS).

The aims of the Impact Assessment Phase are to:

- Inform and obtain contributions from stakeholders, including relevant authorities, the public and local communities and address their relevant issues and concerns
- Build capacity amongst stakeholders during the S&EIR process so that they may actively and meaningfully participate;
- Document and contextualise the biophysical baseline conditions of the study area and the Socio-economic conditions of affected communities;
- Assess in detail the potential environmental and social-economic impacts of the project
- Identify environmental and social mitigation measures to avoid and/or address the impacts assessed; and
- Develop and/or amend environmental and social management plans based on the mitigation measures developed in the EIA Report and EMPr

3. Project Description

3.1 Background to the Project

The developer, Alleyroads Consortium (Pty) Ltd, proposes to establish a Residential Development comprising of Residential 1 Erven, Residential 3 Units, Residential 4 Units, Business 2 (taxi rank with normal shops), Public Garage, Undetermined (6.7 hectare), Public Open Space and a Community Facility. Approximately 6471 housing units are proposed which will consist of a combination of low cost to affordable housing.

The development will also include supporting infrastructure such as internal access roads and storm water infrastructure to divert storm water on site. All bulk services e.g. waste management, water and electricity will be provided by Ekurhuleni Metropolitan Municipality. The proposed development will be known as the John Dube Extension 3 Township. Refer to **Appendix B** for the Conceptual layout Designs. Please note that these are conceptual designs and may change following the specialist studies that will be undertaken for the project. The design layout will change based on the sensitivity of the site.

Table 3-1 Proposed Land uses: Extract from Conceptual layout

| Rights | Area | Density | No. Of Opportunities |
|--------------------|----------|------------------|----------------------|
| Residential 1 | 12.81 ha | 1 per erf | 597 erven |
| Residential 3 | 9.91 ha | 60 Units per ha | 595 erven |
| Residential 4 | 52.79 ha | 100 units per ha | 5, 279 units |
| Business 1 | 1.55 ha | | |
| Public Garage | 0.25 ha | | |
| Un determined | 6.7 ha | | |
| Public Open Space | | | |
| Community Facility | | | |

| | | | |
|--------------|--|--|----------------------------|
| Public Roads | | | |
| Total | | | 6,471 opportunities |

The above strategic development plan table for the site is split into five individual areas/phases. There will be 8 Residential, 3 erven and 18 “Residential 4” erven on the site. The plan was referenced to the Ekurhuleni Town Planning scheme based in the above rights, and these are in line with the proposed rights for the various use zones. Further, it was stated that the Business Site shall comprise of a taxi rank with normal shops

3.2 Description of the Project Area

3.2.1 Regional Setting

Regionally the site for the proposed John Dube Ext 3 Township is located within the Ekurhuleni Metropolitan Municipality, which is part of Gauteng Province.

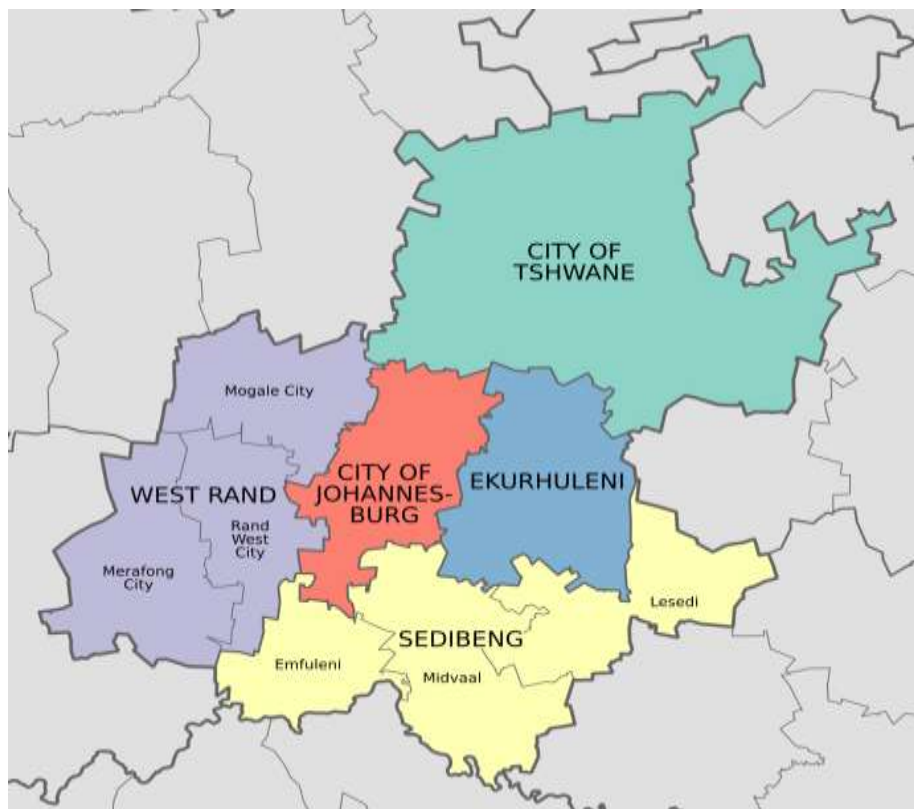


Figure 3-1: Location of the Ekurhuleni Metropolitan municipality within Gauteng Province

3.2.2 Project Site Setting and Locality

The total study area proposed for development is approximately 141.53 hectares situated within the boundaries of Ekurhuleni Metropolitan Municipality near Duduza, Gauteng Province. The properties comprise two largely vacant farm portions located in Dunnottar, Nigel. Remaining Extent of Portion 1 lies on the corner of Springs and Vlakfontein Road; with a small portion located to the north of Vlakfontein Road and accessed via Prinsep Street. The main access to John Dube Extension is to be from Vlakfontein Road (M45) near the northern end of the township. Access within the proposed township is presently limited to occasional tracks in the field. The southern boundary of the property borders the existing John Dube Township. Portion 83 lies on Vlakfontein Road and extends down to John Dube townships. The site is located directly south of the Town Dunnottar, approximately 2 km North of Duduza and 4km from Nigel. The site falls within the jurisdiction of Ekurhuleni Metropolitan Municipality (refer to Figure 3.1) and for the Locality Map refer to Figure 1.1 and Appendix A for the A3 Maps.

Little structural development is present on the site. A Rand water servitude parallel to Nigel Road crosses the site from South to North and feeds into the reservoir on Prinsep Avenue. A power line follows the water pipeline route from south to north. Power lines also feed an existing substation in the vicinity of the closed mine shaft on South. The illegal mining also characterise the site. The site is also characterised by numerous structures of mining that have been demolished. A new electrical cable has been installed along the pipeline route. Existing buildings are present north of Portion 1. The area south of the substation is highly disturbed and vehicular access is not possible, numerous sewer manholes indicate the sewer line route from the health centre in the north –western corner across the site to where the line exists the site along the stream. One of the manholes south-east of the frail centre appeared to have been leaking of sometime because of the surrounding luxuriant growth and volume of polluted water flowing across an otherwise dry site. Pockets of waste material consisting mostly of construction and demolition waste are found next to tracks that allow vehicle access to secluded areas. Demolition waste is also present along Prinsep Avenue. Vegetation over the site is extremely varied. The northern part against Dunottar is a large “lawned” area consisting of two or three separate terraces possibly old sports fields. Avenues of trees throughout the site where early mining infrastructure existed. Large

mature blue gum trees are present on Portion 1 at the eastern end of the area along Nigel road. Veld grass is predominant in this south-eastern area where infrastructure existed. A mixture of veld grass, exotic trees and shrubs characterise the western part of the proposed township. The relief of the site is low with a cross fall of about 34m from the west to east for the area south of Vlakfontein Road. The lowest elevation is where a stream flows under the Nigel Road at the Southern end of Portion 1. The area north of Vlakfontein Road has a cross fall of about 12m from west to east with a small part of the eastern end draining towards the north –east.

Table 3-1 Property description/Physical address:

| | |
|----------------------|--|
| Farm Name/ERF Number | Portion 1 Farm Grootfontein Number165-IR and Portion 83 Farm Grootfontein Number 165-IR |
| SD 21 Digit Code | T01R00000000016500001 and T01R00000000016500083 |
| Physical Address | The property can be located on the corner of Vlakfontein and Nigel- M45 Dunnottar Road |
| Coordinates | North Corner: 26°21'02.75"S; 28°25'49.34"E East Corner: 26°21'32.19"S; 28°26'00.69"E South Corner: 26°21'56.64"S; 28°25'59.89"E West Corner: 26°21'18.29"S; 28°25'14.14"E Centre Coordinates: 26°21'26.46"S; 28°25'43.82"E |

| | |
|--------------------------------|--|
| <p>Current Land use Zoning</p> | <p>The land is considered undetermined agricultural land with a 'Special' zoning allocated to the Rock Stockpiles servitude area. The main rock dump has been extensively reworked as a road aggregate source since 1995 and is currently serviced by Afrisam who have servitude rights to access the rock stockpiles. Some areas have been cleared to natural ground and are beginning to re-vegetate.</p> <p>The land also falls within the Urban Development Boundary and is surrounded by formal townships. The SDF would enable the applicant to submit a township establishment to the requirements of the Municipality.</p> |
|--------------------------------|--|

3.2.2 Surrounding Land use

According to an analysis of the aerial imagery (Google Earth), no nature reserves, game parks or wildlife sanctuaries are identified in a 10 km radius from the proposed site. The property is surrounded by mixed residential developments in the north, east, south and west direction. Approximately 1.2km from the property in a south – easterly direction is a quarry and concrete batching plant that is owned and operated by Afrisam. A housing development is located on the southern boundary (existing John Dube Township) and a cemetery occupies much of the ground just west of the site. The Nigel-Dunnottar Road forms the eastern boundary and Prinsep Avenue runs along the northern boundary. A number of buildings are located along the length of Vlakfontein Road which cuts through the northern portion of the site. These are principally the Zanele Mbeki Frail Care Centre at the western end, opposite which are a number of dwellings, a sub-station to the north of Grootfontein Number 3 shaft and a building complex at the eastern end of the road. A few houses are located to the south of this.

3.3 Project Motivation

3.3.1. Housing

The world is changing and cities are at the forefront of massive changes to people, the environment and the economy. South Africa and the city of Johannesburg are not exempt from large scale change happening globally, although the pace, scale and nature of global changes manifest themselves differently across cities. From the increase in urban poverty, to forced migration, to climate change, cities are at the nexus of change and have to learn to cope, adapt and respond positively to an increasingly volatile and rapidly changing world.

Population growth rates in cities is high, with recent estimates putting the global population at 7.2 billion people, yet, urban areas account for only 3-4% of the world's land area and hold half of the world's population. The world's population grows at 200 000 people a day. Johannesburg adds 5 people to its population every hour. Projections show that Johannesburg will reach 9.2 million people by the middle of this century (UN Population Division, 2016). Currently, developing countries experience faster population growth rates than the rest of the world, contributing to massive urban poverty, housing shortages, infrastructure backlogs, environmental degradation and political instability.

Cities like Johannesburg are centres of the regional and national economies and are not immune to global economic fluctuations because they are key connective nodes through which global capital flow. It is arguably difficult to mitigate this risk or predict the scale of the impact, however cities in the 21st Century have to consider building resilience in response to the risk and opportunities that globalisation and urbanisation presents.

This means that as urbanisation rates increase across the world, cities will have to invest heavily in social and economic infrastructure, services, logistics and mass transit in order to cater for this demand. While the rate of urbanisation increases at an unprecedented scale in the developing world, its correlation with economic growth is weaker. Cities will have to figure out quickly how to plan for change and how to keep pace with the massive changes taking place in their locales and regions.

According to Statistics South Africa's Household Survey 2011, 12.1% (1 789 million households) of South Africa's 14.75 million households lived in informal housing in 2011 with Gauteng having 20.4% households living in informal settlements, North West 18.5% and the

Western Cape 15.1%. Limpopo has the smallest percentage with 4.5% and the Eastern Cape has 6.5% (South Africa year book 2012/13:347). Section 26 of South Africa's Constitution proclaims access to housing as a Human Right, and places a duty on the state, within its means, to take reasonable measures to realize not just access to housing, but access to *adequate* housing. But it also goes further, stating that no one can be evicted from their home or have their home destroyed without a court order, and forbidding the legislature to pass any law that permits arbitrary evictions.

According to the University of Johannesburg Social Change Research Unit's '*Community Protest Research Findings*', and the Multi-Level Government Initiative's '*Service Delivery Protest Barometer*', the past ten years have seen a serious rise in service delivery protests, from 13 in 2004, rising to a peak of 470 in 2012, before falling to 287 in 2013. These protests have become steadily more disruptive and violent, with 11 people killed in 2013ii. Consistently, the most-cited grievances revolve around land and housing.

Though the state claims to have built over 3 million houses, the clamour for housing from groups claiming to represent the poor and homeless seems to be rising, with antagonism towards various governmental representatives and politicians seemingly never ending. On top of this, there is a recurring pattern of land invasions and evictions, often ending up with police involvement and violence. The City of Johannesburg is faced with a housing crisis as people from all over the continent, including many undocumented foreign nationals, flock into it to seek better opportunities, contributing to rising overpopulation and buildings being "hijacked"., Johannesburg. Cross border migration is small in comparison to domestic migration i.e., people migrating from other provinces and cities in South Africa to Johannesburg.

According to the City of Johannesburg 201/2019 Integrated Development Plan (IDP) it is estimated that there are approximately 10 informal settlements in Johannesburg alone. The issue of housing in South Africa is a massive challenge and one that will not be resolved overnight. Neither will it be resolved by government alone – the Government needs collaborative help from both the civil society and the private sector.

The proposed John Dube Ext 3 Township just like the new John Dube Development project is an exciting development which will become a shining example of the benefits of cooperation

between Government and the Private sector in the development of much needed housing infrastructure in South Africa. The vacant land abutting Duduza on the north east (where the project site also lies) has for many years been earmarked for future extensions to the township the bulk of this land remainder of Portion of portion 41 and Portion 77 of Grootfontein Farm) was acquired in the late 1990`s by the City of Ekurhuleni specifically for this purpose (housing development).

The proposed development falls within the Urban Development Boundary and is surrounded by formal townships (the above mentioned John Dube Township). The SDF would enable the applicant to submit a township establishment to the requirements of the Municipality. The project is in line with the Ekurhuleni Metropolitan Municipality objectives which is to provide a range of housing options within the subsidized to medium income market in conjunction with a new economic core/CBD or the Duduza-John Dube urban area to act as a catalyst for local economic development. The project is conceptualized as a residential development, of approximately 6471 housing units which will consist of a combination of low cost to affordable housing.

