



# BASIC ASSESSMENT FOR THE PROPOSED ELOFFSPARK MIXED USE HOUSING DEVELOPMENT WITHIN CITY OF TSHWANE, GAUTENG PROVINCE.

## DRAFT BASIC ASSESSMENT REPORT

22 June 2018 to 23 July 2018



**COMPILED BY:**  
Enviolution Consulting (Pty) Ltd  
PO Box 1898  
Sunninghill  
Tel: (0861)44 44 99  
Fax: (0861) 62 62 22  
E-mail: [info@enviolution.co.za](mailto:info@enviolution.co.za)  
Website: [www.enviolution.co.za](http://www.enviolution.co.za)

### COPYRIGHT WARNING

With very few exceptions the copyright of all text and presented information is the exclusive property of Enviolution Consulting (Pty) Ltd. It is a criminal offence to reproduce and/or use, without written consent, any information, technical procedure and/or technique contained in this document. Criminal and civil proceedings will be taken as a matter of strict routine against any person and/or institution infringing the copyright of Enviolution Consulting (Pty) Ltd.



Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1)

---

**Kindly note that:**

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
  2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
  3. A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.
  4. A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.
  5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
  6. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
  7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
  8. An incomplete report may lead to an application for environmental authorisation being refused.
  9. **Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.**
  10. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation being refused.
  11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
  12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
  13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.
-

**DEPARTMENTAL DETAILS**

Gauteng Department of Agriculture and Rural Development  
Attention: Administrative Unit of the of the Environmental Affairs Branch  
P.O. Box 8769  
Johannesburg  
2000

Administrative Unit of the of the Environmental Affairs Branch  
Ground floor Diamond Building  
11 Diagonal Street, Johannesburg

Administrative Unit telephone number: (011) 240 3377  
Department central telephone number: (011) 240 2500

(For official use only)

NEAS Reference Number:						
File Reference Number:						
Application Number:						
Date Received:						

If  
this  
BAR  
has  
not

been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

**Not Applicable**

Is a closure plan applicable for this application and has it been included in this report?

**No**

if not, state reasons for not including the closure plan.

**There are currently no plans to decommission**

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity?

**No**

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person?

**Yes**

**Refer to Appendix E9 – IAP Register**

If no, state reasons for not attaching the list.

**Not Applicable**

Have State Departments including the competent authority commented?

**N/A**

If no, why?

**This information will be available after DBAR has been reviewed**

---

## PROJECT DETAILS

---

**Title** : Environmental Impact Assessment Process  
The proposed Eloffspark Mixed Use Developments in the City of Tshwane Metropolitan Municipality, Gauteng Province

**Report compiled by** : Company Name: Envirolution Consulting  
Contact person: Mr Thabang Sekele  
Postal Address: P.O.Box 1898, Sunninghill, 2157  
Telephone Number: 0861 44 44 99  
Fax Number: 0861 62 62 22  
Email: [thabang@envirolution.co.za](mailto:thabang@envirolution.co.za)

**Applicant** : Housing Development Agency (HDA)

**Report Status** : Draft Basic Assessment Report for Public Review

**Review period** : **The 30-day period for review is from**

**22 June 2018 to 23 July 2018**

**TABLE OF CONTENTS**

<b>PROJECT DETAILS</b> .....	1
<b>TABLE OF CONTENTS</b> .....	2
<b>LIST OF APPENDICES:</b> .....	3
<b>PUBLIC REVIEW OF THE DRAFT BASIC ASSESSMENT REPORT</b> .....	1
<b>SECTION A: ACTIVITY INFORMATION</b> .....	2
1. PROPOSAL OR DEVELOPMENT DESCRIPTION.....	2
2. APPLICABLE LEGISLATION, POLICIES AND / OR GUIDELINES.....	8
3. ALTERNATIVES .....	13
4. PHYSICAL SIZE OF THE ACTIVITY .....	21
5. SITE ACCESS.....	22
6. LAYOUT OR ROUTE PLAN.....	22
7. SITE PHOTOGRAPHS.....	23
8. FACILITY ILLUSTRATION.....	24
<b>SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT</b> .....	25
1. PROPERTY DESCRIPTION .....	26
2. ACTIVITY POSITION .....	26
3. GRADIENT OF THE SITE .....	26
4. LOCATION IN LANDSCAPE .....	27
5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE .....	27
6. AGRICULTURE.....	30
7. GROUNDCOVER .....	30
Overview of historic vegetation type .....	35
8. LAND USE CHARACTER OF SURROUNDING AREA.....	39
9. SOCIO-ECONOMIC CONTEXT .....	41
10. CULTURAL/HISTORICAL FEATURES .....	45
<b>SECTION C: PUBLIC PARTICIPATION (SECTION 41)</b> .....	46
1. THE ENVIRONMENTAL ASSESSMENT PRACTITIONER MUST CONDUCT PUBLIC PARTICIPATION PROCESS IN ACCORDANCE WITH THE REQUIREMENT OF THE EIA REGULATIONS, 2014.....	46
2. LOCAL AUTHORITY PARTICIPATION.....	46
3. CONSULTATION WITH OTHER STAKEHOLDERS.....	46
4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS.....	46
5. APPENDICES FOR PUBLIC PARTICIPATION.....	47
<b>SECTION D: RESOURCE USE AND PROCESS DETAILS</b> .....	48
1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT .....	48
2. WATER USE.....	50
3. POWER SUPPLY .....	51
4. ENERGY EFFICIENCY .....	51
<b>SECTION E: IMPACT ASSESSMENT</b> .....	52
1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES .....	52
2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE ...	52
2.1 IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE.....	55
2.2 IMPACTS THAT MAY RESULT FROM THE OPERATION PHASE.....	66
NO GO OPTION .....	74
3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE.....	76
4. CUMULATIVE IMPACTS .....	76
5. IMPACT SUMMARY OF THE PROPOSAL AND ALTERNATIVE .....	77
6. ENVIRONMENTAL IMPACT STATEMENT .....	79

<b>7. SPATIAL DEVELOPMENT TOOLS</b> .....	82
<b>8. RECOMMENDATION OF THE PRACTITIONER</b> .....	83
<b>9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT</b> ( <i>as per notice 792 of 2012</i> , .....	84
<b>10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED</b> (Consider when the activity is expected to be concluded) .....	86
<b>11. THE PERIOD ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)</b> .....	86
<b>SECTION F: APPENDICES</b> .....	87

---

**LIST OF APPENDICES:**

---

**Appendix A: Site plan(s)**

- Appendix A1: Locality Map
- Appendix A2: Sensitivity Maps
- Appendix A3: Layout Plan (overlain on site sensitivity)

**Appendix B: Photographs**

**Appendix C: Facility illustration(s) (N/A)**

**Appendix D: Route position information (N/A)**

**Appendix E: Public participation information**

- Appendix E1: Proof of site notice
- Appendix E2: Proof of Stakeholder Notifications
- Appendix E3: Proof of newspaper advertisements
- Appendix E4: Authority Consultation
- Appendix E5 – Minutes of any public and/or stakeholder meetings
- Appendix E6 - Comments and Responses Report
- Appendix E7 –Comments from I&APs on Draft Basic Assessment (BA) Report
- Appendix E8 –Comments from I&APs on amendments to the BA Report (N/A)
- Appendix E9 - I&APs and Registered I&APs Database
- Appendix E10 – Comments from I&APs on the application

**Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information**

**Appendix G: Specialist reports**

- Appendix G1: Vegetation Assessment
- Appendix G2 - Wetland Assessment
- Appendix G3 - Fauna Assessment
- Appendix G4 - Heritage Assessment

**Appendix H: EMPr**

**Appendix I: Other information**

- Appendix I1 - EAP's expertise
- Appendix I2 - EAPs Affirmation
- Appendix I3 - Specialists Expertise
- Appendix I4 - Market study
- Appendix I5 - CoT Inner City Abridged Strategy
- Appendix I6 - Geotechnical report

- Appendix I7 - SG Diagram



## **PUBLIC REVIEW OF THE DRAFT BASIC ASSESSMENT REPORT**

---

The Draft Basic Assessment Report (BAR) has been prepared by Enviroolution Consulting (Pty) Ltd in order to assess the potential environmental impacts associated with the proposed Eloffspark Mixed Use Developments project. The report is made available for public review for 30-day review period from **22 June 2018 to 23 July 2018 at the following places:**

- **Mayville Library**

In order to obtain further information, register on the project database or submit your written comment to:

### **Environmental Assessment Practitioner**

Name: Thabang Sekele  
Physical Address: Vista Place, Suite 1a & 2, No 52,  
Cnr Vorster Avenue & Glen Avenue,  
Glenanda  
Postal Address: PO Box 1898, Sunninghill, 2157  
Telephone Number: (0861) 44 44 99  
Fax Number: (0861) 62 62 22  
E-mail: [thabang@enviroolution.co.za](mailto:thabang@enviroolution.co.za)

**The due date for comments on the Draft Basic Assessment Report is 23 July 2018**

## SECTION A: ACTIVITY INFORMATION

### 1. PROPOSAL OR DEVELOPMENT DESCRIPTION

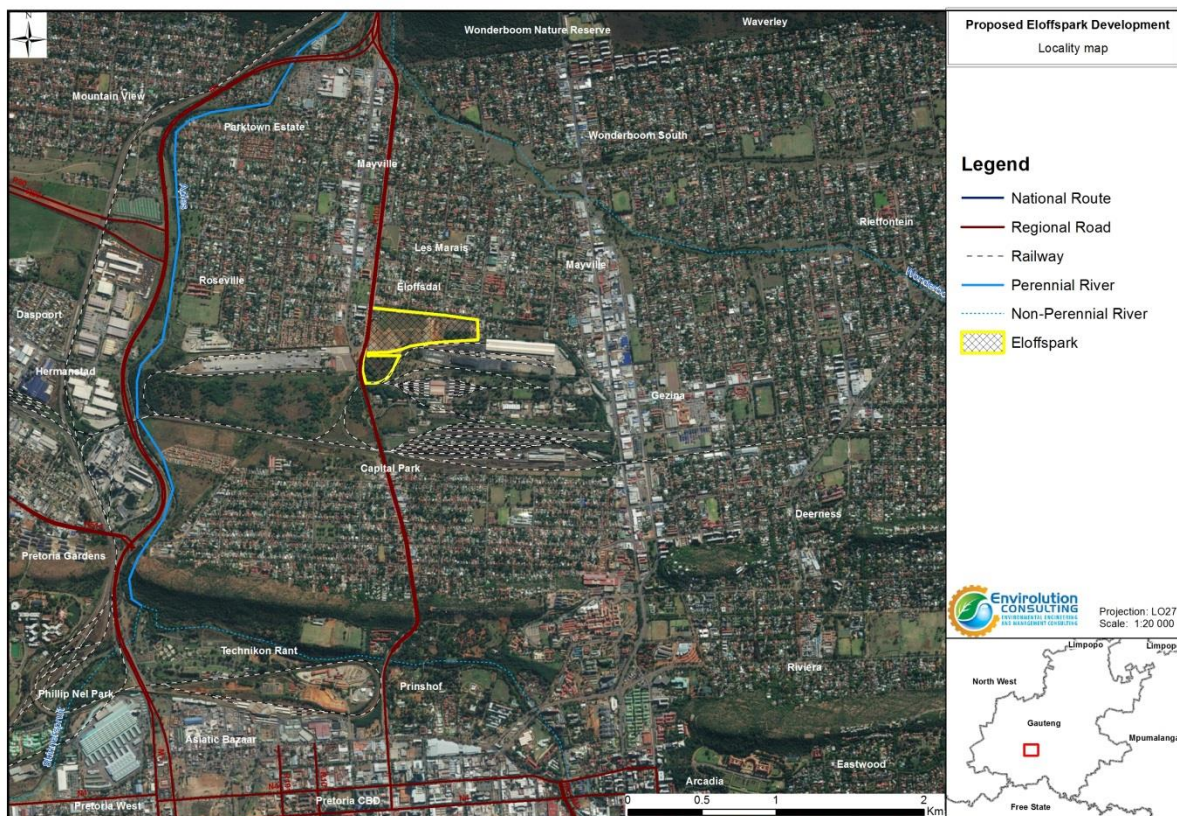
**Project title (must be the same name as per application form):**

#### 1.1 Project Title

The proposed Eloffspark Mixed Use Development in the City of Tshwane Metropolitan Municipality, Gauteng Province

#### 1.2 Project Background

Envirolution Consulting was appointed by Triviron Project Management (Pty) Ltd on behalf of Housing Development Agency (HDA) to undertake a Basic Assessment process for the proposed Eloffspark Mixed Use Development within the City of Tshwane Metropolitan Municipality (refer to Figure 1). The proposed development footprint of the site is approximately 19 hectares (ha) and is located on Remaining Extent of Farm Eloffspark 772 JR immediately east of the R101 (Mainsfield Avenue), and south of Franzina Street. Various land uses including residential units, medical facility, day care centre, library, community multipurpose hall, plaza and police offices are proposed, and will be referred to as “Mixed Used Development” in this report.



**Figure 1:** Locality map showing the proposed developable area for the Eloffspark mixed used development (refer to **Appendix A** for maps).

The site is located about 4.5 km north of the Pretoria CBD within the City of Tshwane Municipality in the township of Eloffsdal. The site forms part of Region 3 (Ward 53) of the city. The site is currently being used for various purposes by a trucking company, car dealership and a plant nursery.

The HDA proposed to establish the mixed use housing development on an approximate total developable area of 19 ha that is the site extent. The site is also planned to accommodate mobile network communication mast in the area of the development. The proposed development of the Eloffspark 772 JR as a project will contribute to the development of an integrated human settlement project as an inner-city property.

The proposed development will entail:

- Commercial buildings that are grouped in a central commercial hub.
- No mixed use buildings.
- Basement or first floor parking in commercial and specific buildings only.
- Buildings are orientated north facing.
- More than 4 storeys.
- Commercial, social, affordable and students accommodations are separate and in designated zones.

**Green zones:**

- Green zones are centralised on traffic nodes throughout the estate and are communal.
- Green zones each have individual character.

**Community amenities:**

- Medical facility.
- Day care centre.
- Community hall.
- Sub Branch Police Station.
- Post Office

**Commercial amenities:**

- Office space to let
- Private medical suites
- Estate agents
- Estate management office

### **1.3 Motivation for proposed development**

The Integrated Development Plan addressed by the City of Tshwane Metropolitan Municipality for 2016/2017 to 2021, the spatial transformation goals have been set as:

- Improved mobility and connectivity through integrated public transport systems and infrastructure investment.
- Structural reform and modernising of the inner city and other nodes.
- Promotion of mixed-used transit orientated development along corridors and economic nodes.
- Creation of liveable neighbourhoods and functioning nodes through social and infrastructure investment.

The objectives for sustainable human settlements that are accessible and liveable are as follows:

**Objective 1: Provision of quality services and infrastructure**

- Eradicate services backlog;
- Meet and exceed national set standards and requirements for the provision of quality services such as water, waste management and energy;
- Develop and implement infrastructure life-cycle approach to planning and budgeting towards the provision of reliable and quality services and infrastructure;
- Collaboration with our stakeholders to ensure affordability and efficiency in services provided through innovation and research.

**Objective 2: Functional and sustainable human settlements**

- Eradication of informal settlements
- Support of transit-oriented development through densification and compaction practices which is supported by the relevant infrastructure;
- Promoting access to a wide variety of housing typologies which meets the demand for the diverse citizens. Emphasis will be placed on promoting social housing within proximity to economic centres and functional public transport routes. The 2030 target is that 80% of housing developments should be within existing or planned economic centres;
- Respond to build environment service delivery standards for the disabled and other marginalised;
- Improve pedestrian mobility within the inner city and other active nodal developments.

**Objective 3: Promoting safe, reliable and affordable transportation system**

- The rollout and expansion of the A Re Yeng Bus Rapid Transit System in the short term and increase the ridership towards sustainable operation of the bus company;
- Align rail, road and air transportation within the City and within the city-region;
- Invest in freight and logistics infrastructure to promote the economic role of transportation;
- Collaborate with transport service providers and users to create a safe transportation economic sector and responsible use of our network and infrastructure.

The proposed development bodes well with the objectives for sustainable human settlements as the development will promote different housing typologies for various income categories. The proposed development is also close to a rail and road (BRT) transportation.

The proposed development will cater to residents living in informal settlements and create liveable residential units that will be part of infrastructure investment; this will create a reduction in informal settlement, for people who live there will move to the affordable housing units proposed.

**1.4 Requirement for a Basic Assessment Process**

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 GNR 982 to R985 (as amended 07 April 2017 (GNR 326)),

a Basic Assessment process is required for the proposed project. **Table 1** contains the listed activities in terms of the EIA Regulations and includes a description of those project activities which relate to the applicable listed activities.

**Table 1:** Listed Activities applied for to be authorised.

Listed activities	Description of project activity that triggers listed activity
<p><b>GR 985 Listing Notice 3, Activity 12(c) (ii)</b></p> <p>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) In Gauteng</p> <p>ii. Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans.</p>	<p>The proposed development will entail clearance of an area of 300 square metres or more of indigenous vegetation in Gauteng within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans.</p>
<p><b>GR 985 Listing Notice 3, Activity 3(b)(c)(iv)</b></p> <p>The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower—</p> <p>(a) will exceed 15 metres in height—</p> <p>but excluding attachments to existing buildings and masts on rooftops.</p> <p>(b) In Gauteng</p> <p>(iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans</p>	<p>The site is planned to accommodate a Mobile Network Communication mast in the area of the development. The mast will exceed 15 metres in height.</p>

The above listed activities have triggered the need for a Basic Assessment process, these activities may not commence without an environmental authorisation from the Gauteng Department of Agriculture and Rural Development (GDARD). The aim of the Environmental Impact Assessment is to ensure that:

- The potential environmental impacts associated with the proposed project are taken into consideration
- Public Participation Process is conducted i.e. to afford any Interested and or Affected parties (I&AP) sufficient opportunity: to provide comments
- Sufficient information is provided to decision markers in order to ensure an informed decision making.

The nature and extent of the proposed project are explored in more detail in this Basic Assessment Report. This report has been compiled in accordance with the requirements of the EIA Regulations and includes details of the activity description; the site, area and property description; the public participation process; the impact assessment; and the recommendations of the Environmental Assessment Practitioner.

### **1.5 Details of Environmental Assessment Practitioner and Expertise to conduct the Basic Assessment**

Envirolution Consulting (Pty) Ltd was contracted as the independent environmental consultants to undertake the Environmental Basic Assessment Process for the proposed project. Envirolution 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. Envirolution 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 Envirolution 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.

The EAPs from Envirolution Consulting who are responsible for this project are (refer to **Appendix I** for CV's):

Mr. Thabang Sekele forms part of the project team and acts as the Project Manager for all phases of the project. Thabang holds a Bachelor's degree in Environmental Management from the University of South Africa. Thabang's key focus is on strategic environmental assessment and advice; management and co-ordination of environmental projects, which include integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; environmental auditing and compliance reporting; the identification of environmental management solution and mitigation/risk minimising measures; environmental auditing, monitoring and reporting compliance. Thabang is currently an Environmental Consultant at Envirolution Consulting (Pty) Ltd.

Gesan Govender, the project manager and Environmental Assessment Practitioner (EAP) responsible for this project, is a registered Professional Natural Scientist 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.

Select the appropriate box

The application is for an upgrade of an existing development  The application is for a new development  Other, specify

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES  NO

If yes, describe the legislation and the Competent Authority administering such legislation

The site is located within a 500 m radius from the delineated boundary (extent) of any watercourse. Therefore activities within 500m from the watercourse triggers section 21 c and i of the NWA and requires a WULA for following specific water uses:

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

It is for such reasons that a Water Use License has to be undertaken for the development.

If yes, have you applied for the authorisation(s)?

YES <input checked="" type="checkbox"/>	NO
YES	NO <input checked="" type="checkbox"/>

If yes, have you received approval(s)? (attach in appropriate appendix)

The Department of Water affairs and Sanitation (DWS) are on the project database and have been notified of this development, and the intention to submit a WULA to them. The application for water use license will be submitted to the Department of Water affairs and Sanitation (DWS) in parallel with the submission of the FBAR to GDARD.

Note that timeframes for obtaining a WUL from DWS is not specified in the GDARD.