The move of the Gauteng Provincial Government towards radical housing delivery management seeks to change the current model to projects that yield less than 7500 units per projects, either as an existing development cluster or as a new nodal development (such as the proposed John Dube Ext 3 Township). Mega Cities will positively and decisively impact on primary, secondary and top structure construction infrastructure as well as household economy. This is due to the fact that Gauteng is the smallest Province in South Africa but experience high levels of immigration; which means land management and use must be more efficiently planned. Lack of housing provision in Johannesburg has seen the rise of informal settlement and also the 'backyard dwellers' who occupy rooms and shacks at the back of other people's properties or houses. They are sometimes as numerous as those in informal settlements, but are often more invisible. Others live in urban slum buildings, dilapidated and without services, and characterized by crime and dereliction.

3.3.2 Transportation

The city faces a number of transport challenges. Key public transport interventions such as the Gautrain (a provincially led project) and the Rea Vaya Bus Rapid Transport (BRT) system (a City-led initiative) have laid the foundation for a new era of mass public transport, but the use of these interventions is still relatively low when compared to other modes of transport such as minibus taxis. 44% of Johannesburg residents commute with taxis. Associated infrastructure such as the taxi rank and normal shops will complement the socioeconomic activities within the study area. The taxi rank will bring about improved taxi operations, convenience, and safety for pedestrians and road users. The facility will enable public travellers to and from the housing development who uses taxis to board their transport at a safe location. This business aspect of the development will provide connectivity economic hub where the previously disadvantaged can trade and improve their quality of life.

The overall development is imperative to Ekurhuleni Metropolitan Municipality as it addresses the need of basic services, housing, economic growth, job opportunities and in turn reduces informal settlements within the metropolitan. This activity is in line with the 2017 Integrated Development Plan of Ekurhuleni Metro as the area and its vicinity is earmarked for future residential development. The development is in line with the 2017 Integrated Development Plan of Ekurhuleni Metro as the area and its vicinity is earmarked for future residential development.

3.3.1 Description of the Need and Desirability

The table below a needs and desirability of the activity in the context of the preferred location

Table 3-1. Need and Desirability.

| NEED ('Timing'): |
|---|
| <p>Question 1: Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority? (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP).</p> |
| <p>Answer: Yes</p> |
| <p><i>The Planning documents of the EMM and Gauteng Province consider such a mixed use</i></p> |

development as imperative as it addresses the need of basic services, housing, economic growth, job opportunities and in turn reduces the mushrooming of informal settlements within the metropolitan. This activity is in line with the 2017 Integrated Development Plan of Ekurhuleni Metro as the area and its vicinity is earmarked for future residential development. The site was previously used for mining activities and is currently vacant.

Question 2: Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occurs here at this point in time?

Answer: No.

The study area will not expand immediately, but Yes the activity may result in further expansion of the area due to urban expansion in terms of residential development and new townships e.g. the existing John Dube Township is located on the southern boundary of the proposed site and the Municipality has earmarked the broader study area for future residential development. The constant growth in the Johannesburg's population means that housing availability must continually increase to meet demands. Therefore, the proposed township development will make a positive contribution towards housing availability and economic growth in Johannesburg. Development around cities and towns are necessary to accommodate an ever growing population.

Question 3: Does the community/area need the activity and the associated land use concerned (is it a societal priority)? This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate)

Answer: Yes

This development is imperative to Ekurhuleni Metropolitan Municipality as it addresses the need of basic services, housing, economic growth, job opportunities and in turn reduces poverty levels and the mushrooming of informal settlements within the metropolitan.

Question 4: Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?

Answer: Unknown at this stage

This Scoping & EIR will determine if additional infrastructure will be required for the development.

Question 5: Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)?

Answer: Yes

The said portion falls in an area earmarked for future housing development by the Municipality. This enables the applicant to submit a township establishment to the requirements of the Municipality. The municipality will be able to approve development applications based on the capacity of available services.

Question 6: Is this project part of a national programme to address an issue of national concern or importance?

Answer: Yes

The National Spatial Development Perspective was initiated with the aim of not only providing a strategic assessment of the spatial distribution and socio-economic characteristics of the South African population, but also gaining an understanding of the distribution of economic activity and potential across the South African landscape. The dire need for housing and security of tenure are, in my opinion, the biggest challenges that South Africa is facing at this moment. The desperation of those in need resonates in illegal land invasions, evictions, violent protests, and discord between communities

In order to overcome the spatial distortions of apartheid, infrastructure investment and development spending should primarily support localities that are growth nodes in South Africa.

DESIRABILITY ('placing'):

Question 7: Is the development the best practicable environmental option for this land/site?

Answer: To be determined by EIR

The broader study area has been earmarked for future housing development by the

Ekurhuleni Metropolitan Municipality with other townships such as the John Dube located on the southern boundary of the proposed site already developed. The site area is surrounded by residential, mining and agricultural areas. The proposed development is therefore a common land use in the area and will be in keeping with its surroundings which are mainly residential development.

Question 8: Would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF as agreed to by the relevant authorities.

Answer: *No*

Question 9: Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?

Answer: *No*

Question 10: Do location factors favour this land use (associated with the activity applied for) at this place? (this relates to the contextualisation of the proposed land use on this site within its broader context).

Answer: **Yes**

The said portion of land is included in the urban edge and earmarked for housing development by Ekurhuleni Metropolitan Municipality. The site area is surrounded by residential, mining and agricultural areas. The proposed development is therefore a common land use in the area and will be in keeping with its surroundings which are mainly residential development.

Question 11: How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?

Answer: **To be determined by EIR**

The specialist studies to be conducted during the EIR phase of the project will give a clear indication of environmental impacts.

Question 12: How will the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc.)?

Answer: **To be determined by EIR**

The specialist studies to be conducted during the EIR phase of the project will give a clear

| |
|--|
| <i>indication of environmental impacts.</i> |
| Question 13: Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs? Answer: <i>Social Economic issues need to be assessed during the EIA phase.</i> |
| Question 14: Will the proposed land use result in unacceptable cumulative impacts? Answer: No <i>The project is not expected to have an unacceptable cumulative impact. The project will result in positive impacts in terms of housing infrastructure and economic growth. However, the EIAR will determine the full extent of impacts and propose mitigation measures if required.</i> |

3.4 Project Alternatives

Appendix 2 Section 2 (h)(i) of the EIA Regulations, 2014, requires that all S&EIR processes must identify and describe alternatives to the proposed activity that are feasible and reasonable'. Different types or categories of alternatives can be identified, e.g. location alternatives, type of activity, design or layout alternatives, technology alternatives and operational alternatives. The 'No Go' or 'No Project' alternative must also be considered. Not all categories of alternatives are applicable to all projects.

The following describes the potential alternatives identified as well as reasons why some were not assessed.

3.4.1 Site Alternatives

No site alternatives are proposed for this project as the proposed site has been identified by Alleyroads Consortium (Pty) Ltd as being highly desirable for a mixed use development in terms of the following characteristics:

- **Site Extent:** The proposed development inclusive of associated infrastructure can be appropriately located on the identified site, which covers a total area of approximately 141.53hectares.

- **Land availability and Site access:** - The land belongs to the developer and therefore no need for procurement of new land. The property can be located on the corner of Vlakfontein and Nigel- M45 Dunnottar Road. Access to the site is facilitated via both roads. The site is therefore appropriately located for easy transport of components and equipment as well as labour movement to and from the site.
- **Current Land Zoning:** The proposed site is on land that has been designated for future housing development
- **Gradient:** The slope of the proposed site is considered to be acceptable from a development perspective, which reduces the need for extensive earthworks and associated levelling activities, thereby minimising environmental impacts.

3.4.2 Layout Design Alternatives

The proposed John Dube Ext 3 Township is expected to have a development footprint of 141.53 ha. Therefore, the development and its associated infrastructure (i.e. internal roads, etc.) can conveniently be positioned within the broader site to avoid areas of sensitivity. Therefore, the extent of the site allows for the identification of layout design and site-specific alternatives.

The Scoping Phase aims to identify potentially environmentally sensitive areas which should be avoided by the proposed development as far as possible. These areas will need to be considered in greater detail during the EIA Phase through site-specific specialist studies. The information from these studies will be used to inform layout alternatives for the proposed development site and inform recommendations regarding a preferred alternative. Specific design alternatives will include inter alia the positioning of industrial activities e.g. filling stations away from the watercourse etc. while the open space conservation area should be any area that will be identified to have sensitive vegetation or plants on site. Excluding the existing buildings on site from development as these may have heritage significance and also the existing rehabilitated mine shaft due to potential risks. The aim of this planning process is to avoid environmentally sensitive areas as far as possible and inform the final design of the facility. The specialist will be engaged to assess the above mentioned and any additional sensitivity on site and inform the preferred layout and also the alternative layout.

3.4.3 The No Go Alternative

The No Go alternative will be considered in the EIA in accordance with the requirements of the EIA Regulations, 2014. The No Go alternative is the option of not implementing the proposed project. This option is evaluated as the “no go alternative” in this Draft Scoping Report and will be assessed further within the EIA phase.

4. Description of the Affected Environment

The following chapter presents an overview of the biophysical and socio-economic environment in which the proposed project is located to:

- Understand the general sensitivity of and pressures on the affected environment;
- Inform the identification of potential issues and impacts associated with the proposed project, which will be assessed during the Impact Assessment Phase;
- Identify gaps in available information to inform specialist study requirements; and
- Start conceptualising practical mitigation measures.

More detailed baseline information will be presented in the EIA Report, based on additional information provided by specialists that will inform the Impact Assessment (see Section 7.3).

4.1 Biophysical Characteristics of the Study Area and Surrounds

4.1.1 Topography and land use

The site is located in the flat to slightly undulating plain, but low hills occur, notable at the Heidelberg and Nigel areas. The site area has been used for mining since the 1940's and many surrounding areas have been used for maize agriculture. The site area is surrounded by residential, mining and agricultural areas.

4.1.2 Geology and Soil

The geology in the site area is complex, including gold-bearing quartzite, conglomerate and of the Klipriviersberg Group of the Ventersdorp Super group. Soils are mostly shallow and mostly highly disturbed by the previous mining activities (Mucina & Rutherford, 2006). As shown on the Regional Geology Plan, Drawing Number J18-003/2, the site is directly underlain by sedimentary rocks, predominantly shales and mudstones, of the Vryheid Formation (Pv). The

Dwyka Formation (C-Pd), containing deposits of tillite, underlies the Vryheid Formation and both of these formations belong to the Karoo Supergroup. Older rocks, predominantly quartzite, belonging to the Central Rand Group, Witwatersrand Supergroup, are present at depth below the Karoo Supergroup formations. It is these quartzites that contain the gold bearing conglomerates which are mined in the area. It is possible that the extreme north eastern corner of the site is underlain by basaltic lava belonging to the Ventersdorp Super group.

Younger sediments referred to as transported soils blanket much of the rock formation in this area. Although no exposures, in ditches or otherwise, were found during the site visit, it is known from investigations to the north in the centre of Dunottar that thick Aeolian soils are present. These soils typically have a collapsible grain structure. Such a structure consists of sand and silt grains held apart by clay particles to form an open, voided structure. When dry, the soil apparently has high shear strength. However, when subjected to the simultaneous effects of loading and saturation, the clay bridges abruptly lose strength and the soil structure collapses, resulting in sudden settlement which is often catastrophic. It is expected that much of the higher lying portion of the site, as demarcated on the Geotechnical Plan, will have soils with a collapsible grain structure present. This is supported by evidence from open graves in the cemetery to the south west of the site.

It is likely that the lower lying portion of the site will have thinner Aeolian soil present and that a ferricrete horizon will have developed at the base of it. It is also possible that clay rich soils are present closer to the stream channel. These may contain volumetrically unstable clays. When the soil moisture content increases the clay particles expand and the soil surface heaves. Upon desiccation, the clay particles shrink, the soil surface subsides and large cracks frequently appear on surface.

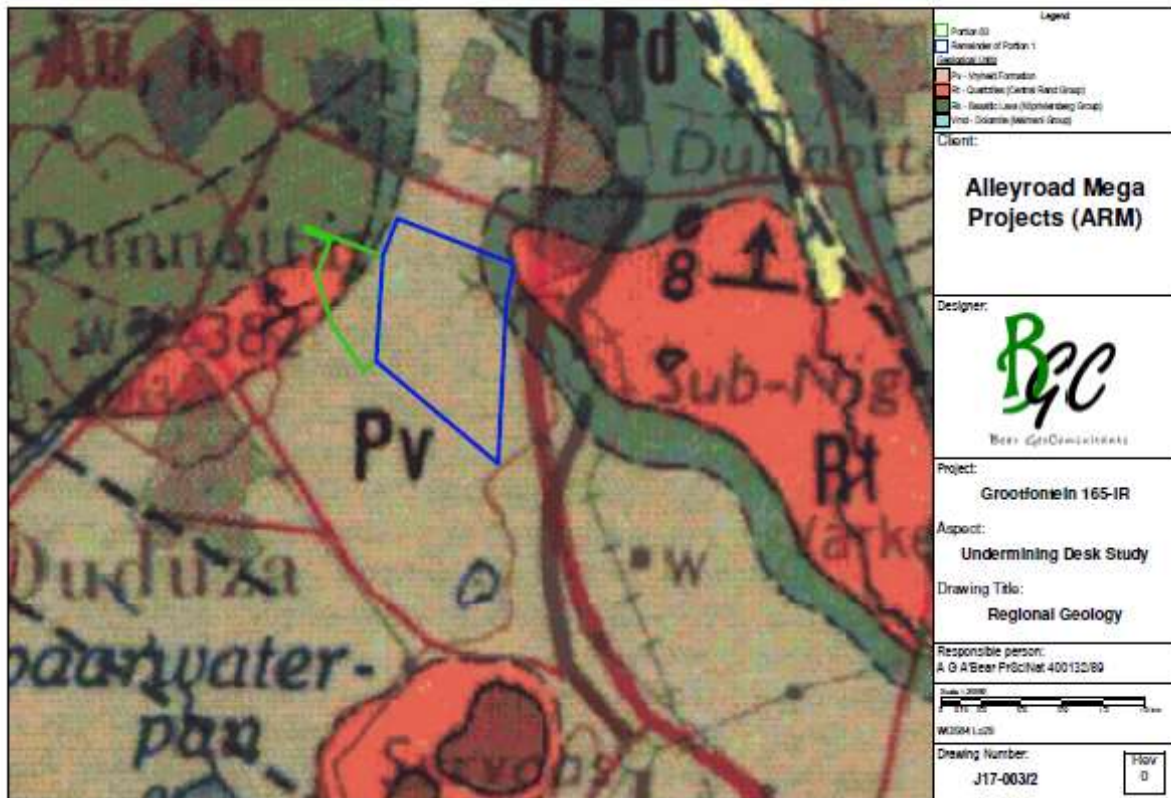


Figure 4-1: Geology of the proposed development

Soils

The property (Portion 1 Farm Grootfontein Number 165-IR and Portion 83 Farm Grootfontein Number 165-IR) hereafter referred to as “the property” is a historic gold mine Vlakfontein. Parts for the property are now operated by the Ekurhuleni Municipality (EM), namely the Electrical Sub-Station, and Concrete Water Reservoir. The property is surrounded by mixed residential developments in the north, east, south and west direction. The property does not have any historic mining infrastructure that still exists on site. However the rehabilitated shaft enclosure is present on the property. The property does however have approximately 70 000m³ of rock that was stockpiled from the historic mining activities on various locations and at varying heights. Soils are mostly shallow and mostly highly disturbed by the previous mining activities

As the site proposed for housing development, there was a concern about any potential environmental and legal liability that might emanate from the historic mining activities on the property. GCS Environmental Engineering (GCS EE) was appointed to conduct a soil screening

level contaminated site assessment to determine if any possible pollutants are present on the site at levels of concern to the general public. Additionally the screening level investigation determined if any further investigations are required to determine the suitability of the site for development.

Soil classification was undertaken.

The soil testing was for an initial screening testing on the soils on the location of the site to establish any soil contaminants (if any) from historic mining activities on and in close proximity of the site. The screening testing did not establish the need for any further testing and remedial actions as no additional contaminants of concern were found at concentrations of concern.

The assessment focused on soil quality risk indicators as presented by the Soil Screening values as part of the National Environmental Management: Waste Act, Act 59 of 2008 as well as the National Norms and Standards for the Remediation of Contaminated Land and Soil Quality.

GCS collected and analysed 12 soil samples for metal concentrations. 5 Samples were analysed for leachable concentrations to determine possible environmental and health risks. In addition the pH, electrical conductivity, and common anions (SO₄-S, Cl⁻, NO₃-N and F⁻) was included for all 12 samples.

Soil Assessment Findings

The property has several Rock Stockpiles left over from the historic mining activities with varying heights of 2m to approximately 5m. The property being a historic mining site is relatively disturbed. Vegetative growth has been naturally reinstated most areas except for the areas where the Rock Stockpiles are present and some areas with derelict infrastructure.

A high level estimation was conducted on the Rock Stockpiles and the approximate quantity of the material is 70 000m³. This estimation can be seen in a Stockpile Map that is attached in Appendix A of this report.

The material is clean rock with a varying range of size distribution. Some examples of the rock stockpiles can be seen in the followings photos. The rock stockpiles are relatively old and have been exposed to the elements for over a decade.

It is evident that some of the rock stockpiles has recently been consolidated into higher stockpiles. This would most likely have been done by Afrisam to assist in the loading of the material. Please see Figure 4-2 to 4-4 below for reference to the previous statement.

| | |
|---|--|
| | |
| <p>Figure 4-2: On Top of Rock Stockpile, Height Approximately 3.5m</p> | <p>Figure 4-3: High Rock Stockpile, Height Approximately 4.5m</p> |
| | |
| <p>Figure 4-4: View of Smaller Stockpiles Spread Over the Site</p> | <p>Figure 4-5: Smaller Rock Stockpiles</p> |

A total of 12 Samples were taken over the entire site. The assessment focused on soil quality risk indicators as presented by the Soil Screening values. The specialist analysed 12 soil samples for metal concentrations. 5 Samples were analysed for leachable concentrations to determine possible environmental and health risks. In addition the pH, electrical conductivity, and common anions (SO₄-S, Cl⁻, NO₃-N and F⁻) were included for all 12 samples. For the 12 samples taken 2 were taken from the Waste Rock Present on site. For the two Waste Rock

Samples Cyanide was also tested for to determine any possible tailings contamination. The 12 Samples were numbered P1 to P12.

All the areas sampled in the screening level assessment with the exception of Sample P11 and P 12 from the waste rock stockpiles qualifies to be developed into a formal residential area. The area where the waster rock is stockpiles can be developed into Commercial or Industrial area unless the water rock material is removed. In this instance the entire study area will be deemed safe for development into a residential area.

All the soil samples are classified as a Waste Type 4. The required containment barrier according to Regulation 636 for a Waste Type 4 is a Class D containment barrier or capping.

It is the professional opinion of the specialist that the main possible chemical constituents in Mining Waste Rock is not harmful and poses very little or no risk to the environment or human health.

4.1.3 Climate

The study area receives summer rainfall and with a mean annual precipitation exceeding 600 mm. Extreme variations exists between winter minimum and summer maximum temperatures and also between day and night temperatures. The winters are dry and cold and frost is frequent in winter. The mean annual temperature varies between 14°C to 16°C which indicates a warm-temperate climatic regime. During the winter, temperatures can drop drastically with frequent frost occurrences (Mucina & Rutherford, 2006). It is not expected that the proposed establishment of the residential area will have any impact on the local climate in the area.

4.1.4 Air Quality

There are no major contributors to atmospheric emissions in the study area as there are no power stations generated from coal or significant mining activities etc. The proposed site is in an open area where there are currently very little activities which can have negative impact on air quality. The only exception is a quarry and concrete batching plant located approximately 1.2km from the property in a south – easterly direction. The quarry is owned and operated by

Afrisam. Afrisam is currently systematically removing the rock stockpiles on the property for use in the concrete batching plant. The quarry could have an insignificant negative contribution to the overall air quality.

However, apart from additional emissions from vehicles, dust during construction and occasional fires, etc. there will not be any major contributors to atmospheric emissions because of the proposed development.

4.1.5 Noise

Activities associated with the proposed site and its surroundings pertain to residential units, small holdings, offices, guest houses, etc. There are no industrial facilities associated with the area which could elevate the ambient noise levels; however, the study site is located on the corner of Vlakfontein and Nigel- M45 Dunnottar Road which has an insignificant effect on the ambient noise levels. Ambient noise levels are therefore expected to be low excluding the construction phase.

Construction activities will add to an elevated noise level in the area. The construction of the facilities will be temporary.

4.1.6 Hydrology and Hydrogeology

Groundwater seepage was encountered by a geotechnical assessment in two widely separated areas on site. The largest volume of seepage was intersected in the most southerly evacuated test pits south of Portion 1. The source of the groundwater is believed to be storm water discharge from the existing John Dube Village. Prominent, unlined storm water ditches discharge onto open ground in the southern part of portion 1. The sandy colluvium acts as a reservoir for the infiltrating run-off. The thick cover of sandy to silty colluvium that has been cultivated acts as a sponge and a reservoir for storm water runoff. The water infiltrates into the permeable colluvium then flows under gravity downslope on an impermeable horizon such as a ferruginised layer. The absence of groundwater anywhere else on the site suggests the groundwater represents man-made perched water tables. The installation of appropriate lined storm water drains and pipes should see an end to these perched water tables. A large

volume of groundwater was encountered north of portion 1 on a section of an old bowling rink. The specialist construction of the bowling rink led to surface water infiltrating the soil profile. The top 1.3m of the ground profile consists of imported sand, cinder ash and dump rock. A strong flow of groundwater was observed from below the layer of dump rock.

Many small pans occur in the general area, though not close to the site (Figure 4.6). A small seasonal wetland that originates in the highly disturbed mining area on the site flows eastwards over the eastern part of the site (Figure 4.6). This drainage line is greatly disturbed by mining and agriculture to the east of the site. Surface water from a blocked sewer line north east of mine shaft flows on site. The luxuriant growth of vegetation suggests that the leak has continued for some time. Illegal miners make use of the polluted water for their mining activities. This highly polluted water eventually joins the stream that exists the site under Nigel road.

A small dam was constructed on the site many years ago, but the dam-wall was broken (Figure 4.3) and the damaged dam currently holds very little little water. The stream is the only natural drainage feature on the site and rains the gulley-head on which most of the site is located. Several drainage ditches have been excavated to facilitate the flow of run-off from the site. A single ditch in the north-eastern corner drains the site towards the north-east.

The proposed activity will connect to the existing water supply line of the municipality and will not use groundwater.

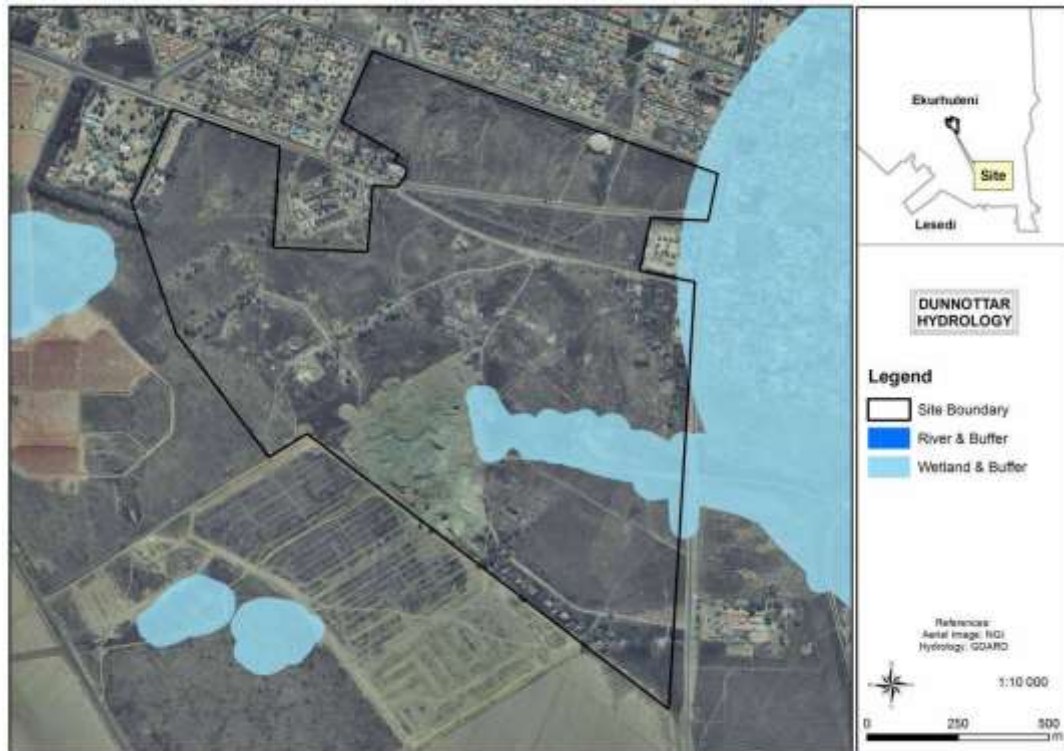


Figure 4-6: The general hydrology of the site and surrounding areas (GDARD)



Figure 4-7: The dam wall and broken area

4.1.7 Terrestrial Vegetation and Habitats

The site is situated within the Themeda Veld as described by Acocks (1953). Low & Rebelo (1996) described the vegetation of the area as Moist Clay Highveld Grassland vegetation type. In the new vegetation map of South Africa (Mucina & Rutherford 2006) the area falls mainly

within the Tsakane Clay Grassland (Figure 4.8), which is an endangered vegetation type (Mucina & Rutherford 2006; SANBI & DEAT 2009).

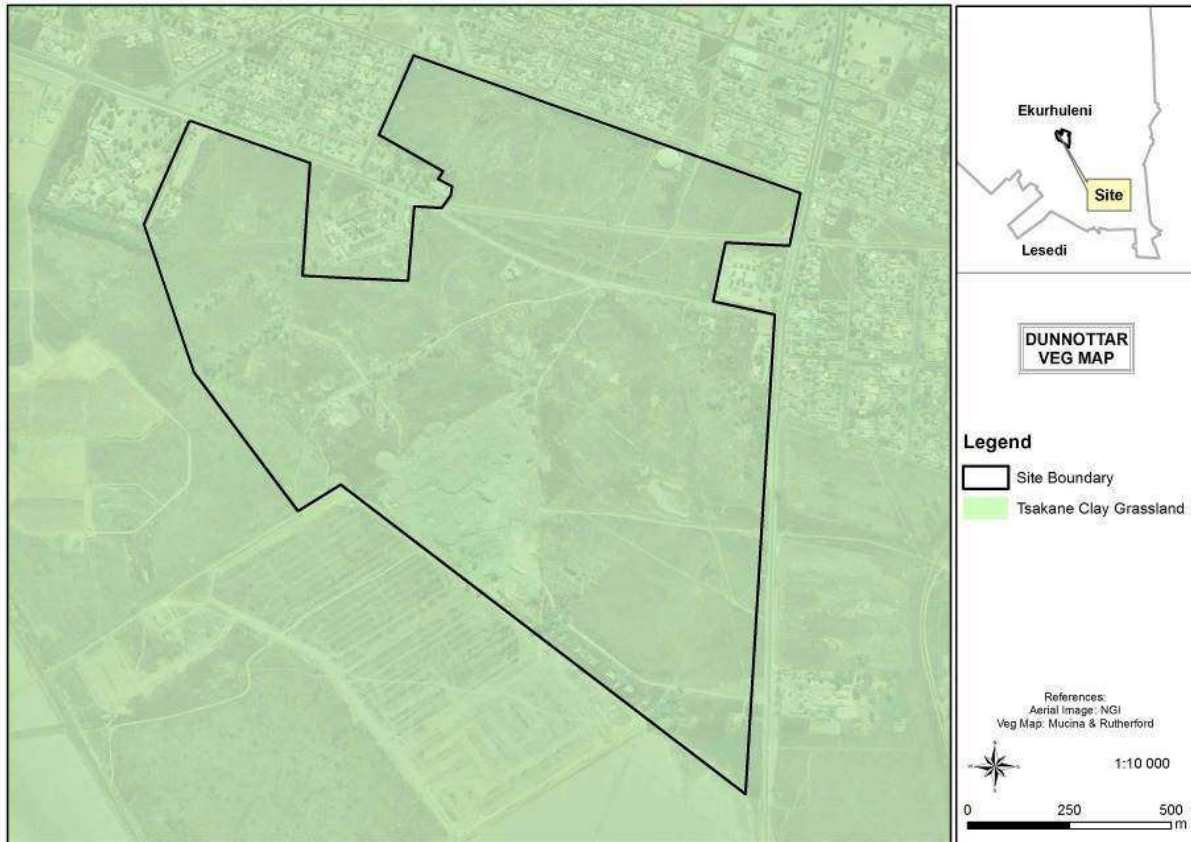


Figure 4-8: The entire site falls within Tsakane Clay Grassland.

The site area has been used for mining since the 1940's and many surrounding areas have been used for maize agriculture. All vegetation units on the site are highly disturbed, rather transformed by previous mining operations. Although the mine was closed in 1977, the area is still highly disturbed today. Currently the entire western part of the site is highly transformed, with ruins of previous infrastructure still present. Remains of an old rock waste dump are still present in the central-southern part of the site. Alien trees that were planted during the mining period still occur scattered over the site.