## 2. APPLICABLE LEGISLATION, POLICIES AND / OR GUIDELINES

**Table 2:** List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

<u>Title of legislation, policy or guideline (Promulgation Date)</u>	<u>Applicable Requirements</u>	<u>Administering Authority</u>	<u>Description of compliance</u>
<b>National</b>			
National Environmental Management Act (Act No. 107 of 1998)	<ul style="list-style-type: none"> <li>» NEMA requires, inter alia, that:               <ul style="list-style-type: none"> <li>* Development must be socially, environmentally, and economically sustainable.”</li> <li>* Disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied.”</li> <li>* A risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions.”</li> </ul> </li> <li>» EIA Regulations have been promulgated in terms of Chapter 5. Activities which may not commence without an environmental authorisation are identified within these Regulations.</li> <li>» 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 authorisation.</li> </ul>	<ul style="list-style-type: none"> <li>» National Department of Environmental Affairs</li> <li>» Gauteng Department of Agriculture and Resource Development</li> </ul>	<ul style="list-style-type: none"> <li>» In terms of sections 24(2) and 24D of the National Environmental Management Act (No 107 of 1998), as read with the EIA Regulations 2014 of GN R983 and R985; a Basic Assessment process is required to be undertaken for the proposed project.</li> </ul>
National Environmental Management Act (Act No. 107 of 1998)	<ul style="list-style-type: none"> <li>» A project proponent is required to consider a project holistically and to consider the cumulative effect of potential impacts.</li> </ul>	<ul style="list-style-type: none"> <li>» National Department of Environmental Affairs</li> <li>» Gauteng Department of Agriculture</li> </ul>	<ul style="list-style-type: none"> <li>» While no permitting or licensing requirements arise directly, the holistic consideration of the potential impacts of the</li> </ul>



Title of legislation, policy or guideline (Promulgation Date)	Applicable Requirements	Administering Authority	Description of compliance
	<ul style="list-style-type: none"> <li>» In terms of the Duty of Care provision in S28(1) the project proponent must ensure that reasonable measures are taken throughout the life cycle of this project to ensure that any pollution or degradation of the environment associated with a project is avoided, stopped or minimised.</li> </ul>	and Resource Development	<p>proposed project has found application in the EIA Phase.</p> <ul style="list-style-type: none"> <li>» The implementation of mitigation measures are included as part of the Draft EMPr and will continue to apply throughout the life cycle of the project.</li> </ul>
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	<ul style="list-style-type: none"> <li>» The Minister may by notice in the Gazette publish a list of waste management activities that have, or are likely to have, a detrimental effect on the environment.</li> <li>» In terms of the regulations published in terms of this Act (GN 921 of November 2013), a Basic Assessment or Environmental Impact Assessment is required to be undertaken for identified listed activities.</li> <li>» Any person who stores waste must at least take steps, unless otherwise provided by this Act, to ensure that <ul style="list-style-type: none"> <li>(a) The containers in which any waste is stored, are intact and not corroded or in any other way rendered unfit for the safe storage of waste;</li> <li>(b) Adequate measures are taken to prevent accidental spillage or leaking;</li> <li>(c) The waste cannot be blown away;</li> <li>(d) Nuisances such as odour, visual impacts and breeding of vectors do not arise; and</li> <li>(e) Pollution of the environment and harm to health are prevented.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>» National Department of Environmental Affairs (hazardous waste)</li> <li>» Gauteng Department of Agriculture and Resource Development (general waste)</li> </ul>	<ul style="list-style-type: none"> <li>» In terms of GNR921, no waste license is required for the project</li> <li>» Waste handling, storage and disposal during construction and operation is required to be undertaken in accordance with the requirements of this Act, as detailed in the applicable EMPr, as well as in accordance with the relevant Norms and Standards.</li> </ul>
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	<ul style="list-style-type: none"> <li>» S18, S19 and S20 of the Act allow certain areas to be declared and managed as "priority areas".</li> <li>» Dust control regulations promulgated in November 2013 may require the implementation of a dust management plan.</li> </ul>	<ul style="list-style-type: none"> <li>» National Department of Environmental Affairs</li> <li>» Ekurhuleni Metropolitan Municipality</li> </ul>	<ul style="list-style-type: none"> <li>» Reporting in terms of compliance to GNR831 will be required.</li> <li>» While no permitting or licensing requirements arise from this legislation, this Act will find application during the</li> </ul>

Title of legislation, policy or guideline (Promulgation Date)	Applicable Requirements	Administering Authority	Description of compliance
			construction phase of the project. The Air Emissions Authority (AEL) may require the compilation of a dust management plan.
National Water Act (Act No. 36 of 1998)	<ul style="list-style-type: none"> <li>» Under S21 of the Act, water uses must be licensed unless such water use falls into one of the categories listed in S22 of the Act or falls under the general authorisation.</li> <li>» In terms of S19, 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.</li> </ul>	<ul style="list-style-type: none"> <li>» National Department of Water Affairs</li> <li>» Gauteng Department of Agriculture and Resource Development</li> </ul>	<ul style="list-style-type: none"> <li>» the proposed development requires a Water Use License as per the following regulations: <ul style="list-style-type: none"> <li>• Section 21(c): impeding or diverting the flow of water in a watercourse and;</li> <li>• Section 21 (i): altering the bed, banks, course or characteristics of a watercourse.</li> </ul> </li> <li>» Requirements set by S19 will apply throughout the life-cycle of the project.</li> </ul>
Environment Conservation Act (Act No. 73 of 1989)	<ul style="list-style-type: none"> <li>» National Noise Control Regulations (GN R154 dated 10 January 1992)</li> </ul>	<ul style="list-style-type: none"> <li>» National Department of Environmental Affairs</li> <li>» Gauteng Department of Agriculture and Resource Development</li> <li>» Local Authorities</li> </ul>	There is no requirement for a noise permit in terms of the legislation.
National Heritage Resources Act (Act No. 25 of 1999)	<ul style="list-style-type: none"> <li>» S38 states that Heritage Impact Assessments (HIAs) are required for certain kinds of development including: <ul style="list-style-type: none"> <li>» The construction of a road, powerline, pipeline, canal or other similar linear development or barrier exceeding 300 m in length;</li> <li>» Any development or other activity which will change the character of a site exceeding 5 000 m<sup>2</sup> in extent</li> </ul> </li> <li>» The relevant Heritage Authority must be notified of developments such as linear developments (i.e. roads and power lines), bridges exceeding 50 m, or any development or other activity which will change the</li> </ul>	<ul style="list-style-type: none"> <li>» South African Heritage Resources Agency</li> </ul>	<ul style="list-style-type: none"> <li>» The proposed development exceeds 5 000 m<sup>2</sup> in extent</li> <li>» Heritage Assessment has been undertaken as part of this Basic Assessment (refer to <b>Appendix G3</b>).</li> <li>» Due to the density of the urban development in the region, it is very unlikely that any sites or features dating to the pre-colonial history of the region would still exist in the study area. However, isolated objects such as Stone Age artefacts might be exposed in areas close to stream beds.</li> </ul>

Title of legislation, policy or guideline (Promulgation Date)	Applicable Requirements	Administering Authority	Description of compliance
	<p>character of a site exceeding 5 000 m<sup>2</sup>; or the rezoning of a site exceeding 10 000 m<sup>2</sup> in extent. This notification must be provided in the early stages of initiating that development, and details regarding the location, nature and extent of the proposed development must be provided.</p> <p>» Stand-alone HIAs are not required where an EIA is carried out as long as the EIA contains an adequate HIA component that fulfils the provisions of S38. In such cases only those components not addressed by the EIA should be covered by the heritage component.</p>		<p>» Some smaller, informal burial sites occur in the larger region, but would not be impacted on by the proposed development.</p> <p>» Should heritage features, archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.</p>
National Environment Management Protected Areas Act, 2003 (Act No. 57 of 2003).	<p>» 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</p>	<p>» National Department of Environmental Affairs</p>	<p>» Ecologist specialists were appointed to determine any critical biodiversity areas. No permitting requirements were triggered by the activities.</p>
Conservation of Agricultural Resources Act (Act No 43 of 1983).	<p>Regulation 15 of GNR1048 provides for the declaration of weeds and invader plants, and these are set out in Table 3 of GNR1048. Declared Weeds and Invaders in South Africa are categorised according to one of the following categories:</p> <p>» <u>Category 1 plants</u>: are prohibited and must be controlled.</p> <p>» <u>Category 2 plants</u>: (commercially used plants) may be grown in demarcated areas providing that there is a permit and that steps are taken to prevent their spread.</p> <p>» <u>Category 3 plants</u>: (ornamentally used plants) may no longer be planted; existing plants may remain, as long as all reasonable steps are taken to prevent the</p>	<p>» Department of Agriculture, Forestry and Fisheries (DAFF)</p>	<p>» An alien species management plan to be included in the requirements of the EMPr.</p>

Title of legislation, policy or guideline (Promulgation Date)	Applicable Requirements	Administering Authority	Description of compliance
	spreading thereof, except within the floodline of watercourses and wetlands.		
<b>Provincial</b>			
The Gauteng Conservation Plan (Version 3.3) (GDARD, 2011)	» The plan has classified areas within the province on the basis of its contribution to reach the conservation targets within the province. Critical Biodiversity Areas (CBAs) contain irreplaceable, important and protected areas (terms used in C-Plan 2) and are areas needed to reach the conservation targets of the Province. In addition 'Ecological Support Areas' (ESAs), mainly around riparian areas and other movement corridors were also classified to ensure sustainability in the long term. Landscape features associated with ESAs is essential for the maintenance and generation of biodiversity in sensitive areas and requires sensitive management where incorporated into C-Plan 3.	» Gauteng Department of Agriculture and Resource Development	On the study site, the sections associated with the watercourse are classified while the rest of the areas remain unclassified. The areas associated with the watercourse are classified as Ecological Support Areas

### 3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not include the no go option into the alternative table below.**

**Note:** After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Please describe the process followed to reach (decide on) the list of alternatives below

Provide a description of the alternatives considered

**Table 3:** Description of the alternatives considered

<b>Alternative type</b> , either alternative: site on property, properties, activity, design, technology, energy, operational or other (provide details of "other")	<b>Description</b>
<b>Design Layout alternatives</b>	<p>Proposed site: <b>Remaining Extent of Farm Eloffspark 772 JR.</b></p> <p><b>No further site alternatives other than the abovementioned site have been investigated for the proposed development for the following reasons:</b></p> <ul style="list-style-type: none"> <li>• The Housing Development Agency (HDA) is a national public sector development agency that acquires and prepares land as well as develops the land.</li> <li>• The site property of the proposed development belongs to the Applicant (the HDA). No other site is available within the Eloffspark area belonging to HDA for the intended purpose of the proposed housing development.</li> <li>• The property where the proposed development is located is readily available.</li> </ul>

- The site is also planned to accommodate mobile network communication mast in the area of the development.
- The Eloffspark development site is located within an area identified as a development node by the City of Tshwane IDP.

With above taken into consideration, it is concluded that only one site is deemed feasible and practicable for the proposed development.

**Proposed Design Layout Alternative 1:**

**Proposed Design Layout Alternative 1:**



**Figure 2:** Design Layout Alternative 1 design (refer to Appendix C full layout design).

The Design Layout Alternative 1 description is detailed as follows –

**Access:**

No main entrance gate, traffic flows freely off the grid from the surrounding suburbs.

**Security:**

No overall boundary fence estate is open. Security is decentralized and located at the entrance to each erf.

**Layout and Design:**

- Commercial buildings are grouped in a central commercial hub.
- No mixed use buildings.
- Basement or first floor parking in commercial and specific buildings only.
- Buildings are orientated north facing.
- More than 4 storeys.
- Commercial, social, affordable and students accommodation are separate and in designated zones.

	<p><b>Ownership:</b></p> <ul style="list-style-type: none"> <li>• Sectional title deeds - site divided into separate erf's.</li> <li>• Each estate has its own owner or ownership is divided into portions of the estate.</li> </ul> <p><b>Green zones:</b></p> <ul style="list-style-type: none"> <li>• Green zones are centralised on traffic nodes throughout the estate and are communal.</li> <li>• Green zones each have individual character.</li> </ul> <p><u>COMMUNITY AMENITIES:</u></p> <ul style="list-style-type: none"> <li>• Medical facility.</li> <li>• Day care centre.</li> <li>• Community hall.</li> <li>• Sub Branch Police Station.</li> <li>• Post Office</li> </ul> <p><u>COMMERCIAL AMENITIES:</u></p> <ul style="list-style-type: none"> <li>• Office space to let</li> <li>• Private medical suites</li> <li>• Estate agents</li> <li>• Estate management office</li> </ul> <p><b>Proposed Design Layout Alternative 1 is the preferred option in view of site dynamics, market realities. Also, the preference of <u>Proposed Design Layout Alternative 1</u> is based on the requirements of the applicant (HDA) in regards to the existing plans and budget put in place for the implementation of the Eloffspark mixed use housing project.</b></p>
<p><b>Design Layout Alternative 2:</b></p>	<p><b>Design Layout Alternative 2:</b></p>

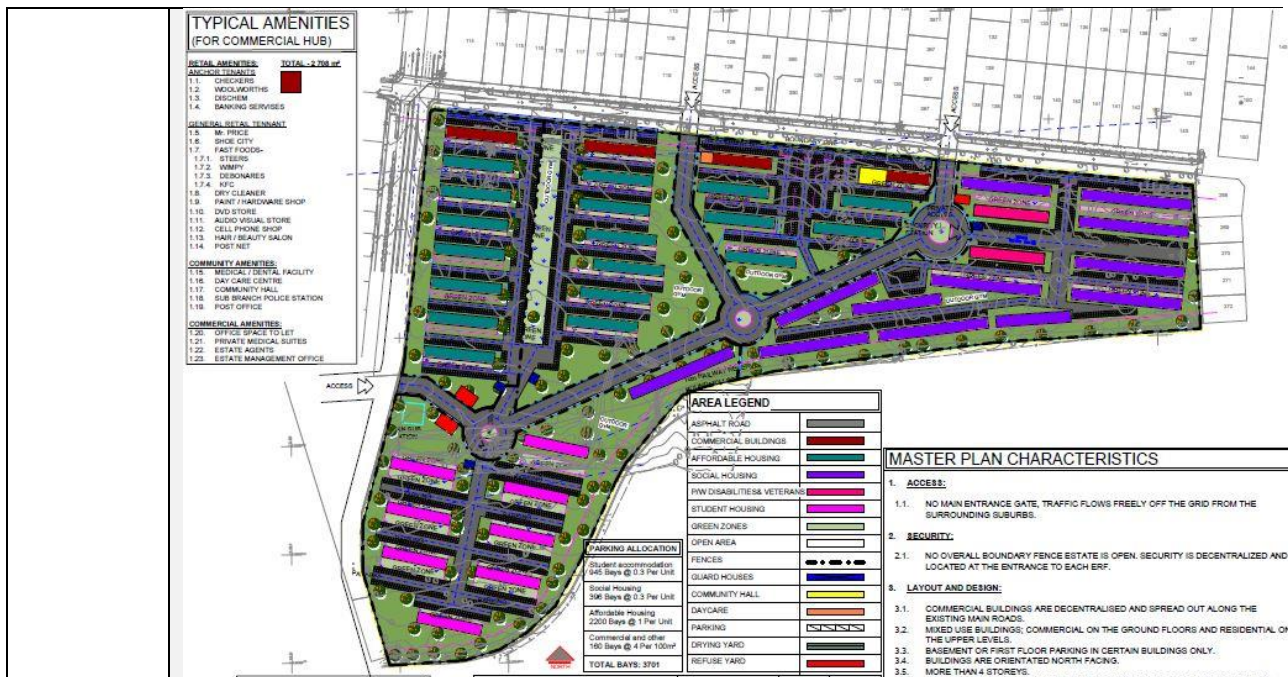


Figure 3: Design Layout Alternative 2 design (refer to Appendix C full layout design).

The Design Layout Alternative 2 description is detailed as follows -

**Access:**

No main entrance gate, traffic flows freely off the grid from the surrounding suburbs.

**Security:**

No overall boundary fence estate is open. Security is decentralized and located at the entrance to each erf.

**Layout and Design:**

- Commercial buildings are decentralised and spread out along the existing main roads.
- Mixed use buildings; commercial on the ground floors and residential on the upper levels.
- Basement or first floor parking in certain buildings only.
- Buildings are orientated north facing.
- More than 4 storeys.
- Social / affordable and students accommodation are separate and in designated zones.
- The site is also planned to accommodate mobile network communication mast in the area of the development.

**Ownership:**

- Sectional title deeds - site divided into separate erfes.
- Each estate has its own owner or ownership is divided into portions of the estate.

**Green zones:**

- Green zones are spread out throughout the complex, decentralised on each estate.
- Green zones in each estate have individual character.



**COMMUNITY AMENITIES:**

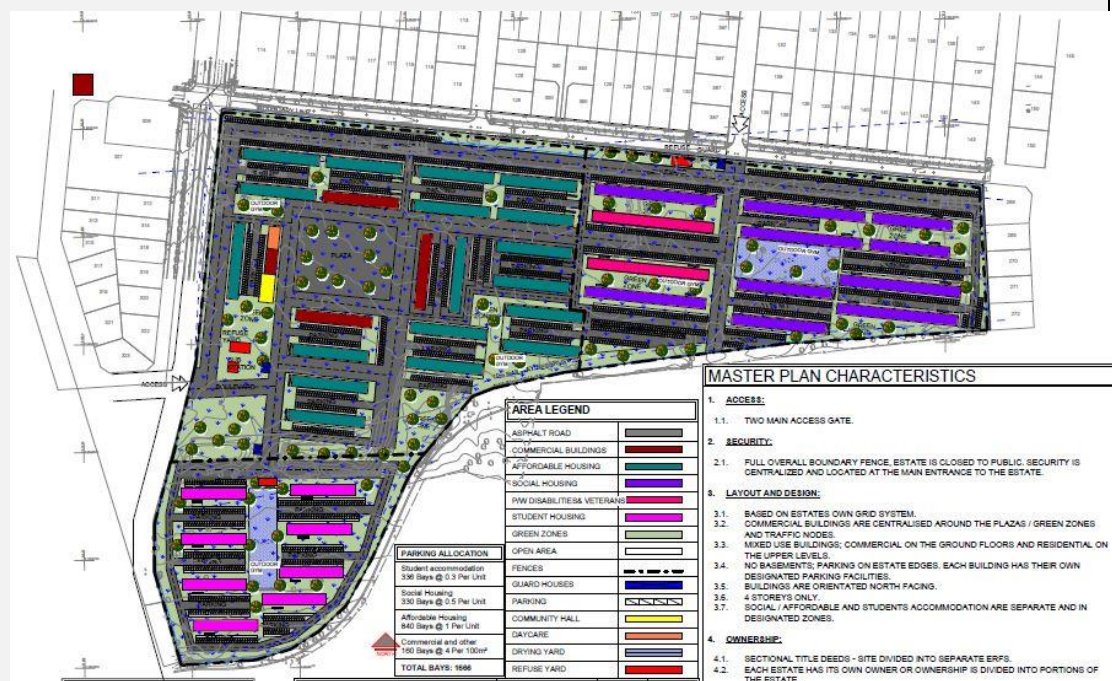
- Medical / Dental facility .
- Day care centre.
- Community hall.
- Sub Branch Police Station.
- Post Office

**COMMERCIAL AMENITIES:**

- Office space to let
- Private medical suites
- Estate agents
- Estate management office

**Design Layout Alternative 3:**

**Design Layout Alternative 3:**



**Figure 4:** Design Layout Alternative 2 (refer to Appendix C full layout design)

The Design Layout Alternative 2 description is detailed as follows –

**Access:**

Two main access gates.