As the site was previously mining property, the vegetation is totally transformed, degraded and secondary (Figure 4.5). Very little of the original grassland remained. The woody species present are all alien, planted by the mining company many years ago. Due to the sensitivity of the Tsakanana grassland which is an endangered vegetation type, and indicated as of

conservation value in the GDARD C-Plan 3.3, the status of the vegetation on site will be assessed further in detail by a specialist in the EIA phase.



Figure 4-9: Google Earth Image of the site indicating the disturbed nature of the site

4.1.8 Ecological Assessment (Fauna, Avifauna & Hepertofauna)

4.1.8.1 Fauna

Three of the major habitat types are present on the site, i.e. terrestrial, arboreal and wetlands. The conservation status of these three habitats is regarded as “transformed” Species richness has been dramatically reduced by urban encroachment, isolation and habitat neglect or destruction. Due to the major habitat types available on site, the fauna/mammal assessment will be assessed further in detail during the EIA phase.

4.1.8.2 Avifauna (Birds)

A desktop study was undertaken to ascertain which bird species may potentially occur at the site and in the surrounding areas using data from the first and second South African Bird Atlas Projects (SABAP 1 and 2). A list of species potentially occurring at the site was developed. This species list is thus based on an area much larger than the actual development site. This

approach is adopted to ensure that all species potentially occurring at the site, whether resident, nomadic, or migratory, are identified. The presence bird species likely to occur on site will be assessed further in the EIA phase

4.1.8.3 Hepertofauna

The local occurrences of reptiles and amphibians are closely dependent on broadly defined habitat types, in particular terrestrial, arboreal (tree-living), rupicolous (rock-dwelling) and wetland-associated vegetation cover. It is thus possible to deduce the presence or absence of reptile and amphibian species by evaluating the habitat types within the context of global distribution ranges. From a herpetological habitat perspective, it was established that all four major habitats are naturally present on the study site, namely terrestrial, arboreal, rupicolous and wetland-associated vegetation cover.

Most of the study site consists of transformed grassland. Some of the natural grassland was transformed for mining activities.

Good natural rupicolous habitat is present as old ruins of the mining infrastructure and the old rock mine dump. An important feature of the study site is the absence of indigenous trees, though many individuals of alien tree species are present. Arboreal habitat is therefore not optimal. There are, however, numerous dead logs which provide shelter for several Hepertofauna species.

A small dam occurs on the study site. This water source provides (limited) habitat for some water-dependent Hepertofauna. Connectivity to the site is poor, as the site is surrounded by residential areas, roads, mining areas and to a lesser degree agriculture.

In terms of the National Water Act, all wetlands in and around the study area must be considered as ecologically sensitive. The wetlands are sensitive. It is concluded that some Hepertofauna species, all widely distributed generalists, do occur or may occur on the study site. The presence of Hepertofauna species likely to occur on site will be assessed in detail in the EIA phase.

4.2 Human Environment

4.2.1 Visual and Aesthetic Features

The proposed project is considered a large-scale development and will completely transform the site from its current state as very few of the existing features will remain and the veld grasses, weeds and scattered exotic tree, which contributes to the current site character, will be removed and replaced by residential housing units and associated infrastructure such as roads and a business (taxi and normal shops). The current landscape character is defined by the following land uses:

- The property (Portion 1 Farm Grootfontein Number 165-IR and Portion 83 Farm Grootfontein Number 165-IR) is a historic gold mine Vlakfontein. Parts for the property are now operated by the Ekurhuleni Municipality (EM), namely the Electrical Sub-Station, and Concrete Water Reservoir. The property is surrounded by mixed residential developments in the north, east, south and west direction.
- A housing development is located on the southern boundary (existing John Dube Township) and a cemetery occupies much of the ground just west of the site. The Nigel-Dunnottar Road forms the eastern boundary and Prinsep Avenue runs along the northern boundary.
- A number of buildings are located along the length of Vlakfontein Road which cuts through the northern portion of the site. These are principally the Zanele Mbeki Frail Care Centre at the western end, opposite which are a number of dwellings, a sub-station to the north of Grootfontein Number 3 shaft and a building complex at the eastern end of the road. A few houses are located to the south of this.
- A large water reservoir is present on the northern boundary of the site and power lines are located within the various servitudes shown on the Geotechnical Plan.
- The site was previously occupied by the Vlakfontein Mine and related infrastructure. The ruins of a hostel complex are clearly visible in the south western portion of the site, just west of the rock dump shown on the Geotechnical Plan. It is likely that a number of the houses and other buildings still occupied within the site boundaries were previously used by the mine.

- The site slopes towards a dam, as can be seen from the contours on the Geotechnical Plan, which drains eastwards. The dam appears to largely be silted up and may well have functioned as a return water dam for the rock dump on the southern boundary.
- Large areas of the site contain spoil and rubble, approximately 70 000m³ of rock that was stockpiled from the historic mining activities on various locations and at varying heights.
- Approximately 1.2km from the property in a south – easterly direction is a quarry and concrete batching plant that is owned and operated by Afrisam. Afrisam is currently systematically removing the rock stockpiles on the property for use in the concrete batching plant.
- Ground cover consists for the most part of veld grasses, weeds and scattered exotic trees.
- Furthermore, the site is totally surrounded by residential area, huge graveyard, mining and agriculture, isolating the site from any natural vegetation.

The study area is not pristine as indicated the above all contribute to a regional sense of place that portrays a mixed use land use landscape with a low level of natural components, albeit highly transformed by previous anthropogenic activities e.g. mining and new residential developments. A dramatic change will occur on the site during both the construction and operational phases. However, these visual changes will not affect the existing visual qualities of the site and the study area. The project will not introduce new elements to the study area that are uncharacteristic and in contrast with the existing landscape character. The site area is surrounded by residential, mining and agricultural areas. The vacant land abutting Duduza on the north east (where the project site also lies) has for many years been earmarked for future extensions to the township by the Ekurhuleni Metropolitan Municipality. The proposed development is therefore a common land use in the area and will be in keeping with its surroundings which are residential development. The visual and aesthetic of the area will not be compromised. The Visual and Aesthetic impacts will thus not be assessed in detail by a specialist in the EIA.



Figure 4-10: Map showing the study area and its immediate built up environment

4.2.2 Heritage Features

The site proposed for development is approximately 141.53 hectares; development exceeding 5000 sqm requires a heritage assessment. A physical survey showed a number of heritage features identified on site and to the west of the study site is a cemetery. A SAHRA accredited Archaeologist will be appointed during the EIA phase to conduct a cultural heritage assessment to determine if the proposed development of the mixed use facility would have an impact on any sites, features or objects of cultural heritage significance.

4.2.3 Traffic Impact

Property is adjacent to the Nigel-Dunnottar Road along the eastern boundary and Prinsep Avenue runs along the northern boundary while Vlaktefontein transects through the site on its northern periphery. Potential traffic impact may occur during the construction and operation phase of the development. Thus Traffic specialist will be appointed to undertake a traffic impact assessment at the EIA phase.

4.2.4 Socio-Economic Features

4.2.4.1 Ekurhuleni Metropolitan Municipality (Ward 111)

The proposed John Dube Ext 3 Township falls within Gauteng Province under the jurisdiction of the Ekurhuleni Metropolitan Municipality (EMM).

Gauteng Province is located in the Highveld; Gauteng is the smallest province in South Africa covering an area of 18,178 km², accounting for only 1.5% of the land area. Nevertheless, it has the largest population of 14, 7 million people (25, 4%) living in the province. The province is highly urbanised, containing the country's largest city, Johannesburg, its administrative capital, Pretoria, and other large areas such as Midrand and Vanderbijlpark. Gauteng covers an area of and has a population of 2 834 714, which constitutes 5.1% of the national population.

The City of Ekurhuleni Metropolitan Municipality is a metropolitan municipality that forms the local government of the East Rand region of Gauteng, South Africa. The City of Ekurhuleni Metropolitan Municipality is a Category A municipality covers an extensive area from Germiston in the west to Springs and Nigel in the east. The former administrations of the nine towns in the former East Rand were amalgamated into the metropolitan municipality, along with the Khayalami Metropolitan Council and the Eastern Gauteng Services Council. CoE area covers an area of 1 975 km² It is one of the most densely populated areas in the province, and the country with a total population of about 3.17 million people. The most common native language spoken by its 3.17 million people is IsiZulu.

(a) Population Characteristics

The City of Ekurhuleni Metropolitan Municipality had 1,299,490 households with an average people per household number of 2.6. 80.2% of people lived in formal dwellings and 52.9% owned housing (2014 census). The City of Ekurhuleni Metropolitan Municipality has the fourth largest concentration of all metropolitan areas in South Africa. CoE contributes 6% to the total population and 8% to the total number of households in South Africa. Historic population and household's growth shows that on average, the rate of growth is decelerating, even though positive growth is still experienced, and the average annual growth rate of Households are higher than that of populations.

Ekurhuleni has significantly large working age population. This is similar to that of larger metropolitan areas such as cities of Johannesburg, Tshwane and Cape Town.

(b) Age Groups and Gender

The age structure of the MMM indicates a fairly young population, as 30.6% of the population fell within the 15-29 year's category. There would thus be a definite need for housing development and employment opportunities in the area in future. This young population profile in the area would result in various long term challenges such as employment creation and infrastructure development.

The largest section falls within the working age category, the high number of dependents would put a lot of strain on the economically active sector. Figure 4-7 shows that CoE working age population constitute 71.7% of the total population, whereas population that are younger than 15 years of age constitute 25.1% to the population. The portion of population older than 65 years of age only constitute 4.0% of the population.

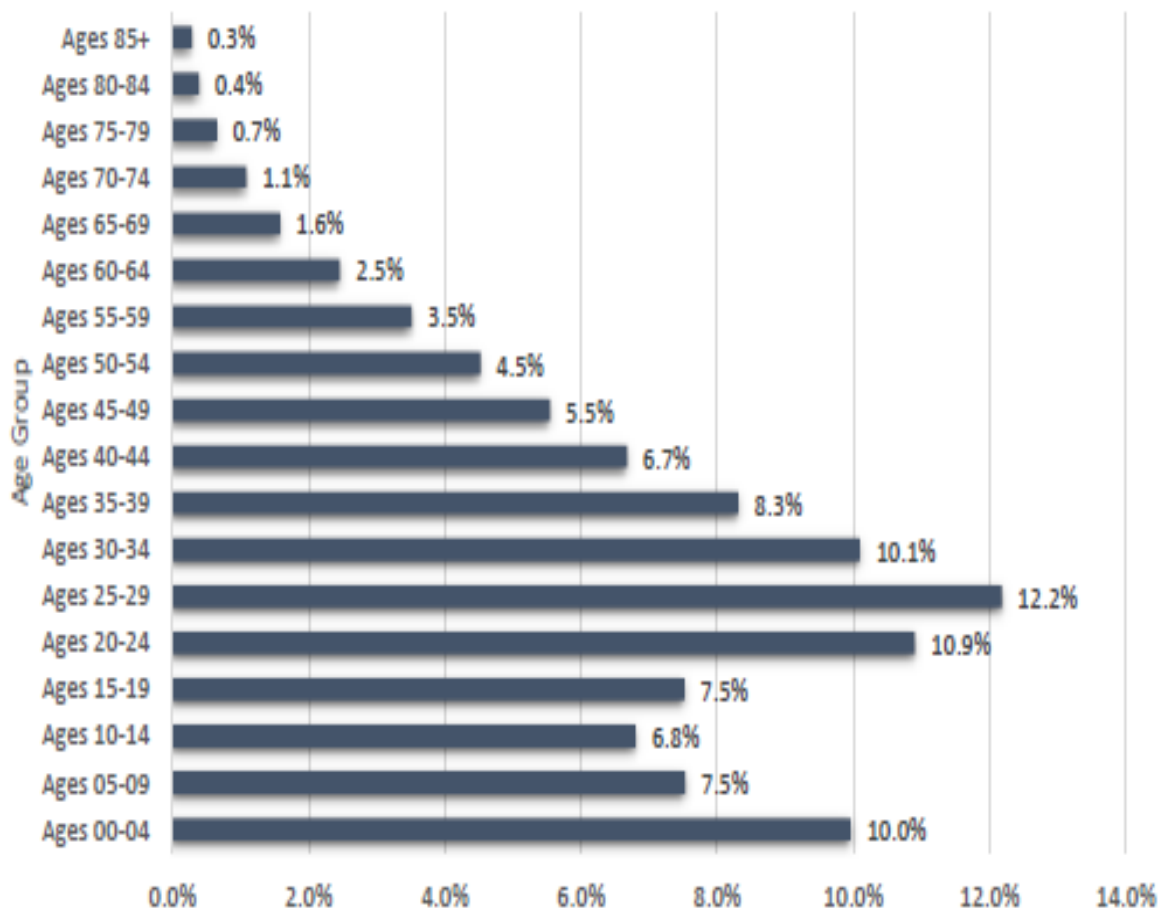


Table 4-7: Population of the EMM according to age groups (source Demacon ex Stats SA, 2017)

(c) Population Stability

The demographics of Johannesburg indicate a large and ethnically diverse metropolitan area. As the largest city in South Africa, its population is defined by a long history of local and international migration. Johannesburg is home to almost five million people, accounting for about two thirds of Gauteng's population and approximately 10% of the national population.

Over the last decade the city has been growing. A key contributor to this is that the city continues to attract people from other provinces, and internationally, who are looking for better economic opportunities and quality of life. The population pyramid indicates that the city's population is predominantly young. This can be attributed to migration from other parts of the country as young people look for jobs. Johannesburg is considered the economic hub of South Africa and is often the first choice of destination by job seekers across the country.

Due to the limited number of employment opportunities in the country and Johannesburg serving as the economic hub, it is anticipated that the City of Ekurhuleni Metropolitan Municipality would experience a continued influx of people, with the other areas within the Province than experiencing possible long term declines.

(d) Education and Skills Level

Tertiary educated population in the CoE constitutes 15% of the total population, while persons that attained a matric certificate only constitute 35% of the population. Ekurhuleni has the fourth greatest concentration of tertiary educated person's among metropolitan municipalities, whilst having access to a stand-alone tertiary institution.

The tertiary educated population in the CoE that attended an institution of higher learning primarily attained qualifications in education (23.8%), business, economics and management (20.5%). Engineering (10.8%) and health professions and related clinic sciences (10.4%). On average in other metropolitan areas in South Africa, person's primarily obtained a qualification in life sciences (24.1%), architecture and the built environment (16.6%), engineering 11.6%, health professions and related clinic sciences (9.8%).

The proportion of employed persons in the larger metropolitan areas, that also have greater access to tertiary educational institutions are greater than 70% on average compared to smaller metropolitan areas where a significant unemployment gap exists.

Almost 18% of households in Ekurhuleni have no income, while more than 50% of households can be considered poor. In comparison, the larger metropolitan areas with greater access to tertiary institutions have higher weighted average annual household incomes, compared to smaller metros.

Population and household growth is influenced by natural growth characteristics and migratory patterns, which influences the demand for a multitude of services and infrastructure. In effect, this encourages public and private spheres to invest in hard and soft infrastructure that would support the demand generated by the social elements of an area, and also support and grow economic opportunities and requirements.

The CoE aims to reduce illiteracy among the population, but also strives to increase the ability of its residents to obtain access to education. The CoE IDP further indicated that nearly all

children between the ages of 7 to 15 years are enrolled in schools. Enrolment figures for early childhood development have been increasing at a high rate over the years, which is a positive step towards ensuring proper education to all individuals.

The above emphasizes that the CoE should increase their economic development and job creation efforts to be able to meet the demands of the growing skills

(e) Employment and Income

Johannesburg experiences a large influx of jobseekers to the area, as this town forms the economic hub of Gauteng Province. Most employed people are migrant workers from other provinces and cities and elsewhere, due to the limited employment opportunities in the larger area. The area is therefore also characterised by high unemployment rates.

Of the 292 971 economically active (employed or unemployed but looking for work) people in Ekurhuleni Metropolitan Municipality 27.7% are unemployed. 37.2% of the 150 128 economically active youth (15 – 34 years) in the area are unemployed. The unemployment rate and the youth unemployment rate at thus still remain a concern.

The majority of individuals (20.2%) within the EMM earn within the R19 601-R38 200 income category per annum, followed by 17.2% who earn from R9 601-R19 600 in 2011. According to Census 2011 there is still 11.4% of the population with no income.

The City of Ekurhuleni (CoE) partnered with the Gauteng provincial government to introduce the Tshepo 1 Million initiative in an attempt to deal with the lack of employment opportunities and poor economic participation of the youth in the region in 2014. This is aimed at unlocking opportunities for skills training and knowledge creation, and to develop and nurture the skills base in order to better employment prospects for the youth, by exposing them to on-the-job training, and supporting entrepreneurial skills among young people.

The introduction will ease the burden of youth challenges in Ekurhuleni, which includes among others, poor health and wellbeing, substance abuse, inaccessible sports facilities, teenage pregnancies, and poor co-ordination and little recognition of youth work as a profession.

(f) Health and Community Health Services

The HIV/AIDS prevalence rate was 29.9% in 2011 which indicated a decline from 2009. This decline can possibly be attributed to some interventions by the municipality in terms of provision of services and health education.

(g) Infrastructure and Services

The following strategic risks that relate to infrastructure have been identified within the EMM:

- Unreliable bulk water supply from the source;
- Decline in water revenue, bulk and reticulation backlog in relation to water, sanitation, electricity, road and storm-water due to ageing infrastructure that increases pressure on repairs and the maintenance budget; and
- Maintenance backlogs in respect of service delivery infrastructure.

All bulk services for the development which is water supply and waste management services will be provided by the Municipality to the development.

(h) Safety and Security

Prevalent Crimes in Nigel

According to Jabu Dhlamini & Amanda Dissel (2005), the Nigel community identified different crimes as being prevalent according to which constituency they were representing. The SAPS and the EMPD mentioned crimes which are priority crimes in both the urban and rural areas of Nigel. The CPF only mentioned crimes occurring in town and surrounding suburbs, while the agricultural unions, the civil defence and the Commandos prioritized crimes in the rural areas. Crimes tended also to differ in each area. Around town and the Nigel suburbs theft of motor vehicles and theft out of motor vehicles was identified as more prevalent. Whereas, housebreaking and stock theft were identified as prevalent crimes in the rural areas.

The most prevalent reported crimes were assault (common and with intention to commit grievous bodily harm), and burglary at residential premises and theft (CIAC, 2004). The community mentioned that firearms, money and electrical appliances are usually stolen during housebreakings in the rural areas. Burglaries and theft tended to occur when no-one is at home, but aggravated or violent burglary and assault occurs when the perpetrator

encounters people at home. Although there have apparently been no recent murders as a consequence of burglaries, the community perceive this as problem (Mistry and Dhlamini, 2001). When violence is perpetrated during the housebreaking in farming areas then the case is classified as a farm attack. A farm attack is defined as an attack on farms and smallholdings aimed at the person(s) of residents, workers and visitors to farms and smallholdings whether with the intent to murder, rape, rob or inflict bodily harm (National Operational Coordinating Committee (NOCOC), 1999).

Due to criminal activities in the area which remains a concern, the EMPD was established in January 2002, and its jurisdiction is restricted to the Ekurhuleni Metro municipal boundaries. According to the Chief of the Metro Police, the mission of the EMPD is to enhance the quality of life in the community of the Metropolitan area, by working in a partnership with the community. It aims to serve the community within the framework of the Constitution of South Africa and to enforce the laws to promote a safe environment and to reduce the fear of crime. The formation of the EMPD was seen as a way of contributing towards the fight against crime together with the SAPS and the community

(i) Housing

In 2017 alone, it was reported that Ekurhuleni had more than 100 informal settlements. In order to narrow the gap with the housing backlog, the Ekurhuleni Metropolitan Municipality is working towards upgrading the spatial profile of the informal settlements, that house about 164 000 households. It is for this reason that the city, working together with the provincial and national governments, as well as private developers, is embarking on six mega housing projects over the next five-years to respond to the housing and human settlement needs of the people.

In pursuit of this objective, Ekurhuleni Metropolitan Municipality have secured and are in the process of securing more land to enable the Municipality to provide bulk services for housing settlements like Leeuwpoort, Clayville Ext 15, John Dube and Daggafontein.

In the year 2017, the city delivered approximately 5 000 housing units and in the financial year of 2017-18, the city delivered an additional 8 000 housing units. Housing needs extend beyond the categories of the needy, the indigent and the elderly. The Municipality will thus be assisting those who fall into that bracket of not being indigent but, equally, can't afford loans

from banks. This strategy involves the delivery of fully subsidised units targeting the poorest of the poor. It includes the finance-linked subsidy programme for people whose income is above the threshold for an RDP house but below qualification for a bond. This is what we call the missing-middle. The housing delivery strategy also includes social housing units for middle-income earners looking for rental stock and bonded units.

The EMM aims to fast-track the development of mixed housing in order to build integrated human settlement and invariably upgrade informal settlements. In addition to the existing municipal rental stock that consists of 361 units excluding plot houses, the City is implementing Social Housing and Community Residential Units (CRU) Projects that are geared towards the refurbishment and construction of new social housing units in partnership with the Gauteng Department of Human Settlement.

The Gauteng Department of Human Settlements mandate is to ensure the provision of integrated sustainable Human Settlements within a smart Gauteng City Region. The Departments vision is aligned to the strategic paradigms shift away from sporadic and legacy developments to purposely planned and developed “Mega Cities” that are completely self-sufficient in providing for the housing economic and social needs of the community.

As the Department rolls out the Mega Cities programme which is about building future cities that will radically transform how human settlements are delivered across the corridors of Gauteng. This will require key partners to ensure proper planning for all services such as water, sanitation, electricity, roads and social amenities.

This is a move away from focusing on one project to a more clustered approach-in order to maximise output in the provision of decent houses and impact on the eradication of informal settlements. The new cities will promote social, racial economic and cultural integration.

The Gauteng Department of Human Settlements will implement a total of 31 Mega Cities; however a number of new Mega Cities was rolled out in the financial year (17/18 FY). These new post-apartheid cities will be implemented in phased stages in the identified five (Mega City corridor). These developmental corridors are categories into Northern, Eastern, Southern and Central. Through the Mega Cities programme in the five corridors, the Gauteng Department of Human settlements targets to build 520 000 housing units allocated into 140000 housing units in the Central corridor,; more than 100000 in the Eastern Corridor; more

than 160,000 units each in the Northern and Western Corridors and more than 120 000 units in the Southern Corridor by the end of the current term in 2019.

This move of the Gauteng Provincial Government towards radical housing delivery management seeks to change the current model to projects that yield less than 75000 units per project, either as an existing development cluster or as a new nodal development.

Mega Cities will positively and decisively impact on primary, secondary and top structure construction infrastructure as well as household economy. This is due to the fact that Gauteng is the smallest province in South Africa but experience high levels of in-migration; which means land management and use must be more efficiently planned.

Mega Cities will create a healthy and vibrant house hold economy that will ensure job opportunities are created closer to places of work thereby reducing travelling costs and will also be close to social amenities.

Due to the in-migration of people to Johannesburg, pressure on the local housing infrastructure would continue as the EMM would have to carry on to accommodate the new urban citizens and to provide basic services to all

(j) Bulk Services (Electricity, Water and Waste Management)

The Municipality is responsible for providing bulk services in Ekurhuleni Metropolitan Municipality however there is a backlog due to the growing population, which, continues to place a huge demand on the municipality to continue to provide basic services and infrastructure.

| Household Bulk Services | 2016 | 2011 |
|------------------------------------|-------------|-------------|
| Flush toilet connected to sewerage | 85.4% | 85.0% |
| Weekly refuse removal | 84.8% | 88.4% |
| Piped water inside dwelling | 56.5% | 57.2% |
| Electricity for lighting | 85.4% | 82.2% |

(i) Local Economy

The Gauteng Province's total GDP for 2010 was R811 billion, making the province the single largest contributor to South Africa's GDP with a contribution of 33.8%, despite having only 1.4% of South Africa's land area. Gauteng also generates approximately 10% of the entire African continent's GDP. Gauteng's Gini coefficient of 0.62 makes it more equal than South Africa (the Gini coefficient of which is 0.75 as a whole, although this is still a very high figure by international standards. The cities Johannesburg, Midrand and Pretoria, which are all economic powerhouses, and Vanderbijlpark, which is an industrial powerhouse, are all in Gauteng.

Gauteng is the largest contributor to the economy, contributing at least 35 percent to the country's Gross Domestic. Gauteng's GDP contribution compared to other South African provinces. Gauteng (33.9%) Kwa-Zulu Natal (16.1%) Limpopo (7%) Mpumalanga (7.1%) Northern Cape (2.3%) North West Province (6.5%) Western Cape (14%) Eastern Cape (7.6%)

Gauteng is an integrated industrial complex with major areas of economic activity in five sub regional areas, namely the Vaal Triangle, the East, West and Central Rand, and Pretoria. All sectors rely heavily on the Vaal Dam on the Vaal River, whence water is piped across the province. The province is home to many of the country's most important educational institutions and scientific institutes.

There are about 10 000 firms involved in the province's manufacturing sector, employing over half a million people. The major industries are appliances and electrical supplies, basic iron and steel, chemical products, electrical machinery, fabricated and metal products, food, machinery, motor vehicle parts and accessories.

The economy of the province is moving away from traditional heavy industry markets and low value-added production to sophisticated high value-added production, particularly in information technology, telecommunications and other high-tech industries. The 'high-tech' corridor at Midrand (halfway between Pretoria and Johannesburg) is the most rapidly developing area in the country.

Gauteng is home to the Johannesburg Stock Exchange, the largest stock exchange in Africa, as well as the head offices of over 140 local and international banks. Some of the largest

companies in Africa and abroad are based in Gauteng, or have offices and branches there, such as Vodacom, MTN, Neotel, Microsoft South Africa and the largest Porsche Centre in the world.

5. Public Participation Process

Public participation is the involvement of all parties who potentially have an interest in a development or project, or may be affected by it. The principal objective of public participation in an Environmental Impact Assessment (EIA) process, in particular this Scoping, is to inform and enrich decision-making.

In order to canvass the issues and concerns of the broader public and to ensure that all IAPs are afforded the opportunity to comment on the proposed development, the proposed project was announced as follows:

5.1 Stakeholder Engagement Activities

The activities undertaken and proposed during the Pre-Application and Scoping Phases of the assessment are outlined in **Table 5-1**.

Table 5-1: Activities planned during the Scoping Phase

| Task | Objectives | Dates |
|---|---|--------------------------------------|
| Advertise commencement of EIA process and release Background Information Document (BID) | To notify IAPs of the commencement of the EIA process and to provide a high-level description of the proposed project. | 29 July 2020 |
| Release Scoping Report for public comment period | To provide a description of the proposed project and the affected environment, potential environmental issues and the proposed approach to the Impact | 29 July 2020 |
| Public comment period | To provide stakeholders with the opportunity to review and comment on the results of the Scoping Phase. | 29 July 2020 To 31 August 2020 |

| | | |
|--------------------------------|--|---|
| <p>Public Open Day Meeting</p> | <ul style="list-style-type: none"> • Under normal circumstances this would normally be undertaken to present the findings of the Scoping Report to stakeholders and provide an opportunity for questions and discussion. However, in accordance with the approved public participation plan as approved by GDARD, public gatherings are not allowed due to the Covid 19 Pandemic. • A Virtual meeting via Zoom can be arranged with the ward councilor and the Dunnottar Community Policing Forum secretary if and when required. • It is also worth noting that this project has been notified to the public and a public meeting was held in May 2019 where substantial comments were received from the community. This application had to be halted to address the stakeholder comments and eventually the application expired. To ensure impartial stakeholder engagement, the comments received then from the community during the 1st application will also be taken into consideration in this new application together with any new comments that will arise from the release of this report. | <p>Public meeting not applicable due to Covid 19 pandemic</p> |
|--------------------------------|--|---|

| | | |
|---|--|-----------------------|
| <p>Compile Issues and Responses Summary and finalize Scoping Report</p> | <p>To record all issues and concerns raised and collate these comments in the final report which provides GDARD with information to decide whether to accept the Scoping Report.</p> | <p>September 2020</p> |
|---|--|-----------------------|

The key activities (that will be) undertaken in the stakeholder engagement process during the Scoping Phase are described further below.

5.2 Process followed to date

The following process was undertaken to facilitate the public participation for the proposed project.

5.2.1 Identification of Key Stakeholders

As required by the EIA Regulations, 2014, relevant local, provincial and national authorities, conservation bodies, local forums and representatives and surrounding land owners and occupants have been notified of the EIA and the release of the Scoping Report for comment.

Relevant authorities (Organs of State) have been automatically registered as IAPs. In accordance with the EIA Regulations, 2014 all other persons must request in writing to be placed on the register, submit written comments or attend meetings in order to be registered as stakeholders and included in future communication regarding the project, and advertisements advised that IAPs register as such. All respondents were then placed on the project database. This database was supplemented by I&APs that contacted our Public Participation consultant to be included on the database. The database was used throughout the process to inform the stakeholders of the project and is attached within **Appendix C5** of the report. The stakeholder database will be updated throughout the process.