**Security:**

Full overall boundary fence, estate is closed to public. Security is centralized and located at the main

	<p>entrance to the estate.</p> <p><b>Layout and Design:</b></p> <ul style="list-style-type: none"> <li>• Based on estates own grid system.</li> <li>• Commercial buildings are centralised around the plazas / green zones and traffic nodes.</li> <li>• Mixed use buildings; commercial on the ground floors and residential on the upper levels.</li> <li>• No basements; parking on estate edges. Each building has their own designated parking facilities.</li> <li>• Buildings are orientated north facing.</li> <li>• Four (4) storeys only.</li> <li>• Social / affordable and students accommodation are separate and in designated zones.</li> <li>• The site is also planned to accommodate mobile network communication mast in the area of the development.</li> </ul> <p><b>Ownership:</b></p> <ul style="list-style-type: none"> <li>• Sectional title deeds - site divided into separate erf's.</li> <li>• Each estate has its own owner or ownership is divided into portions of the estate.</li> </ul> <p><b>Green zones:</b></p> <ul style="list-style-type: none"> <li>• Green zones are centralised on traffic nodes throughout the estate and are communal.</li> <li>• Green zones each have individual character.</li> </ul> <p style="text-align: center;"><u>AMENITIES IN COMMERCIAL BUILDINGS</u></p> <p>4x GF BUILDINGS @ 677.40m<sup>2</sup> (TOTAL 2709.60m<sup>2</sup>)</p> <ul style="list-style-type: none"> <li>• Medical facility.</li> <li>• Day care centre.</li> <li>• Library.</li> <li>• Community multi purpose hall.</li> <li>• Police office.</li> </ul>
<p><b>Design Layout Alternative 4:</b></p>	<p style="text-align: center;"><b>Design Layout Alternative 4:</b></p>

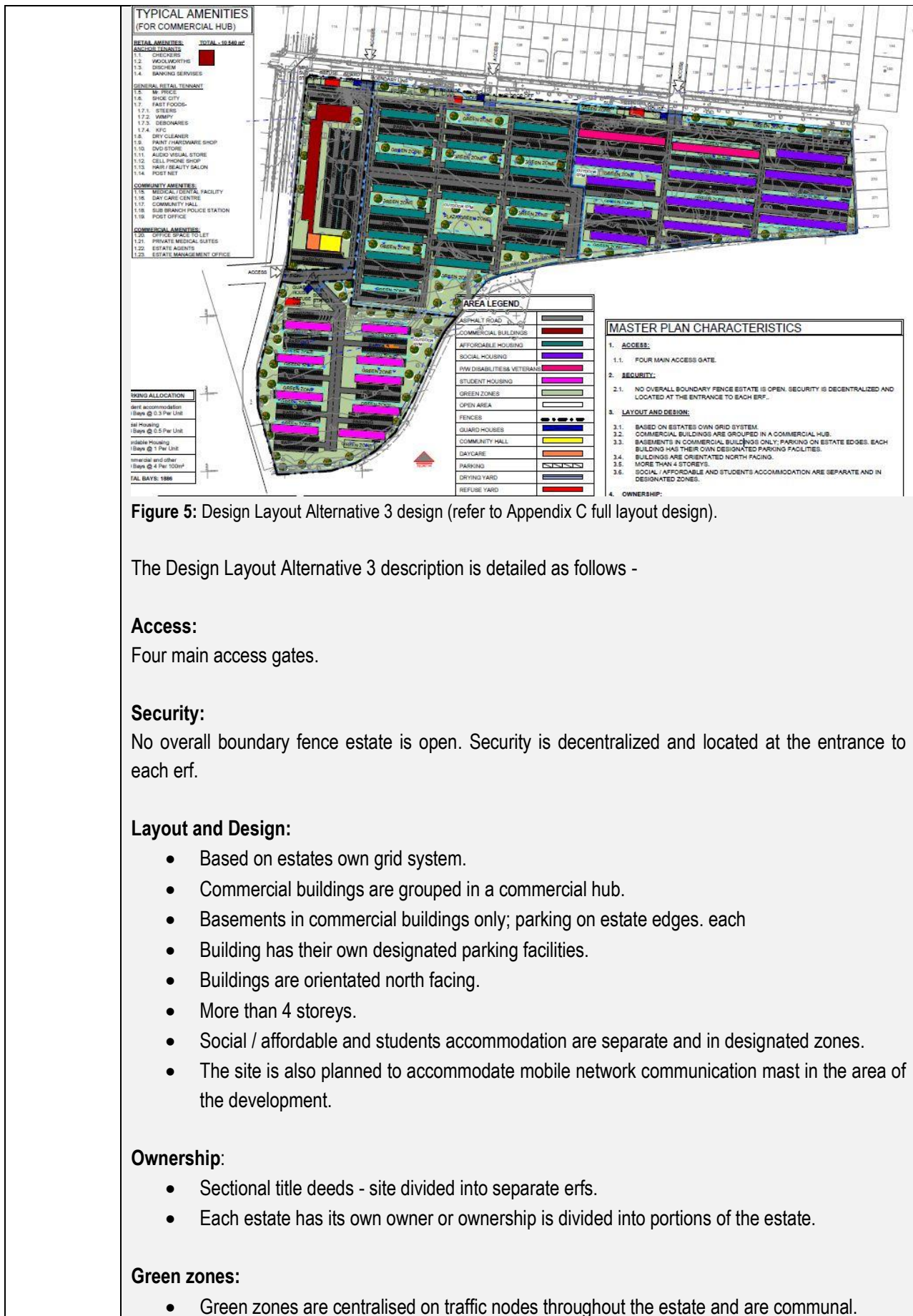


Figure 5: Design Layout Alternative 3 design (refer to Appendix C full layout design).

The Design Layout Alternative 3 description is detailed as follows -

**Access:**

Four main access gates.

**Security:**

No overall boundary fence estate is open. Security is decentralized and located at the entrance to each erf.

**Layout and Design:**

- Based on estates own grid system.
- Commercial buildings are grouped in a commercial hub.
- Basements in commercial buildings only; parking on estate edges. each
- Building has their own designated parking facilities.
- Buildings are orientated north facing.
- More than 4 storeys.
- Social / affordable and students accommodation are separate and in designated zones.
- The site is also planned to accommodate mobile network communication mast in the area of the development.

**Ownership:**

- Sectional title deeds - site divided into separate erfs.
- Each estate has its own owner or ownership is divided into portions of the estate.

**Green zones:**

- Green zones are centralised on traffic nodes throughout the estate and are communal.

	<p><u>COMMUNITY AMENITIES:</u></p> <ul style="list-style-type: none"><li>• Medical facility.</li><li>• Day care centre.</li><li>• Community hall.</li><li>• Sub Branch Police Station.</li><li>• Post Office</li></ul> <p><u>COMMERCIAL AMENITIES:</u></p> <ul style="list-style-type: none"><li>• Office space to let</li><li>• Private medical suites</li><li>• Estate agents</li><li>• Estate management office</li></ul>
--	--

The preference of Proposed Design Layout Alternative 1 is based on the requirements of the applicant (HDA) in regards to the existing plans and budget put in place for the implementation of the Eloffspark mixed use housing project. From an environmental point of view, all four alternative layout designs can be implemented for development provided that recommended mitigation measures are implemented. All four design layout alternatives present no environmental flaw due to its proposed implementation.

It must be noted that any of the above layout alternatives will have a similar impact on the environment. Due to historic disturbances on the site, the vegetation present was classified as being mostly in a poor ecological condition with no potential to conserve good condition, natural vegetation. No plant species of conservation concern were recorded, and none are expected to occur.

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

N/A

#### 4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	<b>the activity:</b>
<b>Proposed activity</b> (Proposed Eloffspark mixed use housing development)	±19.3595 Ha
 <u>Alternatives:</u>	
Proposed Design Layout Alternative 1	±19.3595 Ha
Design Layout Alternative 2	±19.3595 Ha
Design Layout Alternative 3	±19.3595 Ha
Design Layout Alternative 4	±19.3595 Ha

Ha/ m<sup>2</sup>

or, for linear activities:

	Length of the activity:
Proposed activity	
<u>Alternatives:</u>	
Alternative 1 (if any)	
Alternative 2 (if any)	

m/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

	<b>Size of the site/servitude:</b>
<b>Proposed activity</b> (Proposed Eloffspark mixed use housing development)	±19.3595 Ha
<u>Alternatives:</u>	
Proposed Design Layout Alternative 1	±19.3595 Ha
Design Layout Alternative 2	±19.3595 Ha
Design Layout Alternative 3	±19.3595 Ha
Design Layout Alternative 4	±19.3595 Ha

Ha/m<sup>2</sup>

5. SITE ACCESS

**(All Design Layout Alternatives)**

Does ready access to the site exist, or is access directly from an existing road?

YES ✓	NO

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

The site is situated immediately east of the R101 (Mainsfield Avenue), and south of Franzina Street, Pretoria (City of Tshwane Metropolitan Municipality), Gauteng Province.

Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).



Figure 6: Overview of existing access roads to the site

**PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives**

Section A 6-8 has been duplicated

0
---

Number of times

(only complete when

applicable)

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;

- A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
- A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

The **design layout plan** for the proposed development are enclosed within **Appendix C**

#### **FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)**

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

The **Locality Map** for the proposed development is enclosed within **Appendix A**

## **7. SITE PHOTOGRAPHS**

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix. It should be supplemented with additional photographs of relevant features on the site, where applicable.

Reference is made to **Appendix B – Site Photographs** included as part of this application

## 8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity to be attached in the appropriate Appendix.

Reference is made to **Appendix C – Facility Illustration** included as part of this application



## SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

**Note:** Complete Section B for the proposal and alternative(s) (if necessary)

### Instructions for completion of Section B for linear activities

For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.

1. Indicate on a plan(s) the different environments identified
2. Complete Section B for each of the above areas identified
3. Attach to this form in a chronological order
4. Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route  times

### Instructions for completion of Section B for location/route alternatives

1. For each location/route alternative identified the entire Section B needs to be completed
2. Each alternative location/route needs to be clearly indicated at the top of the next page
3. Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives  times (complete only when appropriate)

**It is worth noting that all four Design Layout Alternatives that are proposed occur within the same receiving environment and therefore will be assessed together as impacts will be similar irrespective of the respective design layout selected. It is for this reason that the section will not be duplicated.**

### Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route  (complete only when appropriate for above)

Section B – Location/route Alternative No.  (complete only when appropriate for above)

**1. PROPERTY DESCRIPTION**

**Property description:**  
(Including Physical Address and Farm name, portion etc.)

The proposed development is located on **Remaining Extent of Farm Eloffspark 772 JR** immediately east of the R101 (Mainsfield Avenue), and south of Franzina Street., City of Tshwane Metropolitan Municipality, Gauteng Province.

**2. ACTIVITY POSITION**

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

**Proposed Activity:**

Centre point of the activity

**Latitude (S):**

25°42'51.28"S

**Longitude (E):**

28°11'16.78"E

In the case of linear activities:

Proposed Activity:

Starting point of the activity

Middle point of the activity

End point of the activity

Latitude (S):

Longitude (E):


Alternative 1

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Latitude (S):

Longitude (E):


For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached N/A

The 21 digit Surveyor General code of each cadastral land parcel

T0JR00000000077200000

**3. GRADIENT OF THE SITE**

Indicate the general gradient of the site.

**Proposed Activity**

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
✓	✓					

#### 4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

##### Proposed Activity

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain ✓	Undulating plain/low hills	River front
-----------	---------	--------------------------	--------	---------	----------------------------	-------------

#### 5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Proposed Design Layout Alternative 1:		Design Layout Alternative 2:		Design Layout Alternative 3:		Design Layout Alternative 4:	
Shallow water table (less than 1.5m deep)	YES	NO ✓	YES	NO ✓	YES	NO ✓	YES	NO ✓
Dolomite, sinkhole or doline areas	YES ✓	NO	YES ✓	NO	YES ✓	NO	YES ✓	NO
Seasonally wet soils (often close to water bodies)	YES	NO ✓	YES	NO ✓	YES	NO ✓	YES	NO ✓
Unstable rocky slopes or steep slopes with loose soil	YES	NO ✓	YES	NO ✓	YES	NO ✓	YES	NO ✓
Dispersive soils (soils that dissolve in water)	YES	NO ✓	YES	NO ✓	YES	NO ✓	YES	NO ✓
Soils with high clay content (clay fraction more than 40%)	YES	NO ✓	YES	NO ✓	YES	NO ✓	YES	NO ✓
Any other unstable soil or geological feature	YES	NO ✓	YES	NO ✓	YES	NO ✓	YES	NO ✓
An area sensitive to erosion	YES	NO ✓	YES	NO ✓	YES	NO ✓	YES	NO ✓

It is important to note that according to the Geotechnical Report the site is underlain by dolomite at a depth of more than 100 metres and at this depth sinkholes are unlikely to occur. This therefore confirms that the ground concerned is situated outside of the High Risk Dolomite area.

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)

YES	NO ✓
-----	------

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):

Longitude (E):

°	°
---	---

c) are any caves located within a 300m radius of the site(s)

YES	NO ✓
-----	------

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):

Longitude (E):

°	°
---	---

o	o
---	---

d) are any sinkholes located within a 300m radius of the site(s) YES NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S): Longitude (E):

o	o
---	---

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

### Geology

According to the Geoscience Council's Geological map-, the site on which the Farm Eloffspark 772 JR is located, is underlain by shale, minor limestone, dolomite, basalt and tuff of the Silverton formation of the Transvaal Supergroup. The topsoil consists of reddish brown material which allows for plant or vegetation growth. Below the topsoil is a yellowish brown material with no indication of clayey material.

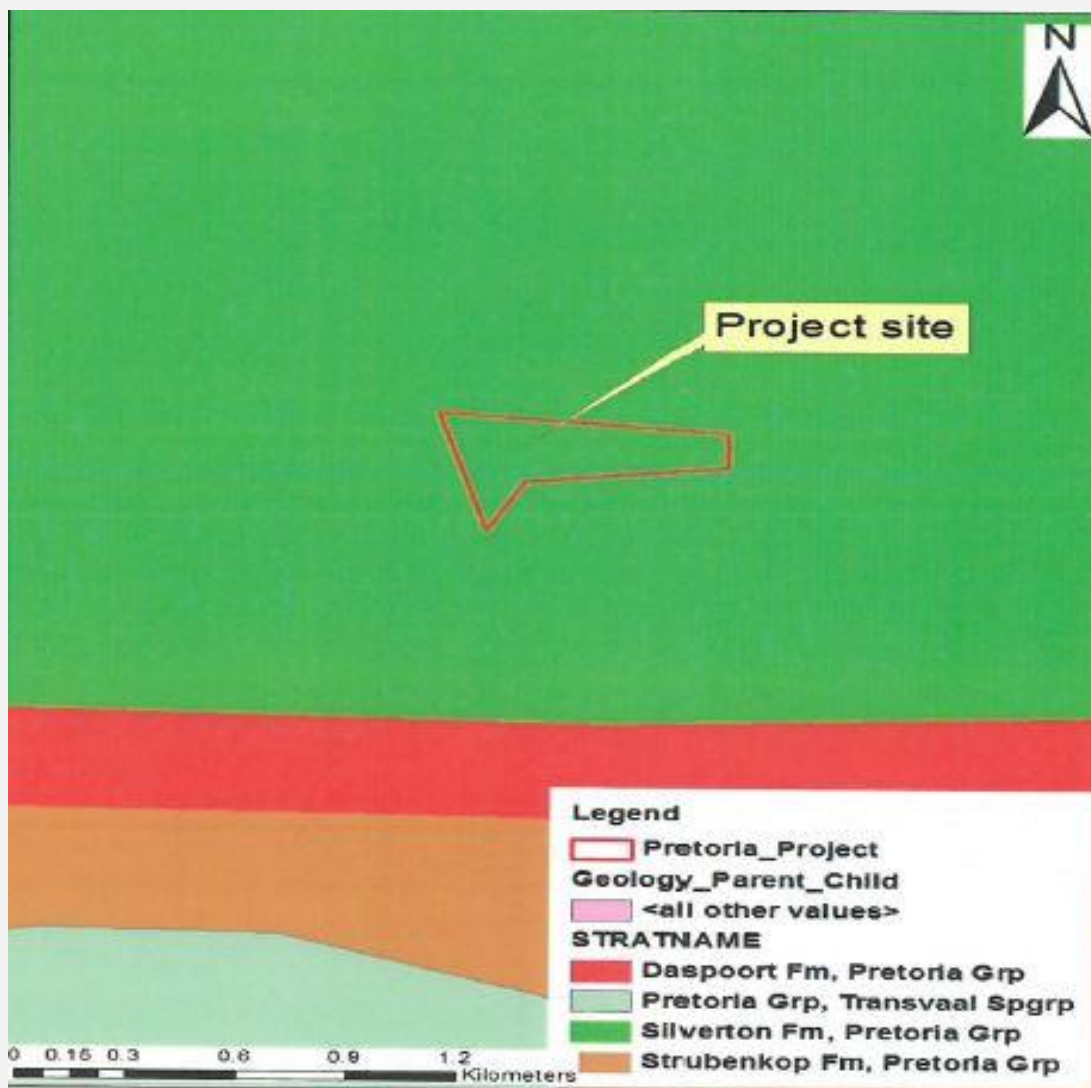


Figure 7: Simplified geological map of the site region.

### Hydrogeology

According to the General Hydrological Map from the Department of Water Affairs and Sanitation the area

concerned is situated within Inter-granular and fractured aquifer of the Silverton Formation. The ground water rest level in this aquifer occurs between 10 and 25 metres below surface and the groundwater is transmitted and decants through the fractures material of the aquifer.

### Wetland delineation

According to the site assessment conducted by the wetland specialist on 20 April 2018, it reflected open grassland dominated by *Urochloa mosambicensis* and *Bothriochloa insculpta* and patches of *Heteropogon contortus*, *Hyparrhenia hirta*, *Cynodon dactylon* and *Panicum coloratum*. These grass species are not associated with wetlands although *Urochloa* and *Bothriochloa* like to grow on clay soils where water accumulated following precipitation events. However, even though the site visit was conducted at a time when good seasonal rain had fallen for some months, no sedges were recorded on the site. The weed *Arundo donax* grew in dense stands on parts of the site. This reed may sometimes be confused with *Phragmites australis* which indicates permanent wetland conditions. However, it is not hydrophilic at all and occurs in disturbed areas not associated with increased soil moisture.

As such, No wetlands are identified in the region of the study site (Gauteng Conservation Plan, Version 3.3 (GDARD, 2011) (Figure 8). No soil or vegetation indicators for wetland conditions were recorded during the site assessment.



Figure 8: Regional hydrology.

**6. AGRICULTURE**

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?

YES	NO ✓
-----	------

**Please note:** The Department may request specialist input/studies in respect of the above.

**7. GROUNDCOVER**

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % = 0	<b>Natural veld with scattered aliens</b> % = 10	<b>Natural veld with heavy alien infestation</b> % = 15	<b>Veld dominated by alien species</b> % = 30	Landscaped (vegetation) % =
Sport field % = 0	Cultivated land % = 0	<b>Paved surface (hard landscaping)</b> % = 5	<b>Building or other structure</b> % = 10	<b>Bare soil</b> % = 30

**Please note:** The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site

YES	NO ✓
-----	------

If YES, specify and explain:

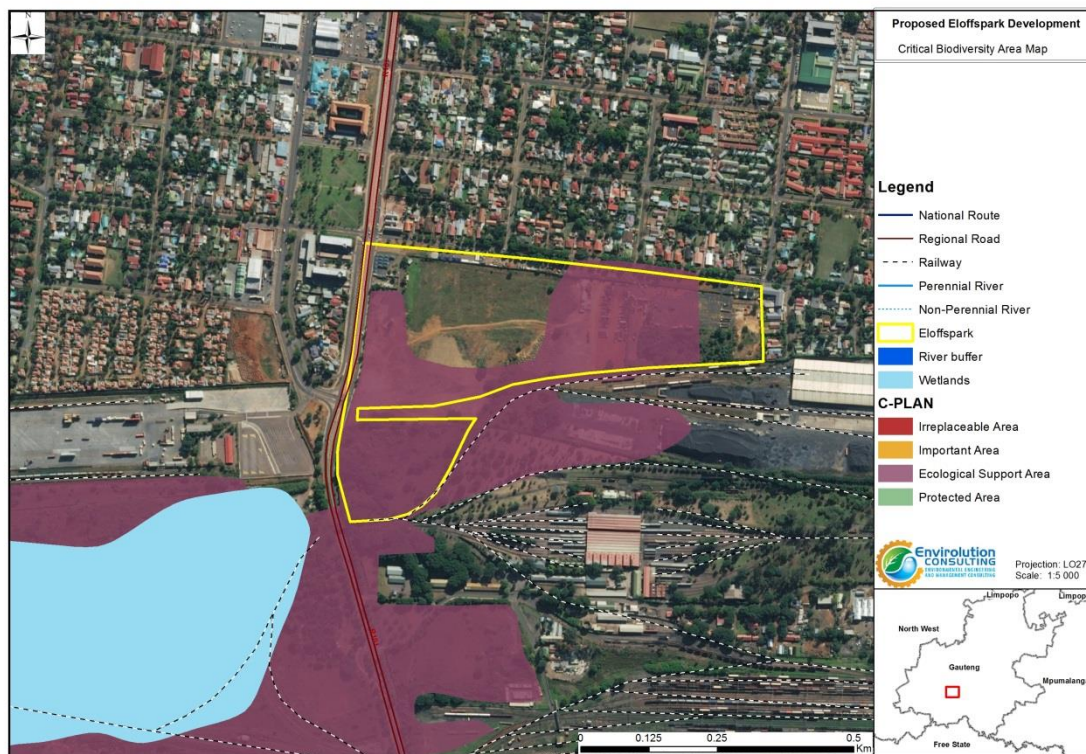
---

As per the vegetation assessment, the site falls within the Moot Plains Bushveld vegetation type which comprises open to closed, low, often thorny savanna dominated by various species of *Vachellia* and *Senegalia* in the bottomlands and plains as well as woodlands of varying height and density on the lower hillsides. This vegetation is classified as *Vulnerable*. The site does not fall within a listed ecosystem.

The whole site was historically disturbed which resulted in vegetation that is modified from the reference state of Moot Plains Bushveld. No natural or semi-natural Moot Plains Bushveld was recorded. The vegetation on the site was broadly grouped as follows:

- Severely modified and degraded;
- Secondary grassland; and
- Wooded grassland dominated by invasive alien tree species.

Due to historic disturbances on the site, the vegetation present was classified as being mostly in a poor ecological condition with no potential to conserve good condition, natural vegetation. No plant species of conservation concern were recorded, and none are expected to occur.