5.2.2 Site notices

Three notices were erected on site and at visible and accessible locations close to the site on **Wednesday, 29 July 2020** to inform surrounding communities and immediately adjacent

landowners of the proposed development. Photographic evidence of the new site notices will be included in the final scoping report within **Appendix C2**.

5.2.3 Direct notification of identified I&APs

Identified I&APs, including key stakeholders representing the following sectors, were directly informed of the proposed development by e-mail and fax on **Wednesday, 29 July 2020**. For the purposes of this the following authorities were consulted:

- Provincial Authorities
- Local Authorities
- Service providers
- Ward Councillor
- Non-governmental organizations

Please refer to **Appendix C2-a** for the Background Information Document that was circulated to I&APs. Proof of email notification that was distributed to the I&APs identified as well as a list of identified and contacted I&APs, including directly adjacent landowners is included within **Appendix C2-a** of the report

5.2.4 Hand - deliveries

Note: This project commenced in March 2019 and was allocated a project reference No: Gaut 002/18-19/E0262 by Gauteng Department of Agriculture and Rural Development. Initial PPP for the scoping phase was undertaken which included placement of site notices, newspaper advertisement and a public meeting. Feedback from stakeholders and comments received were included into the Final Scoping Report which was submitted to GDARD for approval, the FSR was approved, however due to issues raised during the scoping phase stakeholder engagement; the application was halted to take into consideration stakeholder comments to ensure impartial stakeholder engagement. This resulted in the project application to expire.

However a comprehensive knock and drops was undertaken during the initial application, to notifying and informing adjacent landowners of the proposed project. Refer to the Proof of this knock and Drop register is included within **Appendix C3**. Hand-deliveries to adjacent landowners within 100 meters of the proposed development would not be undertaken during this new application due to Covid 19 pandemic. However, the old knock and drop **Appendix C3** has been retrieved as it contains important information.

5.2.5 Newspaper advertisements

An advertisement, notifying the public of the EIA process and requesting Interested and Affected Parties (I&APs) to register with, and submit their comments to Envirolution Consulting (Pty) Ltd was placed in the Heidelberg Nigel Heraut Newspaper, **Wednesday 29 July 2020**. This advert also notified the IAPs of the availability of the DSR for review and where to access the report. A copy of the advertisement is included within **Appendix C4**.

5.2.6 Concerns raised by I&APs

The relevant local authorities and other stakeholders were informed of the proposed project via notification letters distributed on **Wednesday, 29 June 2020**. Registration sheets were attached to the notification letters for the local stakeholders to register as Interested and Affected Party's (I&AP's) and to lodge their comments. Comments received and responses provided to stakeholder comments will be provided in the final scoping report as these are expected during this notification period and DSR review period (See **Table 5-2**). Specific correspondences to and from I&APs will be included within **Appendix C2 of the Final Scoping Report**

5.2.7 Placement of Draft Scoping Report for public review

Registered stakeholders were notified by email, site notices and newspaper advertisement of the availability of the Scoping Report for public comment. The electronic copy of the report was made available on the following electronic link

<https://www.dropbox.com/sh/8afuvjcp2mqyor7/AACiCQU9JV-IF8trFEv2RN5Xa?dl=0>

Stakeholders are provided with a **30-day comment period** (from the **Wednesday, 29 July 2020** until **31 August 2020**)

5.2.8 Public Open Day

No open day public meeting will be undertaken due to COVID 19 pandemic and as per the approved GDRAD public participant plan. However it is worth noting that:

This project commenced in March 2019 and was allocated a project reference No: **Gaut 002/18-19/E0262** by Gauteng Department of Agriculture and Rural Development. Initial PPP for the scoping phase was undertaken which included placement of site notices, newspaper advertisement and a public meeting. Feedback from stakeholders were received during the public meeting, the concerns raised were complicated to address within a short period of time; the application was halted to take into consideration stakeholder comments to ensure impartial stakeholder engagement. This resulted in the project application to expire. As no public meeting will be held for this new application due to the Covid 19 pandemic, the comments received during the public meeting held for the first application will be carried forward into this new application to ensure impartial stakeholder engagement.

5.2.9 Submission of Final Scoping Report / Next Steps

Following initial review of the Scoping Report, issues raised by authorities and the public will be summarised and responded to in an Issues and Responses Summary, which will be appended to the Scoping Report. The Scoping Report will be updated (if necessary), taking stakeholder input into account. The Final Scoping Report will then be submitted to GDARD. The Impact Assessment Phase will commence thereafter.

5.3 Stakeholder Comments

Table 5-2: Comments and issues of concern raised by I&APs are listed, along with the I&AP's name and means of communication in the Comment and Response Report.

| NO | RAISED BY | RESPONDENT | COMMENT | RESPONSE |
|----|-----------|------------|---------|----------|
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Comments are expected during this Review period of the Draft Scoping Report.

6. Potential Environmental and Social Impacts

An important element of scoping is to evaluate the issues that were raised during the PPP and technical processes and ensure that those identified as key issues are included within the scope of the EIA process. In addition, scoping allows for the identification of the anticipated impacts, particularly those that will require detailed specialist investigations. These results of the PPP and issues identified will form the basis for the Terms of Reference for specialist studies and a full assessment of the impacts in the Environmental Impact Phase.

This section of the report aims to predict the potential impacts likely to occur from the undertaking of the proposed activities. This allows for the mitigation of the impacts and their associated costs and timeframes being included in the project planning.

6.1 Key Environmental Issues and Impacts

The potential impacts of the project are mostly linked to the sensitivity of the biophysical environment, the sensitivity of the social environment (e.g. communities), the extent or footprint and nature of the project, expected emissions and discharges and stakeholders' perceptions (although in this case, many of the impacts have occurred).

The EIA Regulations, 2014 (Appendix 2) prescribe the required content of a Scoping Report (refer to Section 1.4) including the identification of risks and impacts (potential nature, significance, consequence, extent, duration and probability) of the project, and the degree to which impacts can be reversed, may cause irreplaceable loss of resources and can be avoided, managed or mitigated (Appendix 2 (h) (v) and (vii)).

Based on the above considerations and the professional experience of the EAP, the following *key* environmental issues – in effect, a preliminary suite of potential negative impacts and potential benefits of the project in its proposed setting – related to the construction and operation of the John Dube Ext 3 Township Development have been identified. The following environmental issues relating to the proposed Township Development have been identified as being important and were investigated in the Scoping Phase. These issues will be further investigated in the EIA Phase of the project.

(a) Air quality

The development may generate emissions such as air pollutants e.g.

- Dust nuisance that significantly affect air quality. Dust mitigation measures will be required to prevent dust levels from exceeding South African Air Quality Guidelines.
- The transportation of materials such as sand, cement and the movement of vehicles and machinery especially during the autumn months could contribute to high levels of dust pollution due to high wind speeds.
- The unlawful burning of wastes accumulating on the site during the construction phase can add to the air pollution in the area and should be regulated.

The overarching objective of pollution and waste management during the construction phase of the project should be based on the principle of reduction and where possible be avoided. Pollution related to impacts during this phase will be temporary in nature and these impacts are considered to be of low significance if mitigation measures are implemented effectively.

(b) Noise

Construction activities could lead to a significant increase in the levels of noise pollution. Typical construction noise can be expected, but will be temporary in nature. Residents located within the works will also be exposed to these impacts and should therefore be warned of the dangers associated with the construction activity. Noise related to impacts during this phase will be temporary in nature and these impacts are considered to be of low significance if mitigation measures are implemented effectively.

(c) Heritage

During the physical survey, the following sites, features or objects of cultural were identified, but are viewed as having very low significance due to the fact that they have been totally demolished. Consequently, no mitigation measures are proposed for these sites. The potential impacts will be required to be assessed further in the EIA phase.

- Central shaft complex.
- Workers compound.
- Houses.
- School.
- Community center

During the physical survey, the following sites, features or objects were identified as having significance:

- An old electricity substation. Although all the equipment has been removed, and some of the fittings, e.g. doors and window frames, the buildings are structurally in sound form.
- A row of old houses, all built according to the same plan; a larger structure occurs to the east of the row of houses.
- Informal burial site with approximately 50 graves, marked only with packed stone cairns. The graves seem to be very old and none has been visited or cleared of vegetation in a long time.

The potential impacts will be required to be assessed further in the EIA phase.

(d) Ecology (Flora, Fauna and Avifauna)

The development area falls mainly within the Tsakane Clay Grassland, which is an endangered vegetation type (Mucina & Rutherford 2006; SANBI & DEAT 2009). The site area has been used for mining since the 1940's and many surrounding areas have been used for maize agriculture. All vegetation units on the site are highly disturbed, rather transformed by previous mining operation. Although somewhat degraded the grassland portion nonetheless constitutes a threatened vegetation type. The development may entail in the loss of several species which are protected and considered significant to conservation. Such species may occur on site and these species include *Hypoxis hemerocalideae*. Even though the site is significantly disturbed by previous anthropogenic activities such as mining activities three of the major habitat types are present on the site,

i.e. terrestrial, arboreal and wetlands which are regarded as a good habitat for birds and some fauna species. The possibility of faunal and avifauna species existing on site is highly likely. However, these will be determined by a detailed Ecological Assessment that will be undertaken during the EIR phase.

(e) Soil and agricultural potential

The development is proposed on a site zoned as agriculture but previously extensively used for mining activity. The property (Portion 1 Farm Grootfontein Number 165-IR and Portion 83 Farm Grootfontein Number 165-IR) earmarked for the housing development is a historic gold mine Vlakfontein. There is therefore concern about any potential environmental and legal liability that might emanate from the historic mining activities on the property.

Therefore a soil screening level contaminated site assessment to determine if any possible pollutants are present on the site at levels of concern to the general public will be undertaken. Additionally the screening level investigation will determine if any further investigations are required to determine the suitability of the site for development.

The impact in terms of agriculture potential will not be assessed further in the EIA phase; as the land was heavily used by mining and agriculture would not be a better land use post mining. In addition the Municipality has already earmarked the broader area for housing development.

(f) Social Economic Impact

The township development may have both negative and positive adverse socio-economic impacts could be (e.g. on influx of people to the area, crime and safety, daily living and movement patterns). The development will be in keeping with its surrounding land use and it is earmarked for future development by the Local Municipality. The negative impacts will therefore be of low significance. In contrast to the negative, the proposed project will have a positive impact on the Ekurhuleni Metropolitan Municipality and the greater communities. It will contribute to the much needed housing as well as economic development and job opportunities. Most urban communities will be able to absorb the social changes associated with a project of this scale and nature relatively easily. The potential impacts will be required to be assessed further in the EIA phase.

(g) Traffic

The site is situated within a low density area with limited traffic movement. The proposed development will increase the traffic volumes significantly. The Nigel-Dunnottar Road forms the eastern boundary and Prinsep Avenue runs along the northern boundary. There will be a consequent impact on traffic volumes which requires more detailed review of traffic impacts and mitigation measures. The potential impacts will be required to be assessed further in the EIA phase.

(h) Wetland

A watercourse was recorded on the study site on the eastern boundary of the site. The Ecological Importance and Sensitivity of the wetland System will be assessed further in detail during the EIA phase. Wetlands are considered to be ecologically

important and sensitive. The biodiversity of these wetlands may be sensitive to flow and habitat modifications. Wetlands play an important role in moderating the quantity and quality of water of major rivers. Rehabilitation works to make the wetland to look more aesthetically appealing will be undertaken within the watercourse.

Following the aforementioned proposed activities within the watercourse, the relevant Water Use Licence Application (WULA) will be applied for. However the status of the wetland and overall impacts will be required to be assessed further in the EIA phase.

(i) Pollution Impacts

Associated construction activities could lead to a significant increase in the levels waste generation and littering. In addition, liquid and solid waste, including sewage, will be produced on site and at the construction camp. The potential also exists that liquid substance e.g. used oil, solvents, etc. be disposed in natural drainage lines. This could have a significant negative impact on the surrounding environment and landowners living adjacent to the site.

The overarching objective of pollution and waste management during the construction phase of the project should be based on the principle of reduction and where possible be

avoided. Pollution related to impacts during this phase will be temporary in nature and these impacts are considered to be of low significance if mitigation measures are implemented effectively.

6.2 Potential Mitigation Measures

The EIA Regulations, 2014 (GN 982, Appendix 2) prescribe the required content in a Scoping Report (refer to Section 1.4) including the identification of possible mitigation measures (Appendix 2 (h)(viii) and (i)(x)) that could be applied to avoid or mitigate negative impacts and optimize positive impacts.

Most of the impacts linked to the construction and operation of the Proposed Township can be readily mitigated. More mitigation measures will be identified at the EIA phase; key relevant measures are listed in Table 6-1

Table 6-1: Key construction and operations impacts and related mitigation measures identified at this scoping phase

| Construction Phase | Key essential management / mitigation measure |
|--------------------|--|
| Air Pollution | <ul style="list-style-type: none"> • Implement dust suppression measures to reduce dust from roads and exposed construction areas. No burning of waste should be allowed on site |
| Noise | <ul style="list-style-type: none"> • Construction activities must abide by the national noise laws and the municipal noise by-laws with regard to the abatement of noise caused by mechanical equipment. • Maintain diesel powered earthmoving and waste handling equipment in good operating condition. |
| General Pollution | <ul style="list-style-type: none"> • Implement an appropriate storm water management system to contain all dirty storm water on site while ensuring that all clean or uncontaminated storm water is diverted or released. • Good environmental management practices must be followed to prevent potential contamination of soil and water resources. |

| | |
|----------------|---|
| | <ul style="list-style-type: none"> • Implement appropriate waste management practices to prevent windblown dispersion of solid waste. • No waste may be dumped in neighboring surrounding vicinities • The mixing of concrete should only be done at specifically selected sites on • mortar boards or similar structures to contain run-off into drainage lines, streams and natural vegetation. |
| Social | <ul style="list-style-type: none"> • Employ measures to ensure that new informal settlements do not develop around the development • Ensure strict access control to the site. • All employees to be clearly identifiable. • Proper supervision of employees at all times. • Construction activities must remain within construction footprint. • No unauthorized people to be allowed on site. |
| Socio-Economic | <ul style="list-style-type: none"> • Target and give preference to local labour and resources. • It is recommended that local employment policy is adopted to maximize the opportunities made available to the local labour force. • Training and skills development programmes should be provided to all employees. • The recruitment selection process should seek to promote gender equality and the employment of women wherever possible |
| Traffic | <ul style="list-style-type: none"> • It must be ensured that a backlog of traffic does not develop on site during peak hours, through the erection of signage to warn motorist of construction, closed road lanes, traffic delays etc. and consideration for use of alternatives routes. |

| | |
|--|--|
| | <ul style="list-style-type: none"> • Prior to construction informative hazard Warning Signage must be erected to inform public of the inherent dangers; • Ensure that a backlog of traffic does not occur at road networks due to construction activities • During day time, designate responsibility to some construction crew to guide traffic (traffic controllers) during construction to motorist that will be affected during construction. |
| <p>Ecology (wetland, fauna, avifauna, vegetation and soil)</p> | <ul style="list-style-type: none"> • Buffer zones of 30m around the wetland on site should be considered as sensitive and should be included into the proposed development layout as natural open spaces to ensure the continued function of ecosystem that may potentially provide habitats for the avifauna species that may potentially still occur on the site. • If any mammal species are encountered or exposed during the construction phase, they should be removed and relocated to natural areas in the vicinity. • Materials storage areas will not be allowed in close proximity to ecologically sensitive areas (wetland on site) • No discharge of pollutants such as cement, concrete, lime, chemicals, fuels or oils will be allowed into any water resource • Limit the removal of naturally occurring vegetation to only that which is absolutely necessary. • Soil shall be stripped to a minimum depth of 300 mm or to the depth of bedrock where soil is shallower than 300 mm. Topsoil should be stockpiled separately from the subsoil |
| <p>Heritage</p> | <ul style="list-style-type: none"> • Barricade any heritage materials found on site as a no go area • Destruction of heritage resources e.g. old heritage |

| | |
|---------------|---|
| | <p>buildings, graves etc. is not allowed</p> <ul style="list-style-type: none"> • Should any archaeological artefacts be exposed during excavation, work on the area where the artefacts were found, shall cease immediately and the ECO shall be notified as soon as possible. |
| <p>Visual</p> | <ul style="list-style-type: none"> • Progressively landscape and vegetate the site with indigenous species. • Avoid harsh, steep engineered slopes as much as possible. • Implement an effective dust suppression programme, such as regular wetting and/or the use of non-polluting chemicals that will retain moisture in haulage roads. • Install effective catching mechanisms or other management measures to prevent wind-blown litter from leaving the immediate confines of the working (disposal) area. • Confine light output within property boundaries through using specifically designed luminaires such as full cut-off luminaires to minimize upward spread of light near to and above the horizontal; • Tilt spotlight luminaires to direct the light to the intended spot, instead of allowing it to light areas outside its purpose; • Mount outdoor spot lights on the appropriate pole height. Higher mounting heights allow lower main beam angles which can reduce glare. • Utilize control systems to reduce light levels during inactive periods or at predetermined times while maintaining sufficient lighting for safety and security (NEMA, 2000). • Where vertical surfaces are illuminated, such as advertising |

| | |
|--|---|
| | <p>signs or buildings façades, it is recommended that luminaires should light downwards. If up-lighting is the only alternative, the use of shields, baffles or louvers should be installed to reduce light spillage over or under the structure.</p> |
|--|---|

| Operation Phase | Key essential management / mitigation measure |
|---|---|
| Visual | <ul style="list-style-type: none"> Progressively landscape and vegetate the site with indigenous species. <p>Establish a well thought through urban design concept which allows for a harmonious diversity in built form and façade finishes. Make a conscious effort to steer away from the typical duplication of built form, especially in the planning of the single stand-alone houses and multi storey buildings</p> |
| Surface Water Runoff and Storm Management | <ul style="list-style-type: none"> Ensure that storm water management systems are fully implemented |
| Socio-Economic | <ul style="list-style-type: none"> Target and give preference to local labour and resources. It is recommended that local employment policy is adopted to maximize the opportunities made available to the local labour |
| Social Impact | <ul style="list-style-type: none"> Population Change- An increase in the population size and density would result in various negative and positive socio-economic |
| Traffic impact | <ul style="list-style-type: none"> Ensure that appropriate traffic control measures are implemented during the planning of new residential access roads |

7. Plan of Study for the EIA

The proposed Plan of Study for the Impact Assessment Phase of the EIA is presented below.

7.1 Description of the Proposed EIA Process

The Impact Assessment Phase can be divided into key steps, namely:

- » Consultation with relevant authorities;
- » Specialist studies;
- » Compilation of an EIA Report and an EMPr;
- » Stakeholder engagement; and
- » Submission of the Final EIA Report and EMPr to the competent authorities, in this case GDARD.

These are outlined in more detail below.

7.2 Consultation with the Relevant Authorities

Consultation will be conducted with GDARD and other relevant authorities to clarify their requirements for the Impact Assessment Phase of the proposed development, other permit and licence applications for the project and to ensure that comments from the key authorities can be received in time to allow for them to be addressed in the EIA. The authorities (and other organs of state) that will be consulted include:

- » Gauteng Department of Agriculture and Rural Development (“GDARD”).
- » Department of Water and Sanitation (DWS);
- » Department of Mineral Resources (DMR)
- » Ekurhuleni Metropolitan Municipality (MMM).

7.3 Specialist Studies

Studies that have been commissioned during the Scoping Phase, include the below (see Table 7-1), thus no new studies will be undertaken during the EIAR Phase unless required by

GDARD. These additional specialist studies will be documented and recommendations formulated by the specialists for the proposed development.

Table 7-1: EIA specialists

| Specialist study | Specialist |
|--|---|
| Biodiversity Assessment 1. Fauna Assessment 2. Avifauna Assessment 3. Hepertofauna assessment 4. Vegetation Assessment and 5. Wetland Assessment | The below Ecology and Biodiversity specialist are from Eco Agent CC 1. G.J. Bredenkamp D.Sc. Pr.Sci.Nat. 2. A Kemp Ph.D. Pr.Sci.Nat. 3. I.L. Rautenbach Ph.D. Pr.Sci.Nat. 4. J.C.P. Van Wyk M.Sc. Pr.Sci.Nat. |
| Soils and Rock stockpile contamination Assessment | AC Johnstone of GCS Environmental Engineering (Pty) Ltd |
| Traffic Assessment | Louis Du Toit of Mariteng Consulting |
| Heritage Assessment | Johnny van Schalkwyk-Heritage Consultant |
| Social Assessment | Amina Ismail and Shannon Hardwick of Digby Wells Environmental |

The full impact of construction activities will be described in the EIAR after the integration of all available specialist study findings has occurred. Assumptions made and the specialist will explicitly state any uncertainties and gaps in knowledge. An indication will be provided by the specialist of the methodology used in determining the significance of potential environmental impacts. Envirolution Consulting will ensure that the methodology is consistent across all specialist studies in order to facilitate informed integrated decision making, (also see Section 7.7).

7.4 Compilation of the Environmental Impact Assessment Report

The compilation of the EIA Report and EMPr will include the following tasks:

- Assimilation of the specialist studies / input into the EIA Report and EMPr;
- Identification and assessment of environmental impacts based on the results of the specialist studies / input and professional judgment of the EIA team. This will entail an assessment of the duration, extent, probability and intensity of the impacts to determine their significance (see Section 7.8 below);
- Identification of mitigation measures and recommendations for the management of the proposed project to avoid and minimize environmental impacts and maximize benefits; and
- Collation of the above information into an EIA Report and EMPr for the operation phases of the project.

7.5 Stakeholder Engagement

The stakeholder engagement process initiated during the Scoping Phase (see Section 5.2) will continue in the Impact Assessment Phase of the EIA. The key activities planned during the Impact Assessment Phase are outlined in Table 7-2.

Table 7-2: Stakeholder engagement activities planned during the Impact Assessment Phase

| Task | Objectives | Dates |
|--|--|--------------------------|
| Update stakeholder database | To register additional stakeholders identified throughout the S&EIR process | Throughout S&EIR process |
| Compile and release EIA Report for public comment period | To assess the impacts of the project and formulate mitigation measures and management plans. | Impact Assessment Phase |

| Task | Objectives | Dates |
|-----------------------|---|-------------------------|
| Public comment period | To provide stakeholders with the opportunity to review and comment on the results of the Impact Assessment Phase. | Impact Assessment Phase |
| Finalize EIA Report | To present the findings of the EIA process and incorporate stakeholder | Impact Assessment |

7.6 Submission of the Final EIA Report and EMPr to GDARD

All comments received will be incorporated into an Issues and Responses Statement, which will be appended to the Final EIA Report. The Final EIA Report (including the EMPr) will then be submitted to DEA to inform their decision regarding environmental authorization of the proposed development.

7.7 Specialist Study Terms of Reference

7.7.1 Traffic Specialist Study

The proposed ToR for the study is as follows:

- Identify and describe the existing transport baseline of the project area;
- Assess the impact on traffic resulting from the proposed operation of the development
- Identify and describe potential cumulative traffic impacts resulting from the proposed project in relation to proposed and existing developments in the surrounding area;
- Recommend mitigation measures to minimize impacts and/or optimize benefits associated with the project; and
- Recommend and draft a monitoring campaign to ensure the correct implementation and adequacy of recommended mitigation measures, if applicable.

7.7.2 Ecological Assessment (Flora, Hepertofauna, Fauna and Avifauna)

Detailed investigation into the status of the vegetation, including general floristic diversity; general status of vegetation; status of primary vegetation; habitat suitability for Red Data flora species; potential presence of Red Data flora species will be provided by the Biodiversity specialists. The scope of work will also include:

- Impacts that might result from the proposed development;
- Identify potential existence and impacts on the floral, faunal and avifauna species;
- Provide mitigatory measures for the species identified; and
- Recommend other ecological studies based on the findings of the biodiversity study.

7.7.3 Wetland Assessment

The scope of work will include the following tasks:

- Delineate the wetland and riparian areas;
- Classify the watercourse according to the system proposed in the national wetlands inventory if relevant,
- Undertake functional and integrity assessment of wetlands areas within the area assessed as specified in General Notice 267 of 24 March 2017;
- Provide a brief opinion as to the sensitivity of the terrestrial areas on site
- Undertake an impact assessment as specified in the NEMA 2014 regulations,
- Undertake a risk assessment as specified in General Notice 509 in published in the Government Gazette 40713 of 24 March 2017,
- Recommend suitable buffer zones, both generic (as required in GDARD, 2014) and scientific as specified in General Notice 267 of 24 March 2017, following Macfarlane et al 2015 ; and
- Discuss appropriate mitigation and management procedures relevant to the conserving wetland areas on the site
- Compile a wetland rehabilitation plan

7.7.4 Heritage Impact Assessment

The heritage impact study will include:

- Desktop study during the project initiation phase;
- Site visit;
- Analysis of potential impacts;
- Development of recommended management actions; and
- Report compilation.

7.7.5 Social Impact Assessment

The social impact study will include:

- Desktop study during the project initiation phase;
- Site visit;
- Analysis of potential impacts;
- Development of recommended management actions; and
- Report compilation.

7.7.6 Soils and Rock stock pile Screening Assessment

- The soil screening assessment will include:
- Soil testing: An initial screening testing on the soils on the location of the site to establish any soil contaminants (if any) from historic mining activities on and in close proximity of the site.
- The screening testing to establish the need for any further testing and remedial actions if any contaminants of concern is found at concentrations of concern.
- The assessment to focus on soil quality risk indicators as presented by the Soil Screening values as part of the National Environmental Management: Waste Act, Act 59 of 2008 as well as the National Norms and Standards for the Remediation of Contaminated Land and Soil Quality. Provide recommended mitigation measures, monitoring requirements, and rehabilitation guidelines for all

identified impacts.

7.8 Impact Evaluation Methodology

The **significance** of an impact is defined as a combination of the **consequence** of the impact occurring and the **probability** that the impact will occur.

The criteria used to determine impact consequence are presented below

Criteria used to determine the consequence of the impact

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

- The **nature**, which shall include 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 (the impact could affect the area including the neighbouring farms, the transport routes and the adjoining towns) ,
- 4 = national and
- a score of 5 being international (where the impact has international ramifications that extend beyond the boundaries of South Africa).

- The **duration**, wherein it will be indicated whether:
 - very short duration (0–1 years) – assigned a score of 1;
 - 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 **status**, which will be described as either positive, negative or neutral.
- the degree to which the impact can be **reversed** (low, moderate, high).
- Whether the impact may cause **irreplaceable loss of resources** (Yes/No).
- Whether the impact can be **mitigated**.

The **significance** shall be determined through a synthesis of the characteristics described and can be assessed as low, medium or high.

The significance is determined by combining the criteria in the following formula:

S= (E+D+M) P; where

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The impact significance rating should be considered by authorities in their decision-making process based on the implications of ratings ascribed below:

< 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. Impact is significant, mitigation is critical to reduce impact or risk. Resulting impact could influence the decision depending on the possible mitigation. An impact which could influence the decision about whether or not to proceed with the project.).

Practicable mitigation and optimization measures are recommended and impacts are rated in the prescribed way both without and with the assumed effective implementation of mitigation and optimization measures. Mitigation and optimization measures are either:

- **Essential:** measures that must be implemented and are non-negotiable; and
- **Best Practice:** recommended to comply with best practice, with adoption dependent on the proponent's risk profile and commitment to adhere to best practice, and which must be shown to have been considered and sound reasons provided by the proponent if not implemented.

7.2 Cumulative Impacts

Anthropogenic activities can result in numerous and complex effects on the natural and social environment. While many of these are direct and immediate, the environmental effects of individual activities (or projects) can combine and interact with other

activities in time and space to cause incremental or aggregate effects. Effects from disparate activities may accumulate or interact to cause **additional** effects that may not be apparent when assessing the individual activities one at a time (Canadian Environmental Protection Agency, no date). Cumulative effects can also be defined as the total impact that a series of developments, either present, past or future, will have on the environment within a specific region over a particular period of time (DEAT IEM Guideline 7, Cumulative effects assessment, 2004).

The International Finance Corporation (IFC) states that environmental assessment should include consideration of “... *cumulative impacts of existing projects, the proposed project and anticipated future projects.*” For the purposes of this report, cumulative impacts are defined as ‘direct and indirect impacts that act together with current or future potential impacts of other activities or proposed activities in the area/region that affect the same resources and/or receptors’.

Cumulative impacts can be distinguished as follows:

- **Cumulative Impacts of Existing Activities:** It is reasonably straightforward to identify significant past and present projects and activities that may interact with the project to produce cumulative impacts, and in many respects, these are taken into account in the descriptions of the biophysical and socio-economic baseline; and
- **Potential Cumulative Impacts of Future Activities:** Relevant future projects that will be included in the assessment are defined as those that are ‘reasonably foreseeable’, i.e. those that have a high probability of implementation in the foreseeable future; speculation is not sufficient reason for inclusion. Such projects may include those for which EAs have already been granted, that are currently subject to EA applications or that have been identified in an IDP of the relevant local municipality.