**Figure 9:** The site falls within an Ecological Support Area of the Gauteng Conservation Plan

According to the Gauteng Conservation Plan (version 3.3), the majority of the site and its surroundings are situated in an ESA (Figure 9). ESA's are areas that are not essential for meeting biodiversity representation targets/thresholds but which nevertheless play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration.

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.

YES	NO ✓
-----	------

If YES, specify and explain:

Although the above box is ticked as "YES", it must be noted that the fauna assessment found that three (3) mammal species of conservation concern were rated as moderately likely to occur on the site. The remainder of the mammal, bird and herpetofaunal (reptile & amphibian) species of conservation concern that could potentially occur on the site were rated as having a very low or low likelihood of occurrence. No endangered fauna species were observed during the assessment.

The significance of the loss of ESA habitat was rated as having a low significance. This was attributed to the degraded and fragmented nature of these habitats resulting in reduced ecological importance.

With the above mentioned, it can be deduced that although the 3 mammal species of conservation concern are moderately likely to occur, the likelihood of occurrence is rated as low to very low.

Please refer to the above for endangered vegetation species conclusion.



Are there any special or sensitive habitats or other natural features present on the site?

YES	NO ✓
-----	------

If YES, specify and explain:

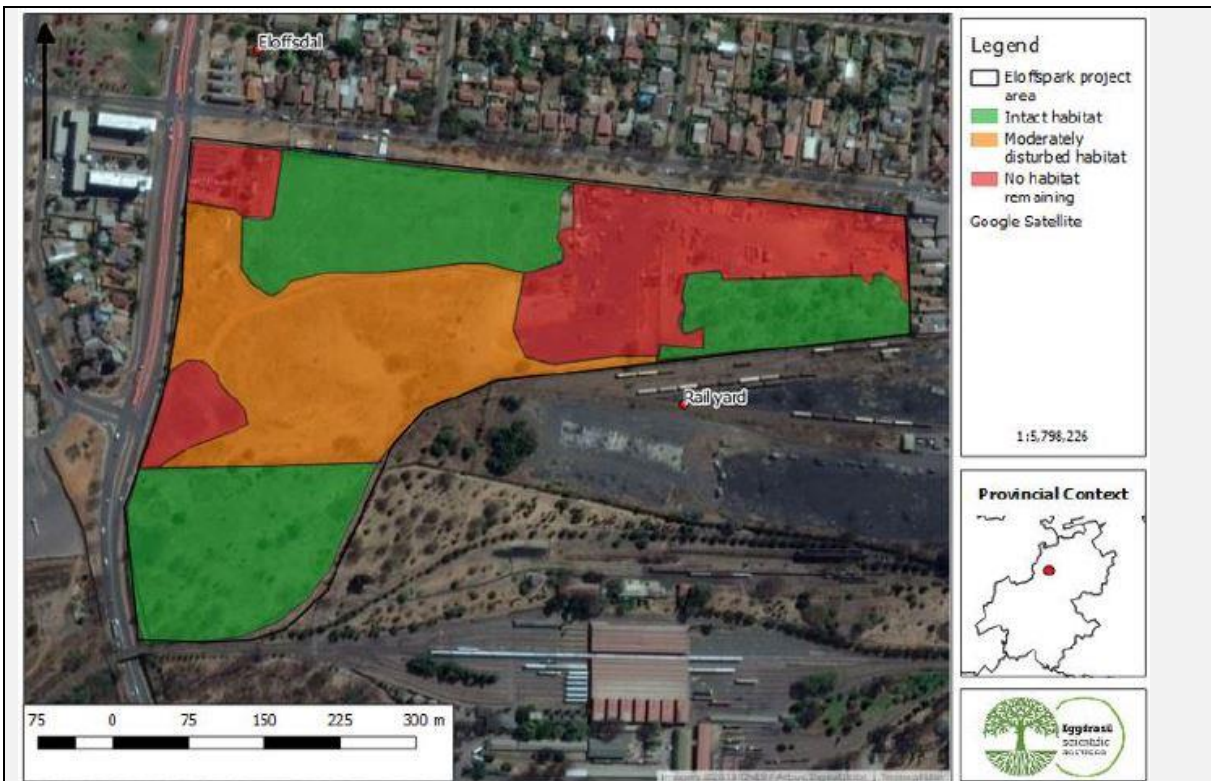
**Habitat Characterisation:**

During the April 2018 field survey, the project area was traversed on foot and faunal habitats delineated based on the following:

- Degree of anthropogenic disturbance; and
- State of vegetation community i.e. indigenous vegetation vs. alien invasive vegetation or devoid of vegetation

Three habitat categories were identified:

- Areas devoid of faunal habitat comprised approximately 5.1 hectares or 27.2% of the site. These areas were comprised of the office areas, trucks yards and other cleared areas;
- Moderately disturbed areas comprised 5.7 hectares or 30.0% of the site. These habitats were comprised of areas that had previously been disturbed where some revegetation had occurred. The vegetation in these areas was composed of a large number of alien invasive & pioneer plant species. These areas provide very limited habitat for faunal species; and
- Intact areas comprised approximately 8.0 hectares or 42.5% of the site broken up into 3 disjointed areas. Although by no means unimpacted, these represented areas where some remnant of the indigenous vegetation cover & community remained. These areas also appeared to be less utilised by the people on the site. Due to the fragmented nature of these sites, and the high degree of anthropogenic disturbance surrounding these areas they are not expected to house diverse faunal communities; however, these are the only portions of the Eloffspark site that can be expected to retain some faunal diversity albeit of small, inconspicuous species that are tolerant to human disturbance.



**Figure 10:** Habitat characterisation map delineating areas of relatively intact, moderately disturbed and no habitat remaining for faunal species.

### Secondary or planted grassland

The vegetation on the northern boundary of the site comprised grassland with a few individuals of the thorny *Vachellia karroo* (sweet thorn). The land was either historically sown with pasture grasses or pioneer grassland species recolonised disturbed or fallow lands. However, due to constant disturbances the grassland remained in a pioneer to secondary grassland state.



**Figure 11:** Grassland on the site with *Vachellia karroo* occurring sporadically

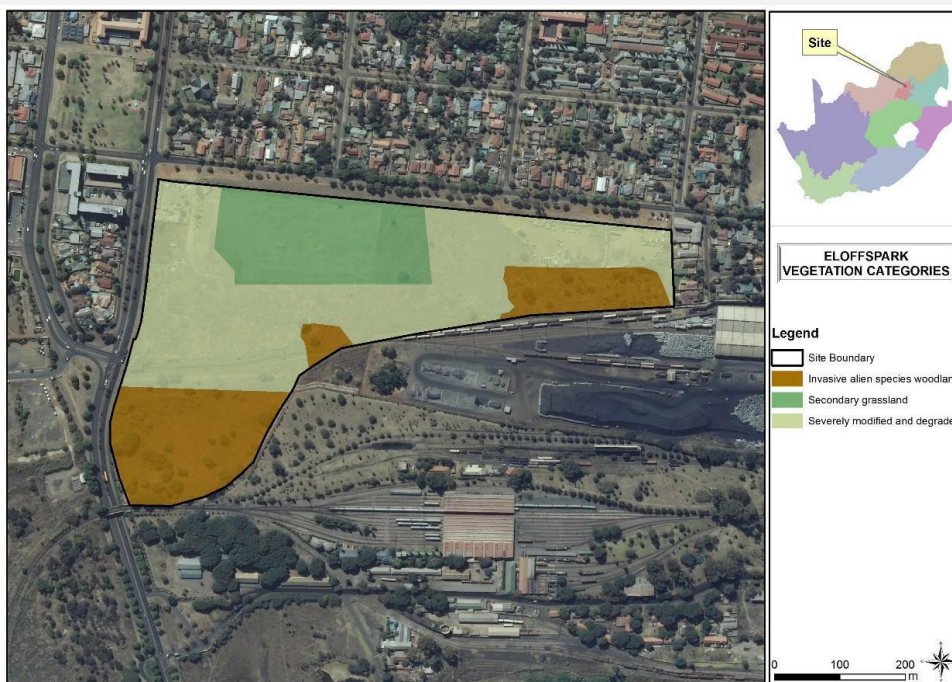
The grassland comprised patches of the dominant species, with the pioneer (and good grazing grass) *Urochloa mosambicensis* (bushveld signal grass) being the most dominant. Other dominant species include *Botriochloa*

*insculpta* (pinhole grass), *Heteropogon contortus* (spear grass), *Hypparrhenia hirta* (thatch grass) and *Cynodon dactylon* (couch grass). The forb diversity was depauperate including only *Conyza podocephala*, *Felicia muricata*, *Indigofera daleoides* and weeds such as *Tagetes minuta* (khakibush), *Zinnea peruviana* (*wildejakobregop*) and *Campuloclinium macrocephalum* (pom-pom weed). The grassland has some function as open space, however, it is not conservation worthy and classified as being in a fair to poor ecological state.

**Overview of historic vegetation type**

The site is situated within the Savanna biome of South Africa and in specific within the Central Bushveld Bioregion. The Savanna biome is the largest biome in southern Africa, occupying over one-third of the surface area of the country (Mucina & Rutherford, 2006). It is characterised by a grassy ground layer and a distinct upper layer of woody plants. Where this upper layer is near the ground the vegetation may be referred to as Shrubveld, where it is dense, as Woodland, and the intermediate stages are commonly known as Bushveld (Mucina & Rutherford, 2006).

The Central Bushveld Bioregion (a bioregion is a vegetation organisation level between that of vegetation type and biome) comprises several vegetation types. The site falls within the Moot Plains Bushveld vegetation type which comprises open to closed, low, often thorny savanna dominated by various species of *Vachellia* and *Senegalia* in the bottomlands and plains as well as woodlands of varying height and density on the lower hillsides. The herbaceous layer is dominated by grasses (Mucina and Rutherford, 2006). Any disturbances to the vegetation on the site and surrounds could modify the site vegetation from this reference state. The Moot Plains Bushveld is transformed mainly by cultivation and urban and built-up areas, however, infestation by alien plants including *Cereus jamacaru*, *Eucalyptus* species, *Jacaranda mimosifolia*, *Lantana camara*, *Melia azedarach* and *Schinus* species contribute to the degradation of this vegetation type which is classified as being Vulnerable to further transformation of its original extent (Mucina and Rutherford, 2006).



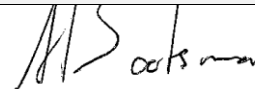
**Figure 12:** Vegetation groups recorded on the site

Was a specialist consulted to assist with completing this section	<b>YES</b> ✓	NO
---	--------------	----

If yes complete specialist details

**1.) Wetland Specialist**

Name of the specialist:	Antoinette Bootsma		
Qualification(s) of the specialist:	<ul style="list-style-type: none"> <li>▪ MSc Ecology, University of South Africa (2017) Awarded with distinction. Project Title: Natural mechanisms of erosion prevention and stabilization in a Marakele peatland; implications for conservation management</li> <li>▪ Short course in wetland soils, Terrasoil Science (2009)</li> <li>▪ Short course in wetland delineation, legislation and rehabilitation, University of Pretoria (2007)</li> <li>▪ B. Sc (Hons) Botany, University of Pretoria (2003-2005). Project Title: A phytosociological Assessment of the Wetland Pans of Lake Chrissie</li> <li>▪ B. Sc (Botany &amp; Zoology), University of South Africa (1997 - 2001)</li> </ul>		
Postal address:			
Postal code:			
Telephone:		Cell:	+27 83 4545 454
E-mail:	<a href="mailto:antoinette@limosella.co.za">antoinette@limosella.co.za</a>	Fax:	
Are any further specialist studies recommended by the specialist?		YES	NO ✓
If YES, specify:	N/A		
If YES, is such a report(s) attached?	YES		NO
If YES list the specialist reports attached below	N/A		

Signature of specialist:		Date:	<b>29.05.2018</b>
--------------------------	---	-------	-------------------

**2.) Heritage Specialist**

Name of the specialist:	J van Schalkwyk
-------------------------	-----------------

Qualification(s) of the specialist:

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 30 years. Based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 60 papers, many in scientifically accredited journals.

Postal address:

62 Coetzer Avenue, Monument Park, 0181

Postal code:

2194

Telephone:

Cell: 076 790 6777

E-mail:

[jvschalkwyk@mweb.co.za](mailto:jvschalkwyk@mweb.co.za)

Fax:

YES NO

Are any further specialist studies recommended by the specialist?

If YES, specify:

N/A

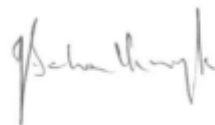
If YES, is such a report(s) attached?

YES NO

If YES list the specialist reports attached below

N/A

Signature of specialist:



Date:

29.05.2018

### 3.) Flora Specialist

Name of the specialist:

Antoinette Eyssell-Knox

Qualification(s) of the specialist:

- M.Sc Environmental Science, University of Pretoria (2010)  
Dissertation: *Land cover change and its effect on future land uses*
- B. Sc (Hons) Horticulture, University of Pretoria (1999-2000)  
Dissertation: *Horticultural uses of the indigenous Barleria species*
- B. Sc (Agriculture) Horticulture, University of Pretoria (1993-1996)

Postal address:

Postal code:

Telephone:

082 642 6295

Cell: 082 642 6295

E-mail:

[Antoinette@dimela-eco.co.za](mailto:Antoinette@dimela-eco.co.za)

Fax:

YES NO

Are any further specialist studies recommended by the specialist?

If YES, specify:

N/A


If YES, is such a report(s) attached?

YES NO

If YES list the specialist reports attached below

N/A

Signature of specialist:



Date:

**29.05.2018**

**4.) Fauna Specialist**

Name of the specialist:

Peter Kimberg

Qualification(s) of the specialist:

Qualifications

- Bachelor of Science (Honours) Zoology
- Bachelor of Science Biological Science
- SASS5 Accreditation (freshwater Aquatic Zoology) 2011&2014,2017, Department of Water Affairs, SA
- South African Council of Natural Scientific Professions Registered Professional Scientist (Pri.Sci.Nat: 400085/15)

Postal address:

Postal code:

Telephone:

Cell:

082 417 9191

E-mail:

[peter@iqgdrasilscientific.com](mailto:peter@iqgdrasilscientific.com)

Fax:

Are any further specialist studies recommended by the specialist?

YES

NO

If YES, specify:

N/A

If YES, is such a report(s) attached?


YES

NO

If YES list the specialist reports attached below

N/A

Signature of specialist:



Signature of specialist

Date:

**29.05.2018**

**Please note;** if more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

## 8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

### Proposed Activity:

1. Vacant land ✓	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential ✓	10. Informal residential
11. Old age home	12. Retail	13. Offices ✓	14. Commercial & warehousing ✓	15. Light industrial ✓
16. Heavy industrial <sup>AN</sup>	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport <sup>N</sup>	23. Train station or shunting yard <sup>N</sup> ✓	24. Railway line <sup>N</sup> ✓	25. Major road (4 lanes or more) <sup>N</sup> ✓
26. Sewage treatment plant <sup>A</sup>	27. Landfill or waste treatment site <sup>A</sup>	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam <sup>A</sup>	34. Small Holdings	35 Other land uses (describe):

**NOTE:** Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

Site

<b>NORTH</b>																														
<table border="1" style="margin: auto;"> <tr> <td style="padding: 5px;">8 34</td> <td style="padding: 5px;">6 8 34</td> <td style="padding: 5px;">6 8 34</td> <td style="padding: 5px;">8 13 4</td> <td style="padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">8 34</td> <td style="padding: 5px;">2 8 34</td> <td style="padding: 5px;">13</td> <td style="padding: 5px;">13</td> <td style="padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">8</td> <td style="padding: 5px;">2 8</td> <td style="padding: 5px; background-color: #cccccc;"> </td> <td style="padding: 5px;">10</td> <td style="padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">13</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">1</td> <td style="padding: 5px;">10</td> <td style="padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">13</td> <td style="padding: 5px;">13</td> <td style="padding: 5px;">1</td> <td style="padding: 5px;">10</td> <td style="padding: 5px;">10</td> </tr> </table>					8 34	6 8 34	6 8 34	8 13 4	10	8 34	2 8 34	13	13	10	8	2 8		10	10	13	2	1	10	10	13	13	1	10	10	
8 34	6 8 34	6 8 34	8 13 4	10																										
8 34	2 8 34	13	13	10																										
8	2 8		10	10																										
13	2	1	10	10																										
13	13	1	10	10																										
WEST				EAST																										
<b>SOUTH</b>																														

**Note:** More than one (1) Land-use may be indicated in a block

Railway infrastructure is situated along the southern boundary of the site and historically formed part of the site (Figures 13). Residential areas are situated north, east and west of the site. The natural vegetation on the site was cleared or disturbed as is evident from historical aerial images (Google Earth). From the images it was assumed that some natural vegetation might persist in the south-western and south-eastern corner of the site. Current disturbances on the site include a truck yard and most of the eastern section of the site was covered in gravel.



Figure 13: Land uses on and around the site in 2001 and 2009 (Google Earth imagery)

**Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an “A” and with an “N” respectively.



Have specialist reports been attached

YES ✓	NO
-------	----

If yes indicate the type of reports below

- |   |
|---|
| <ul style="list-style-type: none"><li>▪ Wetland Opinion</li><li>▪ Vegetation Impact Assessment</li><li>▪ Fauna Impact Assessment</li><li>▪ Heritage Impact Assessment</li></ul> |
|---|

The above specialists reports are attached within <b>Appendix G</b> of this report
--

## 9. SOCIO-ECONOMIC CONTEXT

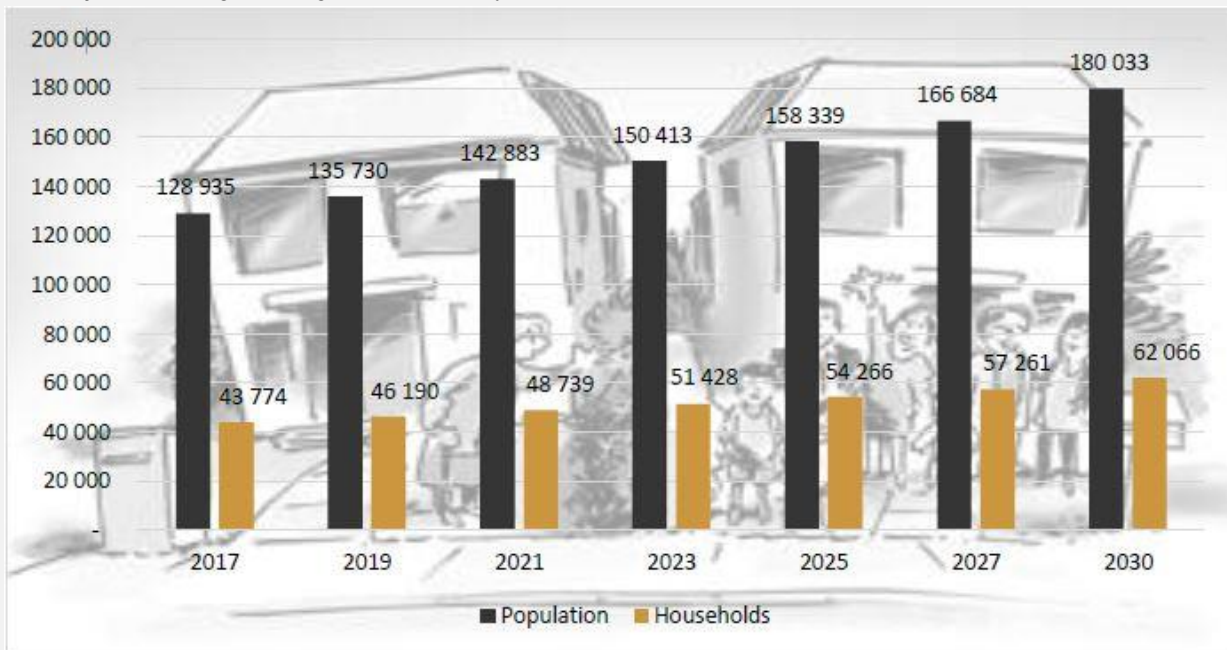
Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The socio-economic analysis offers a brief overview of the dominant local demographic conditions. The following components complete the socio-economic profile of the study area:

- Demographics
- Population density
- Employment Profile
- Annual household income
- Education profile

**DEMOGRAPHICS**

An analysis of the demographics is essential to obtain a clear representation of the current population and household figures that would influence the demand for housing in general. The figures below illustrate the current and projected demographic figures of the study area.



Source: Quantec Easydata, 2017

**Figure 14:** Current and projected demographic figures.

It should be noted that the City of Tshwane experienced a five-year historical growth rate of 2,6% and 2,7% for the population and household figures respectively. These growth rates were used to project the population and household figures for the study area.

**POPULATION DENSITY**

The age groups from 20 to 34 years are the largest. This falls within the economically active age group, which will require employment opportunities in the area. It may also indicate that young working people prefer to live in the region near the CBD to be close to employment. There are relatively few people in the age group below 16, a possible indicator of a lower number of families staying in the region. However, the 2017 population for the primary catchment area is 110 524 people, with 317 773 people in the secondary catchment area and 847 031 in the tertiary catchment area.

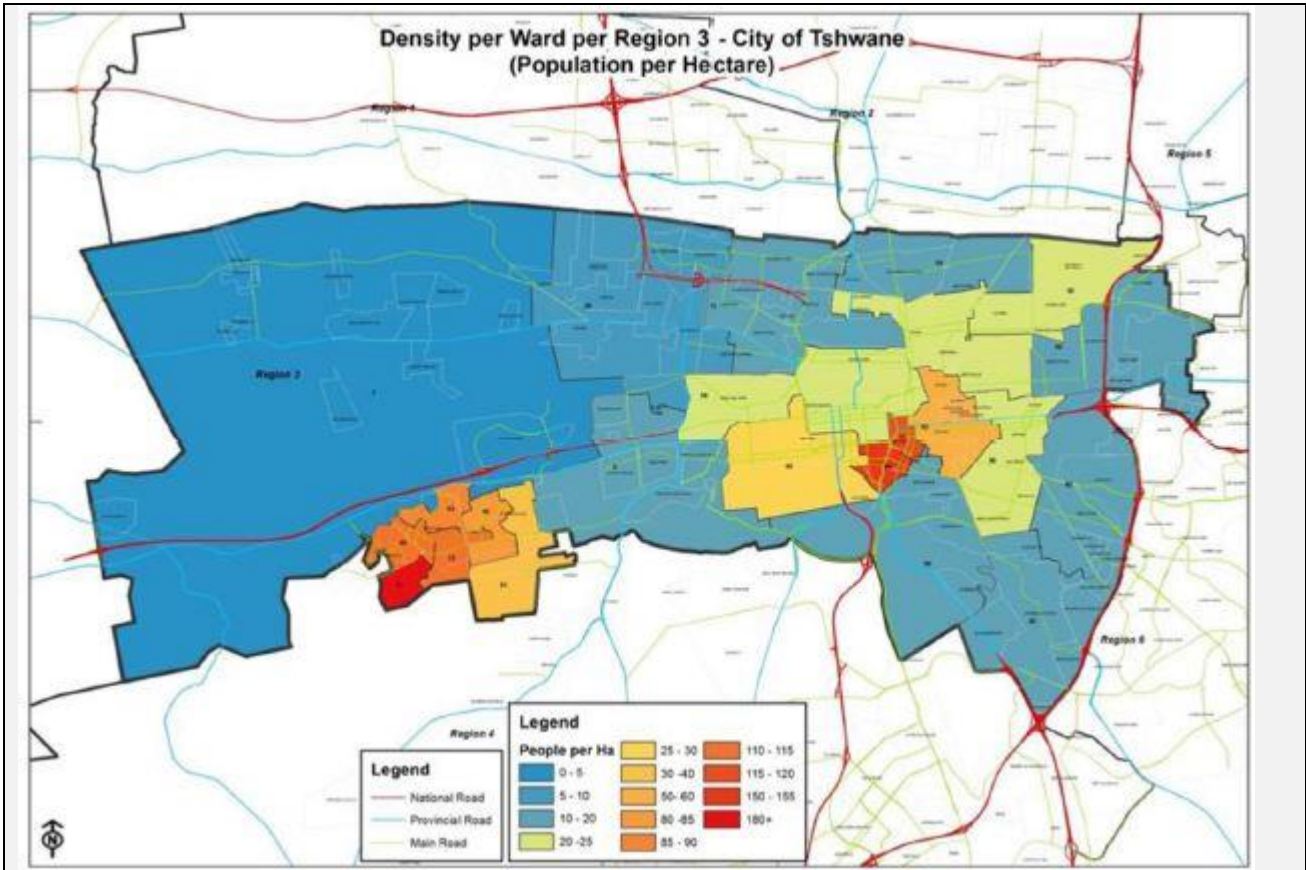


Figure 15: Study area population density.

**EMPLOYMENT PROFILE**

Whilst the Regions 3 assessment indicates that, approximately 19% of economically active persons are permanently unemployed, as shown in the figure below. This is a lower figure than neighbouring regions 1 and 2. The broader study area including the three catchment areas indicates a much higher unemployed population (37%), thus indicating a possible need to accommodate low-income housing as well as social housing elements into the development concept for the Eloffspark site.

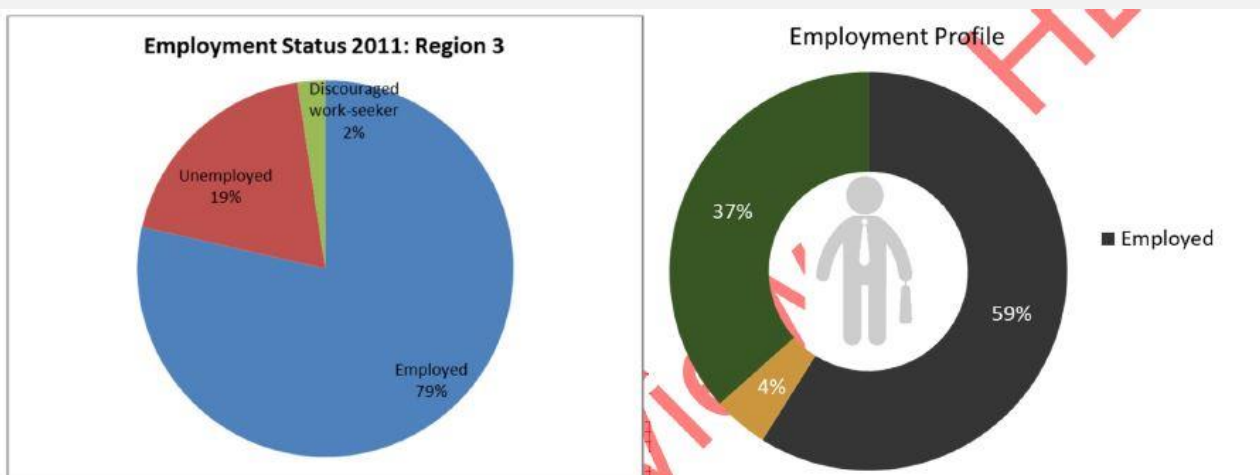


Figure 16: Employment Status 2011 and Summary Employment Profile for the Study Area.

### ANNUAL HOUSEHOLD INCOME

Annual Income in the study area ranges mainly from lows of R 108 132 to highs of around R432 525. A detailed view by catchment are indicates up to 17% of households having no income and some areas of the primary catchment area having annual incomes as high as R 614 400.

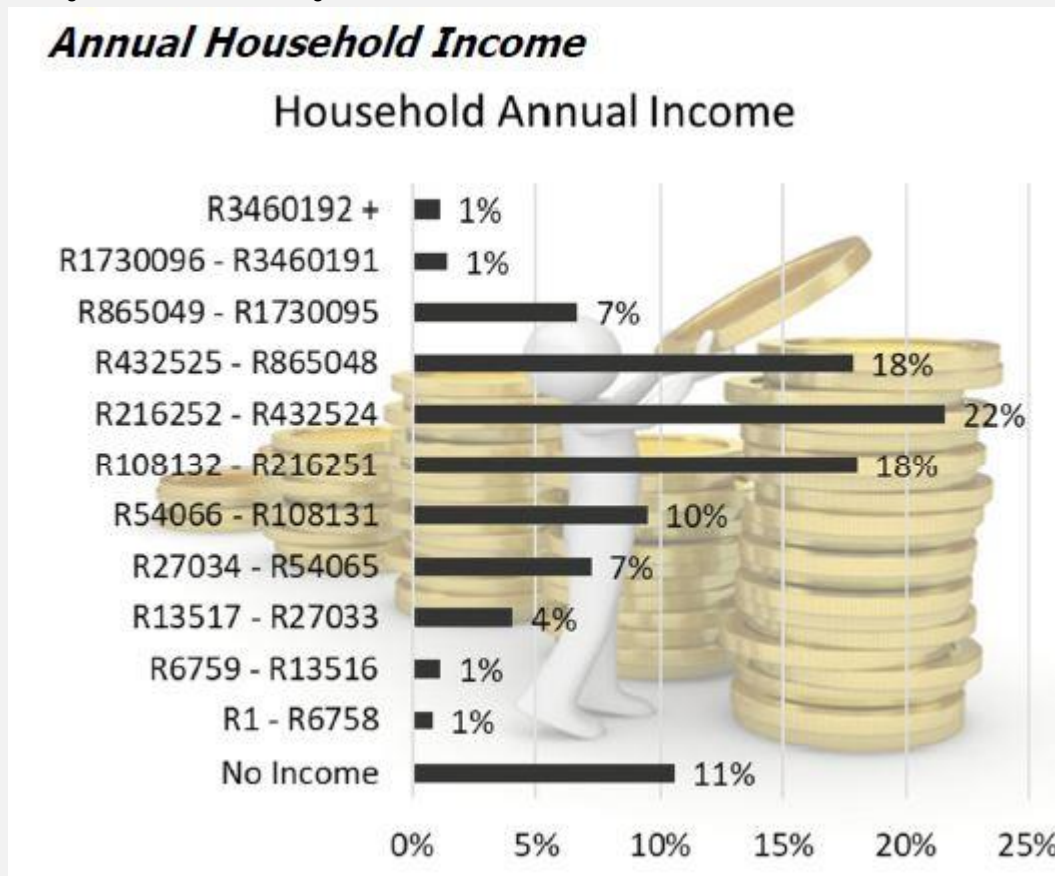


Figure 17: Annual household income.

### EDUCATION PROFILE

From an education perspective, the study area has about three-quarters of the people having a matriculation qualification or higher

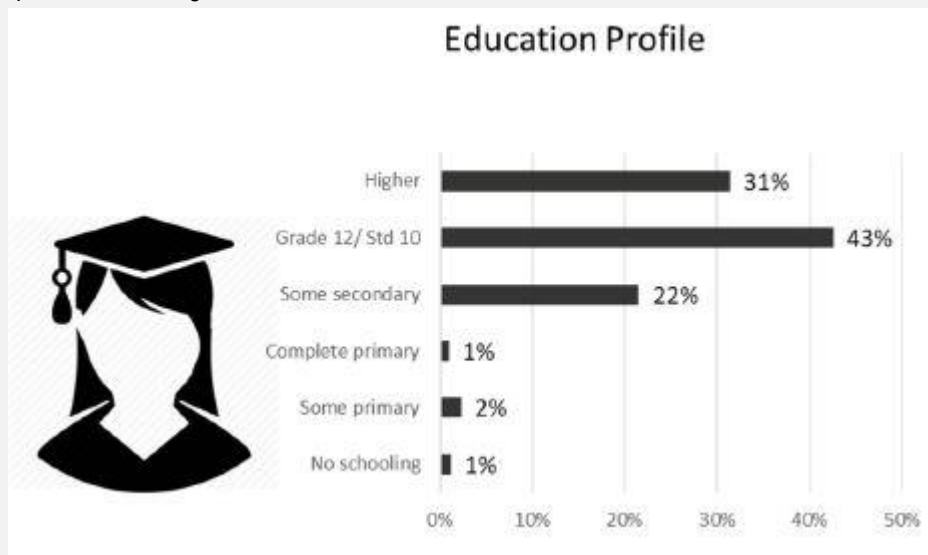
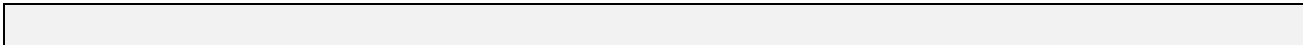


Figure 18: Summary education profile for the study area.



## 10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

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, power line, 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 m<sup>2</sup> 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 m<sup>2</sup> 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.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

YES	NO ✓
-----	------

If YES, explain:

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

Impact analysis of cultural heritage resources being under no threat of the proposed development, is based on the present understanding of the development: *As no sites, features or objects of cultural significance are known to exist in the study area, there would be no impact as a result of the proposed development.*

Will any building or structure older than 60 years be affected in any way?

YES	NO ✓
YES	NO ✓

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

If yes, please attached the comments from SAHRA in the appropriate Appendix

## SECTION C: PUBLIC PARTICIPATION (SECTION 41)

---

### 1. THE ENVIRONMENTAL ASSESSMENT PRACTITIONER MUST CONDUCT PUBLIC PARTICIPATION PROCESS IN ACCORDANCE WITH THE REQUIREMENT OF THE EIA REGULATIONS, 2014.

#### 2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?

YES  NO

If yes, has any comments been received from the local authority?

YES  NO

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

The draft BAR will be circulated to the local authorities where it will be subject to 30 days public review. All comments received during the review period will be incorporated into the Final BAR. At this stage no comment can be recorded at this stage as the Draft BAR is only now being circulated to the local authorities.

#### 3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least **thirty (30) calendar days** before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES  NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

The South African National Roads Agency Limited (SANRAL) has no objection to the proposed development as it does not affect a national route / interchange. (Refer to Appendix E for proof of correspondence).

If "NO" briefly explain why no comments have been received

N/A

#### 4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should

have been addressed may cause the competent authority to withdraw any authorization it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

## 5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice

Appendix 2 – Written notices to I&APs

Appendix 3 – Proof of newspaper advertisements

Appendix 4 – Authority Consultation

Appendix 5 – Minutes of any public and/or stakeholder meetings – **this is anticipated during the Draft BAR review period**

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report - **Comments are anticipated during the Draft BAR review period**

Appendix 8 –Comments from I&APs on amendments to the BA Report N/A

Appendix 9 – Copy of the register of I&APs

Appendix E10 - Comments from I&APs on the application

## SECTION D: RESOURCE USE AND PROCESS DETAILS

**Note:** Section D is to be completed for the proposal and alternative(s) (if necessary)

### Instructions for completion of Section D for alternatives

- 1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
- 4) Each alternative needs to be clearly indicated in the box below
- 5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives  times (Complete only when appropriate)

Section D Alternative No.  (complete only when appropriate for above)

### 1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

#### Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

If yes, what estimated quantity will be produced per month?

YES ✓	NO
Could not be determined at this stage	

How will the construction solid waste be disposed of (describe)?

Some construction rubble/ solid waste will arise from demolition of some existing structures. This solid waste will be temporarily stored on site in designated waste skips or stockpiles and then reused where possible for backfill. Surplus material will be removed by an appropriate waste contractor appointed by the main construction contractor to an approved landfill site. This will be managed through the EMPr.

Where will the construction solid waste be disposed of (describe)?

General waste removed from site will be disposed of at a suitably licensed disposal facility. The nearest licensed landfill site is the Onderstepoort Landfill site in Rosslyn. Safe disposal certificates must be obtained and kept on site for the duration of the construction phase

Will the activity produce solid waste during its operational phase?

If yes, what estimated quantity will be produced per month?

YES ✓	NO
Unknown at this stage m <sup>3</sup>	

How will the solid waste be disposed of (describe)?

Some construction rubble/ solid waste will arise from demolition of existing structures. This solid waste will be temporarily stored on site in designated waste skips or stockpiles and then reused where possible for backfill. Surplus material will be removed by an appropriate waste contractor appointed by the main construction contractor to an approved landfill site. This will be managed through the EMPr.

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?

YES ✓	NO
----------	----



Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

During both construction and operation phase a registered landfill sites e.g. Onderstepoort Landfill site in Rosslyn can be used as they still have capacity. This is confirmed on the City of Tshwane website on the below link:

[http://www.tshwane.gov.za/sites/Departments/Agriculture-and-Environment/Managerial/WasteRemoval/Pages/Dumping\\_Sites.aspx](http://www.tshwane.gov.za/sites/Departments/Agriculture-and-Environment/Managerial/WasteRemoval/Pages/Dumping_Sites.aspx)

Note: If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

YES	NO
	✓

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO
	✓

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

During Construction, wastes must be separated at source into recyclable and non-recyclable materials and distributed for recycling where applicable. During the construction phase, construction waste rubble should be re-used as fill material, erosion protection and gabion construction where applicable. The re-use of construction waste materials will minimize the amount of waste that will need to be disposed of at registered municipal waste facilities. In addition, there will be extensive earthworks, but import and export of material will be minimised by balancing cut and fill requirements as far as possible.

**Liquid effluent (other than domestic sewage)**

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO
	✓

If yes, what estimated quantity will be produced per month?

N/A m3

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?

YES	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO
	✓

If yes, what estimated quantity will be produced per month?

N/A m3

If yes describe the nature of the effluent and how it will be disposed.

N/A

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO
	✓

If yes, provide the particulars of the facility:

Facility name:	N/A
Contact person:	N/A
Postal address:	N/A
Postal code:	N/A

Telephone:	N/A	Cell:	
E-mail:	N/A	Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

N/A
-----

**Liquid effluent (domestic sewage)**

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?

YES	NO
✓	

If yes, what estimated quantity will be produced per month?

Unknown at this stage	
-----------------------	--

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?

YES	NO
✓	

Will the activity produce any effluent that will be treated and/or disposed of onsite?

YES	NO
✓	

If yes describe how it will be treated and disposed of.

Chemical toilets are going to be used during construction stage and the sewage waste will be collected by the Contractor on for treatment at an authorised treatment facility.
--

**Emissions into the atmosphere**

Will the activity release emissions into the atmosphere?

YES ✓	NO
YES	NO ✓

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

The activity itself will not contribute directly to emissions released into the atmosphere except possible short-term dust emissions during the construction phase. Emissions generated will be in the form of dust, carbon dioxide and other vehicle emissions generated by diesel powered machinery and trucks during the construction process i.e. tip trucks, TLB's, excavators and dust from the movement of the construction vehicles. These emissions will be composed primarily of carbon monoxide (CO) and will be of a low concentration.
---

**2. WATER USE**

Indicate the source(s) of water that will be used for the activity

Municipal ✓	Directly from water board	groundwater	river, stream, dam or lake	other	the activity process itself will not use water
----------------	---------------------------	-------------	----------------------------	-------	--

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month: N/A

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?

YES	NO
✓	

If yes, list the permits required

A Water Use License Application will be submitted to the Department of Water Affairs and Sanitation (DWS) after the Final Basic Assessment Report has been submitted to GDARD. Section 21 (c) & (i) of the National Water Act are triggered by the activities.
--

If yes, have you applied for the water use permit(s)?

YES	NO
	✓
YES	NO
	✓

If yes, have you received approval(s)? (attached in appropriate appendix)

A Water Use License Application will be submitted to Department of Water and Sanitation (DWS) concurrently with the submission of the FBAR to GDARD. The DBAR will also be made available to the Department of Water and Sanitation for comment during the DBAR review period.

### 3. POWER SUPPLY

Please indicate the source of power supply e.g. Municipality / Eskom / Renewable energy source

The current electrical supply authority for the project site is Eskom.

If power supply is not available, where will power be sourced from?

Please see above.

### 4. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

Different energy saving measures will be considered in the detail design phase of the project. For instance, fluorescent light bulbs will be considered for the majority of the housing units.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Unknown at this stage of the project.

## SECTION E: IMPACT ASSESSMENT

---

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4) (b) (i)).

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summaries the issues raised by interested and affected parties.

The South African National Roads Agency Limited (SANRAL) has no objection to the proposed development as it does not affect a national route / interchange. (Refer to Appendix E for proof of correspondence).

As this is the Draft Basic Assessment Report at present, it will be submitted for comment to the local authority and as well as to other stakeholders. Once comments have been received at the end of the 30-day review period, they will be recorded and reflected in the Final Basic Assessment Report.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)  
(A full response must be provided in the Comments and Response Report that must be attached to this report):

Your correspondence on the email below has been received and noted.

Details of this correspondence has been captured in the Comments and Responses Report (refer to **Appendix E**).

### 2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilized in the rating of significance of impacts

The purpose of impact assessment is to assign relative significance to predicted impacts associated with the project, and to determine the manner in which impacts are to be avoided, mitigated or managed. The potential environmental impacts were identified based on the nature of the receiving environment, a review of the proposed activities, and the issues raised in the public participation process.

The potential impacts of the proposed development were identified through a site visit, the Environmental Assessment Practitioners experience and expertise in the field and specialist study reports. In the Basic Assessment Report, the potential impacts are broadly identified and outlined. An assessment of the potential impacts is provided, identifying the impacts that are potentially significant and recommending management and mitigation measures to reduce the impacts. In general, it is recognized that every development has the potential to pose various risks to the environment as well as to the residents or businesses in the surrounding area. Therefore, it is important that these possible risks are taken into account during the pre-construction phase of the development.

In accordance with the requirements from the EIA Regulations 2014 GN 982, Regulation 19 (3) and as set out in Appendix 1, the following impacts of the issues identified through the basic assessment phase were

assessed in terms of the following methodology. All impacts are assessed according to the following criteria.