To define the level of cumulative impact, it is critical to look beyond the geographical boundaries and environmental impacts of a single development on the environment and consider the area of influence of the specific project as well as other developments currently in or proposed in the area and their understood impacts and area of influence. It

may be that impacts experienced as a result of a single development are not considered to be significant, but when considered as part of a cumulative impact assessment, these require mitigation.

The assessment methodology proposed in this section of the report seeks to provide a practical means of assessing cumulative impacts as part of the environmental impact assessment and minimizes deviations from the methodology proposed for the project specific impact assessment. Key considerations for the application of this methodology are:

- The cumulative impact assessment will need to be undertaken with consideration given to developments that may have contributed to cumulative effects in the past, may be contributing or are anticipated to contribute in the foreseeable future. This needs to be relevant to the timeframe within which impacts are to be experienced as a result of the project itself (i.e. all phases for which the project specific impact assessment is being undertaken - this will need to include post closure activities and monitoring). Given that the baseline environment will already be impacted on by the historical and current contributors to the cumulative impact, it is only necessary when undertaking the cumulative impact assessment to place an emphasis on an identified future cumulative baseline environment;
- Cumulative impacts may not be applicable to all specialist disciplines. Specialists will advise and justify where they believe the project related impacts will be confined to the project area and not subject to or contributing to impacts in the broader area of influence as a whole. For example, if the project area is confined to a water catchment which is not anticipated to be impacted on by other developments (past, present or foreseeable future) then a cumulative impact assessment need not be considered for this environmental aspect;
- A cumulative impact assessment will need to be undertaken for a specific area of influence which will be determined by the impact itself and the baseline environment in which it is proposed e.g. if project specific biodiversity impacts are similar in nature to those experienced 40 km away, but the two areas are linked in terms of biodiversity functioning and/or the cumulative impact will be a significant

depletion of a particular species, then the area under consideration for the biodiversity cumulative impact assessment must address the entire area between the two sites. This will vary across specialist disciplines and therefore a single area of influence for the cumulative impact assessment cannot be set and will be advised by the specialist concerned;

- The baseline environment for the cumulative impact assessment differs from that of the project specific baseline e.g. the air quality baseline for the project will differ from the air quality baseline that is considered for a cumulative impact assessment where a number of mines are likely to be developed within a region in the future and all contributing to a cumulative ambient air quality. While a difference in defining the cumulative baseline is noted, the impact assessment methodology to be employed will remain unchanged; and
- The cumulative impact assessment can only be undertaken where information is readily available to do so and as such will only be an initial assessment of the likely cumulative impact in terms of knowledge available at the time of the assessment. As it is critical to understand the information sources and limitations that exist, each specialist will be required to provide an outline on what their information sources are for the assessment and where limitations exist.

For the most part, cumulative effects or aspects thereof are too uncertain to be quantifiable, due to mainly lack of data availability and accuracy. This is particularly true of cumulative effects arising from potential or future projects, the design or details of which may not be finalised or available and the direct and indirect impacts of which have not yet been assessed. Given the limited detail available regarding such future developments, the analysis will be of a more generic nature and focus on key issues and sensitivities for the project and how these might be influenced by cumulative impacts with other activities. The proposed approach for the cumulative impact assessment will be as follows:

- From the EAP's knowledge of the project area and anticipated impacts associated with the project, the likely geographical extent that needs to be considered for the cumulative impact assessment for the particular discipline will be identified. This

may be refined as additional information becomes available through the life of the study and/or through a better understanding of linked impacts between various disciplines.

- Sources of cumulative change will be identified – what is important to note here, is that this can be done historically and with consideration of the present state (which will be done as part of the project specific baseline data collection, unless a larger area of influence needs to be considered) and then further information with regard to proposed developments in the area will be considered. The future developments that will need to be incorporated into each study are:
 - Those for which EAs have already been granted;
 - Those that are currently subject to environmental authorization applications and for which there is currently information available; and
 - Those forming part of Provincial or National initiatives.
- Where further developments are identified, but are not yet at the stage of planning as detailed above, these will be noted as excluded from the current cumulative impact assessment.
- The cumulative baseline environment will be defined.

In most cases only qualitative assessments of cumulative impacts will be presented, i.e. they will not be formally rated.

8. Conclusions and Recommendations

8.1 Conclusions

In order to apply for an environmental authorization for the construction and operation of the Proposed John Dube Ext 3 Township a Scoping Study is being undertaken in terms of the EIA Regulations, 2014, promulgated in terms of NEMA. The objectives of the study are to:

- Identify stakeholders and inform them of the proposed activity and the S&EIR process;
- Provide stakeholders with the opportunity to participate effectively in the process and identify any issues and concerns associated with the proposed activity;
- Identify areas of likely impact and environmental issues that will require further investigation during the Impact Assessment Phase; and
- Develop ToR for specialist studies to be undertaken.

The conclusions of the Scoping Study are as follows:

This report details the findings of a Scoping Study undertaken as part of the EIA process for the “on-site” activities for the proposed sewage infrastructure upgrade. The Scoping Study included a technical investigation and a public participation component to identify key issues associated with the project. The alternatives that were identified during the scoping phase will be evaluated during the EIA phase. The identified environmental issues will need further assessment in the environmental impact assessment.

The following key environmental issues associated with the construction and operations of the John Dube Ext 3 Township have been identified:

- **Air quality** – the development may generate emissions such as air pollutants (health related), odors from inappropriate waste handling and dust (nuisance) that significantly affect air quality;
- **Noise** – the construction and operation of the development may increase

noise levels in surrounding areas due to waste delivery trucks and on-site activities and machinery;

- **Social-economic** – the construction of the development may have adverse socio-economic impacts (e.g. on surrounding property values), influx of people to the area, potential crime and impact on safety or benefits (e.g. continued employment at the facility and regional economic growth);
- **Traffic** – The site is situated within an area with limited traffic movement. The Nigel-Dunnottar Road forms the eastern boundary and Prinsep Avenue runs along the northern boundary. There will be a consequent impact on traffic volumes which requires more detailed review of traffic impacts and mitigation measures. The potential impacts will be required to be assessed further in the EIA phase.
- **Soils and Rock stockpile Quality-** The development is proposed on a site zoned as agriculture but previously extensively used for mining activity. The property (Portion 1 Farm Grootfontein Number 165-IR and Portion 83 Farm Grootfontein Number 165-IR) earmarked for the housing development is a historic gold mine Vlakfontein. There is therefore concern about any potential environmental and legal liability that might emanate from the historic mining activities on the property.
- There is therefore a need to conduct a screening level contaminated site assessment to determine if any possible pollutants are present on the site at levels of concern to the general public. Additionally the screening level investigation will determine if any further investigations are required to determine the suitability of the site for development. The impact in terms of agriculture potential will not be assessed further; as the land was heavily used by mining and agriculture would not be a better land use post mining. In addition the Municipality has already earmarked the broader area for housing development.
- **Visual** – The broader study area has been earmarked for future housing development by the Ekurhuleni Metropolitan Municipality with other existing

townships such as the John Dube located on the southern boundary of the proposed site already developed. The site area is surrounded by residential, mining and agricultural areas. The proposed development is therefore a common land use in the area and will be in keeping with its surroundings which are mainly residential development. Visual impacts in terms of sense of place, change in landscape are therefore not envisaged from this development other than usual visual construction impacts that arise from inappropriate housekeeping and waste handling on site and presence of construction vehicles, machinery and work personnel. The above mentioned impacts that may result in a visual nuisance will thus be assessed by the environmental assessment practitioner.

- **Vegetation-** The site is mainly within the Tsakane Clay Grassland, which is an endangered (Mucina & Rutherford 2006), the heavily disturbed and degraded grassland portion constitutes a threatened vegetation type. The construction of the development may have adverse ecological impacts (e.g. through with the loss of habitat).
- **Avifauna-** The principal habitat types detected on the site that are most relevant to bird ecology and community structure are:
 - A small wetland occurs on the site, mainly covered with *Typha capensis* with very little surface water visible.
 - Degraded grasslands. These occur on a stony substrate with shallow soils in the northern and eastern half of the site, on slight slopes. The vegetation has been well grazed, most recently by cattle, but not to the extent of any serious invasion by woody shrubs such as *Stoebe vulgaris*, and with few signs of recent damage by burning. The grasses are all shortly grazed. A few alien trees, all planted long ago by the mine, occur in the grassland.
 - Highly Degraded, transformed area with ruins of the old mine and a rock mine dump.
 - Agricultural lands in the vicinity of the site.

The combination of these avian habitat types on the property support a

comparatively high avian diversity, with 105 expected or highly likely to occur on site the construction of the development may have adverse avifauna impacts.

- **Fauna-** The wetland on site as well as its buffer zones is good habitats for fauna species. The Endangered Species treat the site as part of their home ranges / territories. There is a possibility that about 9 species of mammals with a Red Data status may occur on the study site. Most of these species include bats, which move over huge distances..

Three of the major habitat types are present on the site, i.e. terrestrial, arboreal and wetlands. The terrestrial habitat of the unbuilt portion consists of very disturbed / transformed Highveld Grassland. The substrate consists of dark-brown compacted soil, mostly imbedded with gravel and even rocks, which presents a challenge to burrowing small mammals such as the

Highveld gerbil. However, it is obvious that the grassland, which was highly disturbed and degraded by the previous mining activities, is now over-utilized by grazing and by regular fires. The terrain has also been subjected to extensive earthworks of a disclosed nature. The wetland habitat-type is formed by a drainage line that originates at the mine dumps; as such the quality of water is suspect. The seasonal drainage has been dammed at places, forming small permanent water bodies supporting dense water vegetation such as Typha and other water plants along their banks. This habitat is less compromised by overuse and abuse although moisture-reliant vegetation is used by grazers. The paltry edge vegetation is susceptible to fires when they are dry at the end on winter.

- The arboreal habitat is formed by alien trees such as palms, poplars, planes, blue gums, pines and wattles. Although the karee trees are indigenous to South Africa, they are alien to the site itself.
- The construction of the development may have adverse ecological impacts (e.g. through the loss of fauna habitats.
- **Hepertofauna:** The local occurrences of reptiles and amphibians are closely

dependent on broadly defined habitat types, in particular terrestrial, arboreal (tree-living), rupicolous (rock-dwelling) and wetland-associated vegetation cover. It is thus possible to deduce the presence or absence of reptile and amphibian species by evaluating the habitat types within the context of global distribution ranges. From a herpetological habitat perspective, it was established that all four major habitats are naturally present on the study site, namely terrestrial, arboreal, rupicolous and wetland-associated vegetation cover. Most of the study site consists of transformed grassland. Some of the natural grassland was transformed for mining activities.

Good natural rupicolous habitat is present as old ruins of the mining infrastructure and the old rock mine dump. An important feature of the study site is the absence of indigenous trees, though many individuals of alien tree species are present. Arboreal habitat is therefore not optimal. There are, however, numerous dead logs which provide shelter for several Hepertofauna species. A small dam occurs on the study site. This water source provides (limited) habitat for some water-dependent Hepertofauna. The construction of the development may have adverse ecological impacts (e.g. through with the loss of habitat).

- **Wetland** -the construction of the development may have adverse ecological impacts (e.g. through with the loss of wetland habitat, fragmentation of the wetland that occurs on the eastern periphery of the study site).
- **Heritage** – A broader study area of approximately 141.53 ha is being considered within which the Mixed Use Development will be constructed. Any developments that will exceed 5000 square meters require a heritage assessment to be undertaken. In addition historical buildings occur on site such as the old electricity substation that may have heritage significance.

8.2 Recommendations

As the activity proposed for development require an environmental authorization, Envirolution Consulting will conduct a streamlined EIA process compliant with the EIA Regulations, 2014 (as amended) for the construction and operation of the Proposed John Dube Ext 3 Township on Portions of Remaining Extent 1 and 83 of the Farm Grootfontein 165 IR, Gauteng Province In order to assess further the potential impacts that are likely to occur on site

The following specialist studies will be required for the Impact Assessment Phase:

- Social
- Vegetation
- Avifauna
- Fauna
- Hepertofauna
- Wetland
- Soils and Rock stockpile Contamination Assessment
- Traffic
- Heritage

Specialists will focus on both the construction and operational impacts that may emanate from the proposed development for this EIA process.

8.3 Way Forward

A copy of the Draft Scoping Report for public as being made available electronically on the following: Drop box link

<https://www.dropbox.com/sh/8afuvjcp2mqyor7/AACiCQU9JV-IF8trFEv2RN5Xa?dl=0>

Upon request, hard copies of the Draft Scoping Report can be emailed to the stakeholders.

The Public Open Day. (No public gathering is allowed due to Covid 19 pandemic and the permitting regulations published by the Minister of Environment Forest and Fisheries on 5th June 2020). Thus no public meeting will held for this project. A virtual meeting via Zoom with the councilor and representative of the Community Forum will be held where required.

The public is invited to review this Draft Scoping Report and send written comment to: **Jubilee Bubala** of Envirolution Consulting by any of the following means:

By Fax: 0861 62 62 22

Email Address: jubilee@envirolutionc.o.za

By Post

Envirolution Consulting (Pty) Ltd

PO Box 1898

Sunning hill, 2157

By Hand:

Vista Place Suite 1a & 2

No 52 Cnr Vorster Avenue & Glen Avenue

Glenanda

Johannesburg

Stakeholders will be provided with a 30-day comment period. For comments to be included in the Final Scoping Report, they must reach the above contact person no later than **31 August 2020**

Issues and concerns identified in the Scoping Phase will assist in focusing the EIA and will be used to refine the ToR for specialist investigations during the Impact Assessment Phase of the EIA process. Stakeholders are therefore urged to submit written comment. Once stakeholders have commented on the information presented in the Scoping Report, it will be finalised and submitted to GDARD.

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Appendices

The following appendices are attached to this report:

Appendix A: Locality Maps

Appendix B: Conceptual Site Plan.

Appendix C: Public Participation Information

- C-1: Site Notice
- C-2: Correspondences to and from I&APs
- C-3: Knock and Drop Register
- C-4: Newspaper Advertisement
- C-5: Interested and Affected Parties Database
- C-6: Correspondences to and from Authorities
- C-7: Minutes of any Public/Stakeholder Meetings (No public gathering is allowed due to Covid 19 pandemic and the permitting regulations published by the Minister of Environment Forest and Fisheries on 5th June 2020). Thus no public meeting will be held for this project. However to ensure impartial stakeholder engagement information gathered during the public meeting undertaken in the initial application that expired will be retrieved as that information is vital.

Appendix D: Other Information.

- D-1 A sworn affidavit by the EAP and Curriculum Vitae for the responsible EAP