- The **nature**, 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 is indicated whether:
  - \* The lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - \* The lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - \* Medium-term (5–15 years) – assigned a score of 3;
  - \* Long term (> 15 years) - assigned a score of 4; or;
  - \* Permanent - assigned a score of 5.
- The **magnitude**, quantified on a scale from 0-10, where a score is assigned:
  - \* 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 describes the likelihood of the impact actually occurring. Probability is estimated on a scale, and a score assigned:
  - \* Assigned a score of 1–5, where 1 is very improbable (probably will not happen);
  - \* Assigned a score of 2 is improbable (some possibility, but low likelihood);
  - \* Assigned a score of 3 is probable (distinct possibility);
  - \* Assigned a score of 4 is highly probable (most likely); and
  - \* Assigned a score of 5 is definite (impact will occur regardless of any prevention measures).
- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high.
- The **status**, which is described as positive, negative or neutral.
- The degree to which the impact can be reversed.
- The degree to which the impact may cause irreplaceable loss of resources.
- The degree to which the impact can be mitigated.

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

- **< 30 points:** Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- **30-60 points:** Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- **>60 points:** High (i.e. 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.).

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the **CONSTRUCTION and OPERATION PHASE** for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

**It is worth noting that all four Design Layout Alternatives that are proposed occur within the same receiving environment and therefore will be assessed together as the impacts will be similar irrespective of which design layout selected during the construction phase. It is for this reason that the section will not be duplicated.**

## 2.1 IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

**Table 5:** A summary of anticipated significance of the potential direct, indirect and cumulative impacts that is likely to occur as a result of the CONSTRUCTION PHASE of all four of the Design Layout Alternatives (Proposed Design Layout Alternative 1, Design Layout Alternative 2, Design Layout Alternative 3, Design Layout Alternative 4): Mixed Use Housing Development.

Potential impacts:	Proposed mitigation:	Risk of the impact and mitigation not being implemented
<b>IMPACT ON VEGETATION</b>		
<p><b>Nature of the Impact:</b> <u>Destruction of vegetation</u></p> <p>The development will require the removal of most of the vegetation, if not all of it. This will reduce open space within the city as well as the available ESAs within Gauteng. However, the vegetation is classified as being of low sensitivity to the development, although as open space it does function as groundwater recharge zones. This function can be mitigated.</p> <p>The sources of this impact include:</p> <ul style="list-style-type: none"> <li>Clearing of and damage to vegetation in construction</li> </ul>	<ul style="list-style-type: none"> <li>Construction workers may not remove flora, and neither may anyone collect seed from the plants without permission from the local authority.</li> <li>Prohibit vehicular or pedestrian access into natural areas beyond the demarcated boundary of the construction area.</li> <li>Use permeable paving to encourage water infiltration into the soils</li> <li>Remove vegetation as and when necessary to protect soils from erosion and a stormwater management plan must be implemented for the duration of construction</li> <li>Construction workers may not remove flora and neither may anyone collect seed from the plants without permission from the local authority.</li> <li>Where topsoils need to be removed, store such in a separate area where such soils can be protected until they can be re-used for post-construction rehabilitation</li> </ul>	<p>Localised alteration of soil surface characteristics and loss of flora and increased fragmentation of remaining grasslands in the area.</p>

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented																			
<p>footprint, access roads, construction camps, vehicle / machinery traffic and trampling by workers;</p> <ul style="list-style-type: none"> <li>Illegal disposal and dumping of construction material such as cement or oil, as well as maintenance materials during construction.</li> </ul>			<p>where applicable. Never mix topsoils with subsoils or other spoil materials.</p> <ul style="list-style-type: none"> <li>Maintain site demarcations in position until the cessation of construction work.</li> <li>After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction.</li> </ul>																				
<table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td>Probability</td> <td>Definite (5)</td> <td>Definite (3)</td> </tr> <tr> <td>Duration</td> <td>Permanent (5)</td> <td>Permanent (5)</td> </tr> <tr> <td>Extent</td> <td>Limited to local area (2)</td> <td>Limited to local area (1)</td> </tr> <tr> <td>Magnitude</td> <td>Low (4)</td> <td>Minor (2)</td> </tr> <tr> <td>Significance</td> <td>55 (medium)</td> <td>40 (medium)</td> </tr> <tr> <td>Status (positive, negative or neutral)</td> <td>Negative</td> <td>Negative</td> </tr> </tbody> </table>					Description	Without Mitigation	With Mitigation	Probability	Definite (5)	Definite (3)	Duration	Permanent (5)	Permanent (5)	Extent	Limited to local area (2)	Limited to local area (1)	Magnitude	Low (4)	Minor (2)	Significance	55 (medium)	40 (medium)	Status (positive, negative or neutral)
Description	Without Mitigation	With Mitigation																					
Probability	Definite (5)	Definite (3)																					
Duration	Permanent (5)	Permanent (5)																					
Extent	Limited to local area (2)	Limited to local area (1)																					
Magnitude	Low (4)	Minor (2)																					
Significance	55 (medium)	40 (medium)																					
Status (positive, negative or neutral)	Negative	Negative																					
<p><b>Nature of the Impact:</b> <u>Destruction of protected plants and plants of conservation concern</u></p> <p>Any development on the site could result in the removal of plant species of conservation concern and provincially protected plants, impact on their habitat, pollinators and inevitably the persistence of these species. Although the likelihood is considered to be very low for this site.</p>			<ul style="list-style-type: none"> <li>The ECO should be made aware of any bulbous species that are encountered during site clearing. Such species should be identified by a specialist and corrective action taken should in the unlikely event that the species is of conservation concern</li> <li>These species can also be used in rehabilitation of landscaping. If these species cannot be relocated within the site their destruction must be communicated to the GDARD and can only take place once a permit to do so was issued by the GDARD</li> <li>Construction workers may not tamper or remove these plants, and neither may anyone collect seed from the plants without permission from the local authority.</li> </ul>	None																			
<table border="1"> <thead> <tr> <th>Description</th> <th>Without</th> <th>With Mitigation</th> </tr> </thead> </table>					Description	Without	With Mitigation																
Description	Without	With Mitigation																					



Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
	<b>Mitigation</b>																								
<b>Probability</b>	Probable (3)	Improbable (2)																							
<b>Duration</b>	Permanent (5)	Medium term (3)																							
<b>Extent</b>	Regional (5)	Local area (4)																							
<b>Magnitude</b>	Moderate (6)	Low (4)																							
<b>Significance</b>	45 (medium)	12 (low)																							
<b>Status (positive, negative or neutral)</b>	Negative	Negative																							
<p><b>Nature of the Impact:</b> <u>Decrease in alien invasive vegetation (positive)</u></p> <p>Site clearing will destroy alien and invasive plant species on the site and limit its spread from the site.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td><b>Probability</b></td> <td>Probable (3)</td> <td>Highly probable (4)</td> </tr> <tr> <td><b>Duration</b></td> <td>Short-term (2)</td> <td>Long-term (4)</td> </tr> <tr> <td><b>Extent</b></td> <td>Local Area (2)</td> <td>Local Area (2)</td> </tr> <tr> <td><b>Magnitude</b></td> <td>Moderate (6)</td> <td>High (8)</td> </tr> <tr> <td><b>Significance</b></td> <td>30 (low)</td> <td>56 (medium)</td> </tr> <tr> <td><b>Status (positive, negative or neutral)</b></td> <td>Positive</td> <td>Positive</td> </tr> </tbody> </table>			Description	Without Mitigation	With Mitigation	<b>Probability</b>	Probable (3)	Highly probable (4)	<b>Duration</b>	Short-term (2)	Long-term (4)	<b>Extent</b>	Local Area (2)	Local Area (2)	<b>Magnitude</b>	Moderate (6)	High (8)	<b>Significance</b>	30 (low)	56 (medium)	<b>Status (positive, negative or neutral)</b>	Positive	Positive	<ul style="list-style-type: none"> <li>Monitor all sites disturbed by construction activities for colonisation by exotics or invasive plants and control these as they emerge. Monitoring should continue for at least two years after construction is complete.</li> <li>Alien invasive species, in particular category 1b species that were identified within the study area, should be removed from the development footprint and immediate surrounds, prior to construction or soil disturbances. By removing these species, the spread of seeds will be prevented into disturbed soils which could thus have a positive impact on the surrounding natural vegetation. Seeds should be destroyed / burnt and not be transported off the site.</li> <li>Manual removal is preferred to chemical control.</li> <li>Only suitably trained contractors (e.g. certified by the South African green Industries Council (SAGIC)) with knowledge of the species in question should be employed.</li> <li>All alien seedlings and saplings must be removed as they become evident</li> </ul>	<p>If alien invasive species monitoring is not maintained, the cleared areas could become infested again.</p>
Description	Without Mitigation	With Mitigation																							
<b>Probability</b>	Probable (3)	Highly probable (4)																							
<b>Duration</b>	Short-term (2)	Long-term (4)																							
<b>Extent</b>	Local Area (2)	Local Area (2)																							
<b>Magnitude</b>	Moderate (6)	High (8)																							
<b>Significance</b>	30 (low)	56 (medium)																							
<b>Status (positive, negative or neutral)</b>	Positive	Positive																							

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented
neutral)			<p>for the duration of construction.</p> <ul style="list-style-type: none"> <li>All construction vehicles and equipment, as well as construction material should be free of plant material. Therefore, all equipment and vehicles should be thoroughly cleaned prior to access on to the construction areas. This should be verified by the ECO.</li> <li>If filling material is to be used, this should be sourced from areas free of invasive species.</li> </ul>	
IMPACT ON SOIL				
<p><b>Nature of the Impact:</b> <u>Clearing of land for construction camps and potential pollution of the soil.</u></p> <p>These may be at one or several locations, area will be cleared and levelled where necessary, site offices may be temporary structures, machinery, building supplies and temporary staff facilities (excluding accommodation) will be housed here. The impacts could include:</p> <ul style="list-style-type: none"> <li>Removal of vegetation</li> <li>Levelling and compaction of soils</li> <li>Storage of machinery, supplies and staff facilities</li> </ul>			<ul style="list-style-type: none"> <li>Prevent spillage of construction material and other pollutants, contain and treat any spillages immediately, strictly prohibit any pollution/littering according to the relevant EMPr</li> <li>No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas</li> <li>Facilities may not be used as staff accommodation</li> <li>No vehicles may be washed on the property, except in suitably designed and controlled areas</li> <li>No vehicles may be serviced or repaired on the property, unless it is an emergency situation in which case adequate spillage containment must be implemented</li> </ul>	<p>Compaction on construction camps could result in altered topsoil characteristics and vegetation composition. These areas are also prone to invasion by alien invasive plant species.</p>
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Probable (3)	Improbable (2)		
<b>Duration</b>	Medium-term (3)	Short-term (2)		
<b>Extent</b>	Local Area (2)	Site bound (1)		
<b>Magnitude</b>	Moderate (6)	Low (4)		
<b>Significance</b>	33 (moderate)	14 (low)		

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
Status (positive, negative neutral)	or	Negative	Negative																						
<b>IMPACTS ON FAUNA HABITAT</b>																									
<p><b>Nature of the Impact:</b></p> <p>Construction of the proposed Eloffspark housing development will result in the further loss of faunal habitat on the site. Although some relatively intact faunal habitats remain on site these areas are small and fragmented. Furthermore, the site is fragmented from adjoining faunal habitats by roads and railway tracks. Faunal diversity was found to be very low. During the construction phase this impact will comprise clearing of remaining indigenous and invasive vegetation. This impact is considered to be permanent and is restricted to the construction phase.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td>Probability</td> <td>Definite (5)</td> <td>Definite (5)</td> </tr> <tr> <td>Duration</td> <td>Permanent (5)</td> <td>Permanent (5)</td> </tr> <tr> <td>Extent</td> <td>Limited to Local Area (1)</td> <td>Limited to Local Area (1)</td> </tr> <tr> <td>Magnitude</td> <td>Low (4)</td> <td>Low (0)</td> </tr> <tr> <td>Significance</td> <td>50 (moderate)</td> <td>Low (25)</td> </tr> <tr> <td>Status (positive, negative or</td> <td>Negative</td> <td>Negative</td> </tr> </tbody> </table>			Description	Without Mitigation	With Mitigation	Probability	Definite (5)	Definite (5)	Duration	Permanent (5)	Permanent (5)	Extent	Limited to Local Area (1)	Limited to Local Area (1)	Magnitude	Low (4)	Low (0)	Significance	50 (moderate)	Low (25)	Status (positive, negative or	Negative	Negative	<ul style="list-style-type: none"> <li>If faunal species of conservation concern are encountered during construction they need to be removed by trained professionals with the objective of relocation.</li> </ul>	None
Description	Without Mitigation	With Mitigation																							
Probability	Definite (5)	Definite (5)																							
Duration	Permanent (5)	Permanent (5)																							
Extent	Limited to Local Area (1)	Limited to Local Area (1)																							
Magnitude	Low (4)	Low (0)																							
Significance	50 (moderate)	Low (25)																							
Status (positive, negative or	Negative	Negative																							

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented
neutral)				
<b>WATERCOURSE IMPACT</b>				
<div style="border: 1px solid green; border-radius: 15px; padding: 10px; width: fit-content; margin: auto;"> <p>No soil or vegetation indicators for wetland conditions were recorded during the site assessment. Neither were wetness gradients visible from aerial imagery between 2004 and 2018. The wetland specialist' conclusion is therefore that no wetland conditions occur on site. It is unlikely that this development will affect the watercourses to the west and northeast of the site.</p> </div>				
<b>VISUAL IMPACT</b>				
<b>Nature of the Impact:</b> <u>Visual Impacts</u>			<ul style="list-style-type: none"> <li>▪ Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction period. All waste/litter/rubbish etc. must be disposed of at an approved dumping site as approved by the Council.</li> <li>▪ Bare surfaces must be rehabilitated as soon as possible with indigenous vegetation that will be able to grow in the area;</li> <li>▪ The landscape must be rehabilitated in such a way that it corresponds to the surrounding topography;</li> <li>▪ Should overtime/night work be authorized, the Contractor shall be responsible to</li> </ul>	The risk is low provided the mitigation measures are implemented
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Probable (3)	Improbable (2)		
<b>Duration</b>	Short-term (2)	Short-term (2)		
<b>Extent</b>	Limited to Local Area (2)	Limited to Local Area (2)		
<b>Magnitude</b>	Medium (6)	Low (4)		
<b>Significance</b>	<b>30 (Medium)</b>	<b>20 (Low)</b>		

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented
<b>Status (positive, negative or neutral)</b>	Negative	Negative	ensure that lighting does not cause undue disturbance to neighboring residents. In this situation low flux and frequency lighting shall be utilized.	
NOISE IMPACT				
<b>Noise Impacts anticipated</b>			<ul style="list-style-type: none"> <li>Construction activities must be limited to normal working hours and according to municipal bylaws, i.e. working hours must be limited to weekdays only.</li> <li>If construction is required on the weekend; permission from adjacent landowners will be required prior to construction.</li> <li>No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site.</li> <li>Equipment that is fitted with noise reduction facilities (e.g. side flaps, silencers etc) must be used as per operating instructions and maintained properly during site operations.</li> </ul>	Noise pollution caused during construction could potentially be a nuisance to neighbouring residential areas. Health risk on the noise recipient if mitigation measures are not implemented.
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Probable (3)	Improbable (2)		
<b>Duration</b>	Short-term (2)	Short-term (2)		
<b>Extent</b>	Local (2)	Local (2)		
<b>Magnitude</b>	Moderate (6)	Moderate (5)		
<b>Significance</b>	<b>30 (Moderate)</b>	<b>18 (Low)</b>		
<b>Status (positive or negative)</b>	Negative	Negative		
HERITAGE IMPACT				
<p><b>Nature of the Impact:</b> <u>Loss and disturbance of heritage sites due to the development.</u></p> <p>There are no heritages or archaeological resources identified at the project site. Therefore this impact will not be assessed further in this basic assessment report</p>			<ul style="list-style-type: none"> <li>Nonetheless, should graves, fossils or any archaeological artefacts be identified during construction, work on the area where the artefacts were found, must cease immediately and it should immediately be reported to a heritage practitioner or local museum so that an investigation and evaluation of the finds can be made.</li> </ul>	N/A
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Low (1)	Low (1)		
<b>Duration</b>	Permanent (5)	Permanent (5)		

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented
<b>Extent</b>	Limited to Local Area (1)	Limited to Local Area (1)		
<b>Magnitude</b>	Minor (8)	Minor (8)		
<b>Significance</b>	<b>Low (8)</b>	<b>Low (8)</b>		
<b>Status (positive, negative or neutral)</b>	Negative	Negative		
<b>TRAFFIC IMPACT</b>				
<p><b>Nature of the Impact:</b> Anticipated impacts on traffic during construction</p> <ul style="list-style-type: none"> <li>Potential traffic congestion due to slow construction vehicle movements and other construction related impacts.</li> </ul>			<ul style="list-style-type: none"> <li>Vehicular movement beyond the property boundaries may not occur during peak hour traffic times (07h30 – 08h30 and 16h00 – 17h00).</li> <li>It must be ensured that a backlog of traffic does not develop at the access points during peak hours through the upgrade to the road system and the implementation of an efficient and effective access control system.</li> <li>Speed restriction of 30km/h must be implemented for all construction vehicles on the active construction site.</li> <li>Implement dust suppression measures (wetting or application of soil binding compound) in all areas that will be affected by construction activities and where dust will be generated</li> </ul>	Very High traffic congestion in the area
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Highly Probable (4)	Probable (3)		
<b>Duration</b>	Short-term (2)	Short-term (2)		
<b>Extent</b>	Local (2)	Local (2)		
<b>Magnitude</b>	High (8)	Moderate (6)		
<b>Significance</b>	<b>48 (moderate)</b>	<b>Low (24)</b>		
<b>Status (positive or negative)</b>	Negative	Negative		

Potential impacts:	Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
<b>SOCIAL IMPACT</b>																							
<p><b>Positive Social impacts anticipated during construction</b></p> <ul style="list-style-type: none"> <li>Livelihoods improved during construction</li> <li>Labour will be required for construction activities of the proposed development. It is therefore expected that jobs will be created during the construction period.</li> <li>The construction labour requirements have not been estimated as yet. It is expected that much of the work will require mechanised construction methods because of the bulk of the works. However, there will also be a need for manual labour for construction.</li> </ul> <table border="1"> <thead> <tr> <th>Description</th> <th>Without Enhancement</th> <th>With Enhancement</th> </tr> </thead> <tbody> <tr> <td><b>Probability</b></td> <td>Probable (3)</td> <td>Highly Probable (4)</td> </tr> <tr> <td><b>Duration</b></td> <td>Very short-term (1)</td> <td>Very short-term (1)</td> </tr> <tr> <td><b>Extent</b></td> <td>Limited to site(1)</td> <td>Limited to site (1)</td> </tr> <tr> <td><b>Magnitude</b></td> <td>Low (4)</td> <td>Low (4)</td> </tr> <tr> <td><b>Significance</b></td> <td><b>Low (18)</b></td> <td><b>Low (24)</b></td> </tr> <tr> <td><b>Status (positive, negative or neutral)</b></td> <td>Positive</td> <td>Positive</td> </tr> </tbody> </table>	Description	Without Enhancement	With Enhancement	<b>Probability</b>	Probable (3)	Highly Probable (4)	<b>Duration</b>	Very short-term (1)	Very short-term (1)	<b>Extent</b>	Limited to site(1)	Limited to site (1)	<b>Magnitude</b>	Low (4)	Low (4)	<b>Significance</b>	<b>Low (18)</b>	<b>Low (24)</b>	<b>Status (positive, negative or neutral)</b>	Positive	Positive	<p>Enhancements:</p> <ul style="list-style-type: none"> <li>The project must increase the possibility that locals are employed and involved in the rehabilitation.</li> <li>This provides the opportunity for affected communities to benefit, but also provides an opportunity to raise awareness amongst affected communities about the benefits of the project.</li> </ul>	<p>Construction can provide a limited number of jobs. There will therefore not be enough jobs on offer compared with the number of people that apply.</p>
Description	Without Enhancement	With Enhancement																					
<b>Probability</b>	Probable (3)	Highly Probable (4)																					
<b>Duration</b>	Very short-term (1)	Very short-term (1)																					
<b>Extent</b>	Limited to site(1)	Limited to site (1)																					
<b>Magnitude</b>	Low (4)	Low (4)																					
<b>Significance</b>	<b>Low (18)</b>	<b>Low (24)</b>																					
<b>Status (positive, negative or neutral)</b>	Positive	Positive																					
<p><b>Negative Social impacts anticipated during the construction period</b></p>	<ul style="list-style-type: none"> <li>All adjacent landowners must be informed of the construction processes prior to commencement of construction activities. Adjacent land owners must be informed</li> </ul>	<p>Low risk with mitigations</p>																					

Potential impacts:	Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
<ul style="list-style-type: none"> <li>The increased dust resulting from construction activities (vegetation clearing, site preparation, earthworks, uncovered topsoil stockpiles and sand piles and loads on vehicles), vehicles, plant and machinery poses a health hazard to construction staff and people living and working in the vicinity of the site.</li> <li>Safety And Security issues for the residents</li> </ul> <p>The overall impact on the community is likely to be of low significance as these can be easily mitigated</p>	<p>timeously of any service stoppages in their areas.</p> <ul style="list-style-type: none"> <li>Notification must include possible timeframes for stoppages. Consequences of such stoppages must be clearly indicated to all surrounding/affected land owners.</li> <li>Affected land owners must be timeously informed of any/all maintenance of the bulk water services supply which may result in service stoppages to their properties. Again this must include possible timeframes so alternatives can be provided.</li> <li>All flammable substances must be stored in dry area which do not pose an ignition risk to the said substances</li> <li>Ensure all construction vehicles and machinery is under the control of competent personnel.</li> <li>No open fires will be allowed on site unless in a demarcated area identified by the ECO</li> <li>Limit access to the construction site to the workforce only. Comply with the requirements of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).</li> <li>Construction footprints, including site offices, excavations, storage areas, materials lay-down areas, stockpile area, and workers rest areas should be clearly demarcated or fenced off before construction commences.</li> <li>All construction activities should be limited to the demarcated areas.</li> <li>Access to these demarcated areas strictly controlled.</li> <li>Entry points and access routes to the sites must be clearly marked and traffic limited to those areas as far as possible.</li> <li>Suitable warning and information signage should be erected before construction commences.</li> <li>Adequate sanitary and ablutions facilities must be provided for construction workers</li> <li>The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.</li> </ul>																						
<table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td><b>Probability</b></td> <td>Highly Probable (4)</td> <td>Probable (3)</td> </tr> <tr> <td><b>Duration</b></td> <td>Short-term (2)</td> <td>Short-term (2)</td> </tr> <tr> <td><b>Extent</b></td> <td>Local (2)</td> <td>Local (2)</td> </tr> <tr> <td><b>Magnitude</b></td> <td>High (8)</td> <td>Moderate (6)</td> </tr> <tr> <td><b>Significance</b></td> <td><b>48 (moderate)</b></td> <td><b>Low (24)</b></td> </tr> <tr> <td><b>Status (positive or negative)</b></td> <td>Negative</td> <td>Negative</td> </tr> </tbody> </table>	Description	Without Mitigation	With Mitigation	<b>Probability</b>	Highly Probable (4)	Probable (3)	<b>Duration</b>	Short-term (2)	Short-term (2)	<b>Extent</b>	Local (2)	Local (2)	<b>Magnitude</b>	High (8)	Moderate (6)	<b>Significance</b>	<b>48 (moderate)</b>	<b>Low (24)</b>	<b>Status (positive or negative)</b>	Negative	Negative		
Description	Without Mitigation	With Mitigation																					
<b>Probability</b>	Highly Probable (4)	Probable (3)																					
<b>Duration</b>	Short-term (2)	Short-term (2)																					
<b>Extent</b>	Local (2)	Local (2)																					
<b>Magnitude</b>	High (8)	Moderate (6)																					
<b>Significance</b>	<b>48 (moderate)</b>	<b>Low (24)</b>																					
<b>Status (positive or negative)</b>	Negative	Negative																					



Potential impacts:	Proposed mitigation:	Risk of the impact and mitigation not being implemented
	<ul style="list-style-type: none"> <li>•</li> </ul>	

## 2.2 IMPACTS THAT MAY RESULT FROM THE OPERATION PHASE

**It is worth noting that all four Design Layout Alternatives that are proposed occur within the same receiving environment and therefore will be assessed together as the impacts will be similar irrespective of which design layout selected during the operation phase. It is for this reason that the section will not be duplicated.**

**Table 6:** A summary of anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the OPERATION PHASE of all four of the Design Layout Alternatives (Proposed Design Layout Alternative 1, Design Layout Alternative 2, Design Layout Alternative 3, Design Layout Alternative 4): Mixed Use Housing Development.

Potential impacts:	Proposed mitigation:	Risk of the impact and mitigation not being implemented															
<b>IMPACT ON VEGETATION</b>																	
<p><b>Nature of the Impact:</b> <u>Destruction of vegetation</u></p> <p>The development during operational phase will entail landscaped vegetation that will be prone to alien vegetation invasion.</p> <p>The sources of this impact include:</p> <ul style="list-style-type: none"> <li>• Non monitoring of alien invasion during vegetation maintenance.</li> <li>• Equipment laces with alien vegetation seedlings.</li> <li>• Residents planting non indigenous vegetation</li> </ul> <table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td><b>Probability</b></td> <td>Probable (3)</td> <td>Improbable (2)</td> </tr> <tr> <td><b>Duration</b></td> <td>Permanent (5)</td> <td>Permanent (5)</td> </tr> <tr> <td><b>Extent</b></td> <td>Limited to local area (2)</td> <td>Limited to local site (1)</td> </tr> <tr> <td><b>Magnitude</b></td> <td>Low (4)</td> <td>Minor (2)</td> </tr> </tbody> </table>	Description	Without Mitigation	With Mitigation	<b>Probability</b>	Probable (3)	Improbable (2)	<b>Duration</b>	Permanent (5)	Permanent (5)	<b>Extent</b>	Limited to local area (2)	Limited to local site (1)	<b>Magnitude</b>	Low (4)	Minor (2)	<ul style="list-style-type: none"> <li>• Use indigenous plants local to the area in the landscaping of the development.</li> <li>• Monitor landscaped vegetation for alien invasive vegetation and weeds.</li> <li>• Inform residents that planting non indigenous vegetation is undesired</li> </ul>	Localised alien vegetation infestation
Description	Without Mitigation	With Mitigation															
<b>Probability</b>	Probable (3)	Improbable (2)															
<b>Duration</b>	Permanent (5)	Permanent (5)															
<b>Extent</b>	Limited to local area (2)	Limited to local site (1)															
<b>Magnitude</b>	Low (4)	Minor (2)															

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
<table border="1"> <tr> <td><b>Significance</b></td> <td><b>33 (medium)</b></td> <td><b>16 (Low)</b></td> </tr> <tr> <td><b>Status (positive, negative or neutral)</b></td> <td>Negative</td> <td>Negative</td> </tr> </table>	<b>Significance</b>	<b>33 (medium)</b>	<b>16 (Low)</b>	<b>Status (positive, negative or neutral)</b>	Negative	Negative																			
<b>Significance</b>	<b>33 (medium)</b>	<b>16 (Low)</b>																							
<b>Status (positive, negative or neutral)</b>	Negative	Negative																							
<p><b>Nature of the Impact:</b> <u>Destruction of protected plants and plants of conservation concern</u></p> <ul style="list-style-type: none"> <li>Any development on the site could result in the removal of plant species of conservation concern and provincially protected plants, impact on their habitat, pollinators and inevitably the persistence of these species. Although the likelihood is considered to be very low for this site.</li> </ul> <table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td>Probability</td> <td></td> <td></td> </tr> <tr> <td>Duration</td> <td></td> <td></td> </tr> <tr> <td>Extent</td> <td></td> <td></td> </tr> <tr> <td>Magnitude</td> <td></td> <td></td> </tr> <tr> <td>Significance</td> <td></td> <td></td> </tr> <tr> <td>Status (positive, negative or neutral)</td> <td></td> <td></td> </tr> </tbody> </table>			Description	Without Mitigation	With Mitigation	Probability			Duration			Extent			Magnitude			Significance			Status (positive, negative or neutral)			<div style="border: 1px solid green; border-radius: 15px; padding: 20px; width: fit-content; margin: auto;"> <p>Not applicable as whole site is assumed to be developed</p> </div>	
Description	Without Mitigation	With Mitigation																							
Probability																									
Duration																									
Extent																									
Magnitude																									
Significance																									
Status (positive, negative or neutral)																									
<p><b>Nature of the Impact:</b> <u>Introduction and spread of alien vegetation.</u></p>			<ul style="list-style-type: none"> <li>Implement an Alien Plant Control Plan</li> <li>Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction / earthworks in that area and returning it where</li> </ul>	<p>Expected to be limited provided that the mitigation measures are implemented correctly and</p>																					

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented
<ul style="list-style-type: none"> <li>Once in a system alien invasive plants can spread through the catchment. If allowed to seed before control measures are implemented alien plants can easily colonise and impact on downstream users.</li> </ul>			<p>possible afterwards.</p> <ul style="list-style-type: none"> <li>Monitor the establishment of alien invasive species within the areas affected by the construction and maintenance and take immediate corrective action where invasive species are observed to establish.</li> <li>Rehabilitate or revegetate disturbed areas and monitor for effective rehabilitation as specified in the rehabilitation plan</li> </ul>	<p>effective rehabilitation of the site is undertaken where necessary.</p>
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Probable (3)	Highly probable (4)		
<b>Duration</b>	Medium-term (3)	Long-term (4)		
<b>Extent</b>	Regional (4)	Limited to Local Area (2)		
<b>Magnitude</b>	Low (4)	High (8)		
<b>Significance</b>	<b>33 (medium)</b>	<b>56 (medium)</b>		
<b>Status (positive, negative or neutral)</b>	Positive	Positive		
IMPACT ON SOIL				
<p><b>Nature of the Impact:</b> <u>Negative impact on soil</u></p> <p>The sources of this impact include:</p> <ul style="list-style-type: none"> <li>Soil contamination</li> <li>Soil compaction</li> <li>Soil erosion</li> </ul>			<ul style="list-style-type: none"> <li>Landscaping should be in a manner that discourages soil erosion.</li> <li>Where needed rip and loosen soils to avoid compaction.</li> <li>Maintenance should monitor for soil contaminations and appropriately clean up and dispose legally where necessary.</li> </ul>	<p>Increased loss of soil and soil compaction, soil erosion.</p>
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Probable (3)	Improbable (2)		

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
<b>Duration</b>	Permanent (5)	Permanent (5)																							
<b>Extent</b>	Limited to local area (2)	Limited to local site (1)																							
<b>Magnitude</b>	Low (4)	Minor (2)																							
<b>Significance</b>	<b>33 (medium)</b>	<b>16 (Low)</b>																							
<b>Status (positive, negative or neutral)</b>	Negative	Negative																							
IMPACTS ON FAUNA HABITAT																									
<p><b>Nature of the Impact:</b></p> <p>Loss of ecological resources will result, but this will have a minimal impact given the small site size as well as the poor conservation character of its transformed grassland.</p> <p>Mitigation would not be possible given the nature of the proposed development.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td><b>Probability</b></td> <td>Most likely 4</td> <td>Most likely 4</td> </tr> <tr> <td><b>Duration</b></td> <td>Permanent 5</td> <td>Permanent 5</td> </tr> <tr> <td><b>Extent</b></td> <td>Local 1</td> <td>Local 1</td> </tr> <tr> <td><b>Magnitude</b></td> <td>Small 0</td> <td>Small 0</td> </tr> <tr> <td><b>Significance</b></td> <td><b>Low 24</b></td> <td><b>Low 24</b></td> </tr> <tr> <td><b>Status</b></td> <td>Negative</td> <td>Negative</td> </tr> </tbody> </table>			Description	Without Mitigation	With Mitigation	<b>Probability</b>	Most likely 4	Most likely 4	<b>Duration</b>	Permanent 5	Permanent 5	<b>Extent</b>	Local 1	Local 1	<b>Magnitude</b>	Small 0	Small 0	<b>Significance</b>	<b>Low 24</b>	<b>Low 24</b>	<b>Status</b>	Negative	Negative	<ul style="list-style-type: none"> <li>Maintain some natural areas and connectivity in the proposed green open areas.</li> </ul>	None
Description	Without Mitigation	With Mitigation																							
<b>Probability</b>	Most likely 4	Most likely 4																							
<b>Duration</b>	Permanent 5	Permanent 5																							
<b>Extent</b>	Local 1	Local 1																							
<b>Magnitude</b>	Small 0	Small 0																							
<b>Significance</b>	<b>Low 24</b>	<b>Low 24</b>																							
<b>Status</b>	Negative	Negative																							

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented
(positive, negative or neutral)				
<b>WATERCOURSE IMPACT</b>				
<div style="border: 1px solid green; border-radius: 15px; padding: 10px; width: fit-content; margin: 0 auto;"> <p>No soil or vegetation indicators for wetland conditions were recorded during the site assessment. Neither were wetness gradients visible from aerial imagery between 2004 and 2018. The wetland specialist' conclusion is therefore that no wetland conditions occur on site. It is unlikely that this development will affect the watercourses to the west and northeast of the site.</p> </div>				
<b>VISUAL IMPACTS</b>				
<b>Nature of the Impact:</b> <u>Visual Impacts</u>			<ul style="list-style-type: none"> <li>▪ Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction period. All waste/litter/rubbish etc. must be disposed of at an approved dumping site as approved by the Municipality.</li> <li>▪ Bare surfaces must be rehabilitated as soon as possible with indigenous</li> </ul>	The risk is low provided the mitigation measures are implemented
<b>Description</b>	<b>Without Mitigation</b>	<b>With Mitigation</b>		
<b>Probability</b>	Probable (3)	Improbable (2)		

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
<b>Duration</b>	Short-term (2)	Short-term (2)	vegetation that will be able to grow in the area; <ul style="list-style-type: none"> <li>▪ The landscape must be rehabilitated in such a way that it corresponds to the surrounding topography;</li> <li>▪ Should overtime/night work be authorized, the Contractor shall be responsible to ensure that lighting does not cause undue disturbance to neighboring residents. In this situation low flux and frequency lighting shall be utilized.</li> </ul>																						
<b>Extent</b>	Limited to Local Area (2)	Limited to Local Area (2)																							
<b>Magnitude</b>	Medium (6)	Low (4)																							
<b>Significance</b>	<b>30 (Medium)</b>	<b>20 (Low)</b>																							
<b>Status (positive, negative or neutral)</b>	Negative	Negative																							
HERITAGE IMPACT																									
<p><b>Nature of the Impact:</b> <u>Loss and disturbance of heritage sites due to the development.</u></p> <p>There are no heritages or archeological resources identified at the project site.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Without Mitigation</th> <th>With Mitigation</th> </tr> </thead> <tbody> <tr> <td><b>Probability</b></td> <td>Low (1)</td> <td>Low (1)</td> </tr> <tr> <td><b>Duration</b></td> <td>Permanent (5)</td> <td>Permanent (5)</td> </tr> <tr> <td><b>Extent</b></td> <td>Limited to Local Area (1)</td> <td>Limited to Local Area (1)</td> </tr> <tr> <td><b>Magnitude</b></td> <td>Minor (8)</td> <td>Minor (8)</td> </tr> <tr> <td><b>Significance</b></td> <td><b>Low (8)</b></td> <td><b>Low (8)</b></td> </tr> <tr> <td><b>Status (positive,</b></td> <td>Negative</td> <td>Negative</td> </tr> </tbody> </table>			Description	Without Mitigation	With Mitigation	<b>Probability</b>	Low (1)	Low (1)	<b>Duration</b>	Permanent (5)	Permanent (5)	<b>Extent</b>	Limited to Local Area (1)	Limited to Local Area (1)	<b>Magnitude</b>	Minor (8)	Minor (8)	<b>Significance</b>	<b>Low (8)</b>	<b>Low (8)</b>	<b>Status (positive,</b>	Negative	Negative	<ul style="list-style-type: none"> <li>▪ Should graves, fossils or any archaeological artefacts be identified during construction, work on the area where the artefacts were found, must cease immediately and it should immediately be reported to a heritage practitioner or local museum so that an investigation and evaluation of the finds can be made.</li> </ul>	N/A
Description	Without Mitigation	With Mitigation																							
<b>Probability</b>	Low (1)	Low (1)																							
<b>Duration</b>	Permanent (5)	Permanent (5)																							
<b>Extent</b>	Limited to Local Area (1)	Limited to Local Area (1)																							
<b>Magnitude</b>	Minor (8)	Minor (8)																							
<b>Significance</b>	<b>Low (8)</b>	<b>Low (8)</b>																							
<b>Status (positive,</b>	Negative	Negative																							

Potential impacts:			Proposed mitigation:	Risk of the impact and mitigation not being implemented
negative or neutral)				
<b>SOCIAL IMPACTS</b>				
<p><b>Nature of the Impact:</b> <u>Livelihoods improved</u> (Positive)</p> <ul style="list-style-type: none"> <li>Project is meant to address the current housing backlog in the region, this project will contribute to this shortfall and therefore deemed as a positive impact</li> </ul>			None required	none
<b>Description</b>	<b>Without Enhancement</b>	<b>With Enhancement</b>		
<b>Probability</b>	Probable (3)	Probable (3)		
<b>Duration</b>	Short-term (2)	Short-term (2)		
<b>Extent</b>	Limited to Local Area (2)	Limited to Local Area (2)		
<b>Magnitude</b>	Medium (6)	Medium (6)		
<b>Significance</b>	<b>30 (Medium)</b>	<b>30 (Medium)</b>		
<b>Status (positive, negative or neutral)</b>	Positive	Positive		



Potential impacts:	Proposed mitigation:	Risk of the impact and mitigation not being implemented																					
<b>TRAFFIC IMPACTS</b>																							
<p><b>Nature of the Impact:</b> Anticipated impacts on traffic in the area</p> <ul style="list-style-type: none"> <li>Significant public transport activities have been observed along Mansfield Avenue. This is in the form of both combi taxis and the BRT bus service (A Re Yeng) also running along the same route. The nearest station is approximately half a kilometre to the North of this development making this development accessible to Public Transport users. It is expected however that a significant number of public transport users will be utilising the entrances along Franzina Street.</li> </ul>	<ul style="list-style-type: none"> <li>Walkways must be provided for along the frontage of this development. It would be prudent for these walkways to be extended to connect to bus/taxi drop-off points.</li> <li>Bus/Taxi bays must be provided at all access points along Franzina Street.</li> <li>The access point at Mansfield and Paul Kruger must be implemented in a manner that enables future developments to utilise the same and not be restricted to service one development. Permission for the relaxation of this requirement can be sought from the City in light of the restrictions in the implementation of any future roads inside this property as a result of the railway yard.</li> </ul>	Very High traffic congestion in the area																					
<table border="1"> <thead> <tr> <th data-bbox="143 839 342 871">Description</th> <th data-bbox="347 839 584 871">Without Mitigation</th> <th data-bbox="589 839 772 871">With Mitigation</th> </tr> </thead> <tbody> <tr> <td data-bbox="143 874 342 914"><b>Probability</b></td> <td data-bbox="347 874 584 914">Highly Probable (4)</td> <td data-bbox="589 874 772 914">Probable (3)</td> </tr> <tr> <td data-bbox="143 917 342 957"><b>Duration</b></td> <td data-bbox="347 917 584 957">Short-term (2)</td> <td data-bbox="589 917 772 957">Short-term (2)</td> </tr> <tr> <td data-bbox="143 960 342 1000"><b>Extent</b></td> <td data-bbox="347 960 584 1000">Local (2)</td> <td data-bbox="589 960 772 1000">Local (2)</td> </tr> <tr> <td data-bbox="143 1003 342 1043"><b>Magnitude</b></td> <td data-bbox="347 1003 584 1043">High (8)</td> <td data-bbox="589 1003 772 1043">Moderate (6)</td> </tr> <tr> <td data-bbox="143 1046 342 1086"><b>Significance</b></td> <td data-bbox="347 1046 584 1086" style="background-color: #FFD700;">48 (moderate)</td> <td data-bbox="589 1046 772 1086" style="background-color: #90EE90;">Low (24)</td> </tr> <tr> <td data-bbox="143 1090 342 1216"><b>Status (positive or negative)</b></td> <td data-bbox="347 1090 584 1216">Negative</td> <td data-bbox="589 1090 772 1216">Negative</td> </tr> </tbody> </table>	Description	Without Mitigation	With Mitigation	<b>Probability</b>	Highly Probable (4)	Probable (3)	<b>Duration</b>	Short-term (2)	Short-term (2)	<b>Extent</b>	Local (2)	Local (2)	<b>Magnitude</b>	High (8)	Moderate (6)	<b>Significance</b>	48 (moderate)	Low (24)	<b>Status (positive or negative)</b>	Negative	Negative		
Description	Without Mitigation	With Mitigation																					
<b>Probability</b>	Highly Probable (4)	Probable (3)																					
<b>Duration</b>	Short-term (2)	Short-term (2)																					
<b>Extent</b>	Local (2)	Local (2)																					
<b>Magnitude</b>	High (8)	Moderate (6)																					
<b>Significance</b>	48 (moderate)	Low (24)																					
<b>Status (positive or negative)</b>	Negative	Negative																					

## NO GO OPTION

This is the option of not undertaking the proposed Eloffspark mixed used housing development at this site. This option will result in no impacts occurring on the biophysical environment (i.e. biodiversity, soils), and will result in no visual or social impact hence the project site status quo remains. The No-Go option will result in the situation where the need for housing as identified by the Integrated Development Plan addressed by the City of Tshwane Metropolitan Municipality for 2016/2017 to 2021 remains unchanged. **From the Table 7 below it can be noted that negative impacts of the no go option alternative are considered to outweigh the positive impacts of the no go option alternative. The no go option is therefore not preferred nor endorsed.**

**Table 7:** Potential impacts should the development not be Approved “No-Go” Alternative

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
Destruction of vegetation	Negligible	There are no mitigation measures	Negligible	No risk
Destruction of protected plants and plants of conservation concern	Negligible	There are no mitigation measures	Negligible	No risk
Alien invasive vegetation	N – Very High	There are no mitigation measures	N – Low	Very Low risk
Impact on soil	Negligible	There are no mitigation measures	Negligible	No risk
Direct impact on fauna.	Negligible	There are no mitigation measures	Negligible	No risk
Visual Impacts	Negligible	There are no mitigation measures	Negligible	No risk
Noise Impacts anticipated	Negligible	There are no mitigation measure	Negligible	
Impact on heritage	Negligible	There are no mitigation measures	Negligible	No risk
Impact on traffic	Negligible	There are no mitigation measures	Negligible	No risk
Social impacts anticipated during the construction period (Positive)	Negligible	There are no mitigation measures	Negligible	No risk
Social impacts anticipated during the construction	Low	The implementation of housing	Negligible	Potential unrest within the city in

period (Negative)		service delivery for local and regional population to alleviate the existing housing backlog		regards to housing provision. The potential increase in informal housing being established by locals in need of housing.
-------------------	--	--	--	--

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

- Wetland Opinion
- Vegetation Impact Assessment
- Fauna Impact Assessment
- Heritage Impact Assessment

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

The information provided by the client forms the basis of the planning and design layouts discussed.

### 3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), +significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

#### Proposed and Alternative Designs

<b>Potential impacts:</b>	<b>Significance rating of impacts(positive, negative or neutral):</b>	<b>Proposed mitigation:</b>	<b>Significance rating of impacts after mitigation:</b>	<b>Risk of the impact and mitigation not being implemented</b>
---------------------------	---	-----------------------------	---	--

It is not foreseen that the proposed development would reach a decommissioning and closure phase due to the nature of the development (mixed use housing development). Impacts associated with the decommissioning phase are therefore not assessed.

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

Not Applicable

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

- Post decommissioning management cost will not be determined at this stage as this phase of the development is not contemplated.
- Rehabilitation management costs are not available it this stage of the project.

### 4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Cumulative impacts can result from an effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. The anticipated cumulative impacts of this development includes the following:

#### **Destruction of vegetation**

- If mitigation measures are adequately implemented, no cumulative impacts are expected

#### **Removal of alien invasive vegetation**

- The removal and sustained low or no infestation with alien invasive species will have a positive cumulative impact as the seed source of these species within the area will be reduced.

#### **Wetland**

- No soil or vegetation indicators for wetland conditions were recorded during the site assessment. Neither were wetness gradients visible from aerial imagery between 2004 and 2018. Our conclusion is therefore that no wetland conditions occur on site. It is unlikely that this development will affect the watercourses to the west and northeast of the site.

#### **Increased socio-economic upliftment as a result of the proposed development (Positive Impact)**

- Constructing the proposed development will result in additional jobs being created in the area and skills development during the construction phase. Due to the notable unemployment rate in the study area. The positive impact will be very low positive but with enhancement it can be low positive. The provision of the much needed housing will contribute positively to the socioeconomic outlook of the study area. As a result the existing housing backlog the city is facing will be reduced in the long run.

#### **Noise**

- No cumulative impacts expected

#### **Visual**

- The establishment of proposed development will be a pleasant addition to the local area, and will mean that the existing truck yard and associated infrastructure will cease to exist. The proposed development includes pleasant dedicated open green areas which bring in a welcome sight in the long run.

#### **Increase traffic congestion in the area**

- This is expected to be **low** so long as the recommendations stipulated in the traffic- report are adopted and adhered to.

Generally, the cumulative impact for the development is rated as **Low** and with mitigations.

## **5. IMPACT SUMMARY OF THE PROPOSAL AND ALTERNATIVE**

A summary of the impact assessments is presented in **Table 8 and 9**; the tables cover the construction and operational impacts. An overall weighted score is provided in each case. Thus far each of the environmental issues are assigned equal weighting (i.e. the weighted score is the average of each of the individual scores. The impact scores are also colour coded according to the following:

< 30	Low significance
30 to -60	Moderate significance
>60	High significance

**Table 8:** Impact Summary table : Construction Phase

Environmental Aspect	Construction	
	Without Mitigation	With Mitigation
Destruction of vegetation	Moderate	Low
Destruction of protected plants and plants of conservation concern	Moderate	Low
Alien invasive vegetation (positive)	Low	Moderate
Impact on soil	Moderate	Low
Direct impact on fauna habitat	Moderate	Low
Visual Impacts	Moderate	Low
Noise Impacts anticipated	Moderate	Low
Impact on heritage	Low	Low
Impact on traffic	Moderate	Low
Social impacts anticipated during the construction period (Positive)	Low	Low
Social impacts anticipated during the construction period (Negative)	Moderate	Low

**Table 9 :** Impact Summary table: Operation Phase

Environmental Aspect	Operation	
	Without Mitigation	With Mitigation
Destruction of vegetation	Moderate	Low
Destruction of protected plants and plants of conservation concern	N/A	N/A
Alien invasive vegetation (positive)	Moderate	Moderate
Impact on soil	Moderate	Low
Direct impact on fauna habitat	Moderate	Low
Visual Impacts	Moderate	Low
Noise Impacts anticipated	N/A	N/A
Impact on heritage	Low	Low
Impact on traffic	Moderate	Low
Social impacts anticipated during the construction period (Positive)	Moderate	Moderate
Social impacts anticipated during the construction period	Moderate	Low

(Negative)

For alternative:

During construction and operation phases of the development, it is noted that the impacts of ALL the design layout alternatives are similar.

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

The recorded impacts before mitigation were mostly of Medium significance without mitigation of which the impacts can be reduced to mostly Low significance. In addition, the proposed design layout alternative and the other alternatives will have green zones which will be centralised on traffic nodes throughout the estate and will be communal. Each of these green zones will each have an individual character.

The environmental cost of this proposed development are expected to occur at local and site level and are considered acceptable provided that the mitigation measures as outlined in this Basic Assessment Report and EMPr are implemented. It must be noted that the implementation of the other alternatives namely Design Layout Alternative 2, Design Layout Alternative 3, Design Layout Alternative 4 are equally endorsed for development as they too present no fatal environmental flaws. From an environmental point of view, all four alternative layout designs can be implemented for development provided that recommended mitigation measures are implemented. The preference of Proposed Design Layout Alternative 1 is based on the requirements of the applicant (HDA) in regards to the existing town planning plans and budget put in place for the implementation of the Eloffspark mixed use housing project.

## 6. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

The following conclusions were drawn from the specialist studies undertaken within this Basic Assessment for all alternatives:

### **Wetland Opinion:**

No soil or vegetation indicators for wetland conditions were recorded during the site assessment. Neither were wetness gradients visible from aerial imagery between 2004 and 2018. Our conclusion is therefore that no wetland conditions occur on site. It is unlikely that this development will affect the watercourses to the west and northeast of the site.

### **Vegetation Assessment**

Due to historic disturbances on the site, the vegetation present was classified as being mostly in a poor ecological condition with no potential to conserve good condition, natural vegetation. No plant species of conservation concern were recorded, and none are expected to occur.

The vegetation does play a role in groundwater recharge and therefore it is recommended that the development plan include open spaces (indigenous gardens) and incorporate permeable paving. The removal of the invasive alien plant species from the site will have a positive impact as it will reduce the number of seeds spreading from the site. This positive impact should be monitored to prevent re-infestation during the operational phase. From a vegetation perspective no objection against the proposed development is offered.

#### **Fauna assessment:**

Portions of the project area are classified as ESAs based on the Gauteng C-Plan 3.3. Although these ESAs connect with and support CBAs situated to the north and south of the site, there has already been extensive habitat fragmentation which has occurred in the form of roads and railway lines. Based on the results of this assessment 3 faunal habitat categories were identified:

- Areas devoid of faunal habitat were comprised of truck yards, offices and cleared areas;
- Moderately disturbed areas comprised 30% of the site. The vegetation in these areas was composed of a large number of alien invasive and pioneer plant species. These areas provide very limited habitat for faunal species
- Intact areas comprised approximately 42.5% of the site broken up into 3 disjointed areas. Although by no means unimpacted, these represented areas where some remnant of the indigenous vegetation cover & community remained. These areas also appeared to be less utilised by the people on the site. Due to the fragmented nature of these sites, and the high degree of anthropogenic disturbance surrounding these areas they are not expected to house diverse faunal communities; however, these are the only portions of the Eloffspark site that can be expected to retain some faunal diversity albeit of small, inconspicuous species that are tolerant to human disturbance.

Three (3) mammal species of conservation concern were rated as moderately likely to occur on the site. The remainder of the mammal, bird and herpetofaunal (reptile & amphibian) species of conservation concern that could potentially occur on the site were rated as having a very low or low likelihood of occurrence. The significance of further loss of faunal habitat was rated as highly significant prior to implementation of mitigation measures. This was primarily attributed to the moderate likelihood of 3 mammal species of conservation concern in the project area. Mitigation measures for this impact include raising awareness of the potential presence of these species on the site. Should any species of conservation concern be recorded during vegetation clearing and construction an accredited specialist should be contacted to assist with the rescue and relocation of these species. The significance of the loss of ESA habitat was rated as having a low significance. This was attributed to the degraded and fragmented nature of these habitats resulting in reduced ecological importance.

#### **Heritage assessment:**

From a heritage point of view, it is recommended that the proposed development be allowed to continue on acceptance of the proposed conditions. Should archaeological sites or graves be exposed in other areas during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

#### **Traffic Impact Assessment:**

From the traffic impact investigation the proposed development and the resultant increase in traffic due to the



development can be accommodated on the surrounding road network subject to the following road upgrading:

- Franzina Street and Wergele Avenue:
  - Due to space constraints, this intersection should be converted into a mini-circle
  
- Franzina Street and Avril Street;
  - Due to space constraints, this intersection should be converted into a mini-circle
  
- Franzina Street and 5th Avenue;
  - Due to space constraints, this intersection should be converted into a mini-circle
  
- Traffic signal optimisation must be investigated further along Mansfield Avenue to ensure smooth traffic operations and little disruption to the bus service;
  
- Walkways must be provided for along the frontage of this development. It would be prudent for these walkways to be extended to connect to bus/taxi drop-off points. As such it is proposed that a 1.8m walkway be implemented along Franzina Street from Mansfield Avenue to 5th Avenue;
- Bus/Taxi bays must be provided at all access points along Franzina Street;
- The access point at Mansfield and Paul Kruger must be implemented in a manner that enables future developments to utilise the same and not be restricted to service one development. Permission for the relaxation of this requirement can be sought from the City in light of the restrictions in the implementation of any future roads inside this property as a result of the railway yard.

In view of the traffic impact investigation and discussion in the report, it is recommended that the proposed Eloffspark student accommodation development be approved from a Traffic Engineering point of view, subject to the developer implementing the upgrading proposals summarised above.

It is clear from the specialist studies (**Appendix G**) undertaken for the project that there are some level of negative impacts associated with the project. For the majority of the site, the proposed development will be on previously transformed grassland and from a conservation perspective the development is not considered to be acceptable as most of the vegetation on the site is in a poor ecological condition with no potential to conserve good condition, natural vegetation. No plant species of conservation concern were recorded, and none are expected to occur. There is also the element of positive socio-economic impacts such as job creation, housing provision and business opportunities associated to the project. However, the main aim of the project is to address housing backlog in the region which will in turn result in achieving the objectives of the Integrated Development Plan, City of Tshwane Metropolitan Municipality for 2016/2017 to 2021.

Overall, the significance levels of the majority of identified negative impacts can generally be reduced to acceptable levels by implementing the recommended mitigation measures. With reference to the information available at this planning approval stage in the project cycle, the confidence in the environmental assessment undertaken is regarded as acceptable with the implementation of the of practical and appropriate mitigation measures as detailed in this report and contained in the Environmental Management Programme in **Appendix H**.

### Alternative 2 Design

See above, the impacts are similar in relation to all alternative layout designs with no difference and therefore compared collectively.

### No-go (compulsory)

This is the option of not undertaking the proposed Eloffspark mixed use housing development at this site. This option will result in no impacts occurring on the biophysical environment (i.e. biodiversity, soils), and will result in no visual or social impact hence the project site status quo remains. The No-Go option will result in the situation where the need for housing as identified by the Integrated Development Plan addressed by the City of Tshwane Metropolitan Municipality for 2016/2017 to 2021 remains unchanged. The no go option is therefore not preferred.

## 7. SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

### Provincial Spatial Development Framework (PSDF)

The Gauteng PSDF is a provincial and strategic planning policy that responds to and complies with in particular the National Development Plan vision 2030 and the National Spatial Development perspective (NSDP). This framework promotes a developmental state in accordance to the principals of global sustainability as is stated by among others, the South African constitution and enabling legislation. The Gauteng PSDF is based on six growth and development pillars, each of which has its onset of drivers with long term-programmes. Pillar 1 highlights the job creation. The proposed development will create jobs opportunities during the construction phase, these employment opportunities will target local community members that are usually excluded from mainstream economic and formal employment. Therefore, the development is in line with the Gauteng PSDF.

### Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).

The implementation of the proposed development will not compromise the integrity of the City of Tshwane Metropolitan Municipality for 2016/2017 to 2021.

The Gauteng Provincial strategic plan of November 2016, indicates that the 20 Year Review confirms that the demand for housing in Gauteng remains high. It must also be noted that the figures on the Housing Demand Database excludes those who do not qualify for housing subsidies but are still in need of housing. The available figures on current demand for housing per municipality in Gauteng shows a total housing backlog of 687015.

The Integrated Development Plan addressed by the City of Tshwane Metropolitan Municipality for 2016/2017 to 2021, the spatial transformation goals have been set as:

- Improved mobility and connectivity through integrated public transport systems and infrastructure

investment.

- Structural reform and modernising of the inner city and other nodes.
- Promotion of mixed-used transit orientated development along corridors and economic nodes.
- Creation of liveable neighbourhoods and functioning nodes through social and infrastructure investment.

The objectives for sustainable human settlements that are accessible and liveable are as follows:

**Objective 1: Provision of quality services and infrastructure**

- Eradicate services backlog;
- Meet and exceed national set standards and requirements for the provision of quality services such as water, waste management and energy;
- Develop and implement infrastructure life-cycle approach to planning and budgeting towards the provision of reliable and quality services and infrastructure;
- Collaboration with our stakeholders to ensure affordability and efficiency in services provided through innovation and research.

**Objective 2: Functional and sustainable human settlements**

- Eradication of informal settlements
- Support of transit-oriented development through densification and compaction practices which is supported by the relevant infrastructure;
- Promoting access to a wide variety of housing typologies which meets the demand for the diverse citizens. Emphasis will be placed on promoting social housing within proximity to economic centres and functional public transport routes. The 2030 target is that 80% of housing developments should be within existing or planned economic centres;
- Respond to build environment service delivery standards for the disabled and other marginalised;
- Improve pedestrian mobility within the inner city and other active nodal developments.

**Objective 3: Promoting safe, reliable and affordable transportation system**

- The rollout and expansion of the A Re Yeng Bus Rapid Transit System in the short term and increase the ridership towards sustainable operation of the bus company;
- Align rail, road and air transportation within the City and within the city-region;
- Invest in freight and logistics infrastructure to promote the economic role of transportation;
- Collaborate with transport service providers and users to create a safe transportation economic sector and responsible use of our network and infrastructure.

The proposed development bodes well with the objectives for sustainable human settlements as the development will promote different housing typologies for various income categories.

**8. RECOMMENDATION OF THE PRACTITIONER**

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).

YES	NO
✓	

If “NO”, indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

N/A

If “YES”, please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

There are no insurmountable environmental or social constraint that prevents the establishment of the Eloffspark Mixed Use Housing Development on Remaining Extent of Farm Eloffspark 772 JR within the City of Tshwane Metropolitan Municipality, Gauteng Province. Therefore, it is recommended that **Proposed Layout Alternative 1** proposed development be considered for approval subject to the following general recommendations:

- The EMPr should be a legal binding document and an extension of the Environmental authorisation once issued by GDARD
- The appointed contractor should be contractually bound to comply with the conditions of the EMPr
- An independent ECO should be present during construction to monitor the implementation of the EMPr and the environmental authorization once issued and compile monthly audit report for submission to the relevant authorities
- Compliance with the mitigation measures outlined in this BA report and EMPr;
- All relevant legislation and requirement of other government departments (National, Provincial), in particular of Section 28 (duty of care) of NEMA, must be complied with.
- In the event of a major incident (e.g. fire causing damage to property and environment, major spill or leak of contaminants), the relevant authorities should be notified as per the notification of emergencies/ incidents, as per the requirements of section 30 of NEMA.
- Compliance with all legal requirements in relation to environmental management and conditions of the authorization issued by GDARD.
- Construction noise on site must not exceed 85DB as required by the Health and Safety Act
- The site after construction must be rehabilitated to a state that conforms to the principles of sustainable development.

It must be noted that the implementation of the other alternatives namely Layout Alternative 2, Layout Alternative 3, Layout Alternative 4 are equally endorsed for development as they too present no fatal environmental flaws. The preference of Proposed Layout Alternative 1 is based on the requirements of the applicant (HDA) in regards to the existing plans and budget put in place for the implementation of the Eloffspark mixed use housing project. From an environmental point of view, all four alternative layout designs can be implemented for development provided that recommended mitigation measures are implemented.

## 9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT *(as per notice 792 of 2012, or the updated version of this guideline)*

The Integrated Development Plan addressed by the City of Tshwane Metropolitan Municipality for 2016/2017 to 2021, the spatial transformation goals have been set as:

- Improved mobility and connectivity through integrated public transport systems and infrastructure investment.

- Structural reform and modernising of the inner city and other nodes.
- Promotion of mixed-used transit orientated development along corridors and economic nodes.
- Creation of liveable neighbourhoods and functioning nodes through social and infrastructure investment.

The objectives for sustainable human settlements that are accessible and liveable are as follows:

**Objective 1: Provision of quality services and infrastructure**

- Eradicate services backlog;
- Meet and exceed national set standards and requirements for the provision of quality services such as water, waste management and energy;
- Develop and implement infrastructure life-cycle approach to planning and budgeting towards the provision of reliable and quality services and infrastructure;
- Collaboration with our stakeholders to ensure affordability and efficiency in services provided through innovation and research.

**Objective 2: Functional and sustainable human settlements**

- Eradication of informal settlements
- Support of transit-oriented development through densification and compaction practices which is supported by the relevant infrastructure;
- Promoting access to a wide variety of housing typologies which meets the demand for the diverse citizens. Emphasis will be placed on promoting social housing within proximity to economic centres and functional public transport routes. The 2030 target is that 80% of housing developments should be within existing or planned economic centres;
- Respond to build environment service delivery standards for the disabled and other marginalised;
- Improve pedestrian mobility within the inner city and other active nodal developments.

**Objective 3: Promoting safe, reliable and affordable transportation system**

- The rollout and expansion of the A Re Yeng Bus Rapid Transit System in the short term and increase the ridership towards sustainable operation of the bus company;
- Align rail, road and air transportation within the City and within the city-region;
- Invest in freight and logistics infrastructure to promote the economic role of transportation;
- Collaborate with transport service providers and users to create a safe transportation economic sector and responsible use of our network and infrastructure.

The proposed development bodes well with the objectives for sustainable human settlements as the development will promote different housing typologies for various income categories. The proposed development is also close to a rail and road (BRT) transportation.

The Gauteng Provincial strategic plan of November 2016, indicates that the 20 Year Review confirms that the demand for housing in Gauteng remains high. It must also be noted that the figures on the Housing Demand Database excludes those who do not qualify for housing subsidies but are still in need of housing. The available figures on current demand for housing per municipality in Gauteng shows a total housing backlog of 687015.

The proposed development will cater to residents living in informal settlements and create liveable residential units that will be part of infrastructure investment; this will create a reduction in informal settlement, for people who live there will move to the affordable housing units proposed.

**10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED** (Consider when the activity is expected to be concluded)

Duration and Validity: The environmental authorization is required for a period of 10 years from the date of issue. Should a longer period be required, the applicant/EAP will be required to provide a detailed motivation on what the period of validity should be

**11. THE PERIOD ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)**

(must include post construction monitoring requirements and when these will be concluded.)

If the EAP answers “Yes” to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached

YES

---

## SECTION F: APPENDIXES

---

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive):

It is required that if more than one item is enclosed that a table of contents is included in the appendix

*Appendix A: Site plan(s) – (must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)*

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information (N/A)

Appendix E: Public participation information

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

Appendix H: EMPr

Appendix I: Other information

## CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed.