NKHOPHELE HOLDINGS

Core to earth's sustainable development

DRAFT BASIC ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF UMNOTHO MEWS RESIDENTIAL COMPLEX WITH ASSOCIATED INFRASTRUCTURE ON ERF 2495 AND 2496 ERASMUS EXTENSION 20 AND ON REMAINING EXTENT OF PORTION 11 AND 12 OF FARM KLIPEILAND 524 JR, IN BROKHORSPRUIT IN THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE.

APPLICANT: UMNOTHO WE AFRIKA GROUP (PTY) LTD.

DATE: FEBRUARY 2020

COMMENTING PERIOD: 13 March 2020– 13 April 2020

PROJECT DETAILS	
PROJECT NAME	**DRAFT BASIC ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF UMNOTHO MEWS RESIDENTIAL COMPLEX WITH ASSOCIATED INFRASTRUCTURE ON ERF 2495 AND 2496 ERASMUS EXTENSION 20 AND ON REMAINING EXTENT OF PORTION 11 AND 12 OF FARM KLIPEILAND 524 JR, IN BROKHORSPRUIT IN THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE.**
CLIENT NAME	**UMNOTHO WE AFRIKA (PTY) LTD**
ENVIRONMENTAL ASSESSMENT PRACTITIONER	**TOKOLLO KOBE**
REPORT STATUS	**DRAFT**
REPORT DATE	**08/01/2020**

This report has been produced by Nkhophele Holdings with the skill and care ordinarily exercised by a reasonable Environmental Consultant at the time the Services were performed. The Services were performed by Nkhophele Holdings taking into account the scope of works required by the client. This report is produced exclusively for the purposes of the client. Nkhophele Holdings is not aware of any interest of or reliance by any party other than the client in or on the services. Unless expressly provided in writing, Nkhophele Holdings do not authorise, consent or condone any party other than the client relying upon the services provided. Any reliance on the services or any part of the services by any party other than the client is made wholly at that party's own and sole risk and Nkhophele Holdings disclaim any liability to such parties.

EXECUTIVE SUMMARY

Nkhophele Holdings as an independent environmental consultancy and has been appointed by Umnotho We Afrika to undertake the required Environmental Impact Assessment (EIA) process for the proposed housing development with associated infrastructures, as required by the NEMA EIA Regulations, 2014 (amended on 7 April 2017).

The site will be designed to have a green park area along the Western Boundary, next to the existing stream. There will be 4 north facing main blocks with landscaped courtyard areas in between. Each block is double story with 12 apartments. The proposed layout design consists of a multi-purpose clubhouse with a swimming pool and 48 residential apartments. These residential apartments will each have an open plan kitchen & living area, two bedrooms and a bathroom. Size of the apartments vary between 60 - 70 m² per unit

The applicant has proposed to develop residential complex development with associated infrastructures on an area of approximately 4 hectares. The proposed project will provide approximately 45 jobs during the construction phase and approximately 8 jobs during the operational phase. This will contribute to the growth of the economy in the local area by ensuring employment.

The proposed project will trigger listed activities (detailed in the table below) in terms of the Environmental Impact Assessment (EIA) Regulations as promulgated under the National Environmental Management Act (No. 107 of 1998) (NEMA). Therefore, the proposed development requires Environmental Authorisation in terms of the EIA Regulations prior to commencement of construction and operation phases.

Table 1: Triggered listed activities

Activity	Description
Activity No 27, Listing notice 1(GNR 327)	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

Activity 12, Listing Notice 3(GNR 324)	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. C. Gauteng ii. Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans;

This Draft Basic Assessment Report provides an assessment of both the potential positive and negative impacts anticipated as a result of the proposed construction and operations of the residential complex. Having duly considered the nature of the project, in the opinion of the Environmental Assessment Practitioner (EAP), the project does not pose a detrimental impact on the receiving environment and its inhabitants. The impacts that have been identified and addressed through the impact assessment can be mitigated significantly with the use of an Environmental Management Programme (EMP). The applicant should be bound to stringent conditions to maintain compliance and responsible executions of the project.

GENERAL DETAILS

This section provides details of Applicant and Environmental Assessment Practitioner who prepared the report as well the expertise of the Environmental Assessment Practitioner who carried out the Basic Assessment Report.

Detail of the Applicant.

Table 2:Details of the Applicant.

Project Client:	**Umnotho We Afrika (Pty) Ltd**
Representative:	Mr Phiwisipho Phindokuhle Mathenjwa
Address:	501 Windsor Road Garsfontein x05 Pretoria East
Postal Code:	0042
Telephone:	076 234 5122
E-Mail:	phiwa.mathenjwa@gmail.com / phiwa@umnotho-we-afrika.com

Details of the Environmental Consultancy.

Nkhophele Holdings (Pty) Ltd ("NH") was appointed by Umnotho we Afrika (Pty) Ltd as an independent environmental consultant to undertake the Basic Assessment Report for the proposed development of a residential complex and associated infrastructure in Bronkhorstspruit. NH are not subsidiaries of / or affiliated to Umnotho We Afrika, Furthermore, NH does not have any interests in secondary developments that may arise out of the of the project other than being remunerated for the services provided.

The NH staff has acquired considerable experience in environmental management over the past years and has been actively involved in undertaking environmental studies for a wide variety of projects throughout South Africa. Strong competencies have been developed in project management as well as strategic environmental assessment and compliance advisory, and the identification of environmental management solutions and mitigation/risk minimising measures.

Table 3: Details of Environmental Assessment Practitioner.

Environmental Assessment Practitioner:	**Nkhophele Holdings (Pty) Ltd**		
Contact person:	Tokollo Kobe		
Physical Address:	07 Boabab Nook Zwartkop Ext 4 Centurion		
Postal code:	0181		
Telephone:	073 284 5142	**Cell:**	073 284 5142
E-mail:	tokollo@nkhopheleh.co.za	**Fax:**	086 565 5359
EAP Qualifications:	BSc. Hons (Environmental Sciences)		

Expertise to conduct the Basic Assessment Report

Ms Tokollo Kobe holds a Bachelor of Environmental Sciences Honours in Geography from the University of Venda. She is an Environmental Consultant at Nkhophele Holdings (NH). She has more than 2 years of experience as an Environmental Consultant and was employed as a Junior

Environmental Consultant at Tshikovha Green and Climate Change Advocates prior to being appointed at Nkhophele Holdings.

She has a vast understanding of the National Environmental Management Act (Act 107 of 1998) Occupational Health and Safety Act (Act No. 85 of 1993) and other associated legislations. Up to date, Tokollo has experience in conducting Environmental Impact Assessments (EIA), Waste Management Plans, Environmental Auditing, stakeholders' engagements and has been involved in over 10 projects ranging from housing, mining, agricultural EIA etc.

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Abbreviations

CA	Competent Authorities
CBA	Critical Biodiversity Area
DWS	Department of Water & Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ESA	Ecological Sensitive Area
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GNR	General Notice Regulations
NEMA	National Environmental Management Act
NEM: BA	National Environmental Management Biodiversity Act
PHRAG	Provincial Heritage Resources Authority Gauteng
SAHRA	South African Heritage Resource Agency

GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

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.

N/A

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 is no decommission envisaged for this development even in the long-term. Should the development need to be decommissioned for some unforeseen reason, it will trigger listed activities in terms of the National Environmental Management: Waste Act, 59 of 2008.Therefore, potential impacts would be identified and assessed at that time.

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

If no, state reasons for not attaching the list.

Have State Departments including the competent authority commented? Yes

If no, why?

N/A

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

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

The proposed development of a residential complex with associated infrastructure on the remaining extent of Portion 11 of Farm Klipeiland 524 JR and Erf 2495 and Erf 2496 Erasmus Extension 20, in Bronkhorstspruit in the City of Tshwane Metropolitan Municipality, Gauteng Province.

Full description of the activities related to the project

The site will be designed to have a green park area along the Western Boundary, next to the existing stream. There will be 4 north facing main blocks with landscaped courtyard areas in between. Each block is double story with 12 apartments. The proposed layout design consists of a multi-purpose clubhouse with a swimming pool and 48 residential apartments. These residential apartments will each have an open plan kitchen & living area, two bedrooms and a bathroom. Size of the apartments vary between 60 - 70 m² per unit.

Access to the proposed site.

Road access to the study area is via the R25 which is a provincial road linking Bronkhorstspruit in Gauteng Province to Groblersdal in Limpopo Province. The R25 within the vicinity of the site is in a good condition and well maintained. The residential complex may be accessed through Platina & Koper Streets.

Municipal infrastructure.

a. Water

City of Tshwane Metropolitan Municipality is the sole provider of potable water to the Bronkhorstspruit town. Water is sourced via dam extraction from the Bronkhorstspruit dam and treated at the Bronkhorstspruit water purification plant located near the dam. Potable water is then pumped from the water purification plant to the Zithobeni and Nooitgedacht reservoirs with a combined storage

capacity of 14 655 kℓ from where it supplies the town and surrounding townships via a water reticulation network of varying pipe diameters.

Bulk water supply to infrastructure to the Erasmus Ex 20 is via a 160mm ø pipe extending from Erasmus Ex 17 to the west.

b. Stormwater Drainage

Bronkhorstspruit receives an average of ± 570 mm of rain annually with most of the rain falling during the first and last quarters of the year (i.e. mid spring to mid-summer months). The site has an average height of 1403m above sea level and has a flat slope (1:60) a northerly direction. According to the 1:50 000 cadastral maps from the Surveyor General and physical site observations of the study area, there is a dug-out storm water channel traversing the site in a northernly direction and draining into the Bronkhorstspruit River located 1.5 km north west of the site.

c. Sewer & Solid waste

Sewerage disposal to Erasmus Ex 20 is provided by the municipality via an internal gravity reticulation system draining to the Bronkhorstspruit pump station from where the waste water is pumped to the Godrich Waste Water Treatment Plant (WWTP) which has a capacity of 5 mℓ /day.

There is a 150mm ø pipe traversing the site from the south to the north along the R25 and along eastern boundary of the site which may be used as a connection point for the proposed development. The sewer line is currently blocked and in need of maintenance.

Solid waste collection to Bronkhorstspruit is provided by the City of Tshwane Metropolitan Municipality which has confirmed enough capacity to service the proposed development.

Location details of the project

The proposed project is located at:

Table 4: Location details

Province	**Gauteng**	
Municipality	City of Tshwane Metropolitan Municipality	
Farm name(s) and number(s)	Erf 2495, Erf 2496, Portion 11 and Portion 12 of Farm Kliplieland 524 JR	
SG 21 Digit Code	T0JR00000000052400011 T0JR00810000052400012 T0JR00000000244950000 T0JR00000000244960000	
Coordinates	26°18'07" S	27°48'35" E

Select the appropriate box

The application is for an upgrade of an existing development		The application is for a new development	**X**	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

N/A

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

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

[redacted]

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

Relevant Listed Activities Triggered

The proposed project will trigger listed activities from the following regulations: Government Notice (GN) R.326 - the EIA Regulations, 2014 (amended 7 April 2017) where listed activities from GN R.325 (Listing Notice 2) will be triggered.

The following 'listed activities' are triggered by the proposed residential complex development facility as shown in the table below.

Table 5: Triggered listed activities

Activity	Description
Activity No 27, Listing notice 1(GNR 327)	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.
Activity 12, Listing Notice 3(GNR 324)	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. C. Gauteng ii. Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans;

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

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Legislations/ Policies/ Plans		
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National & Provincial	27 November 1998
The Constitution of the Republic of South Africa 1996, (Act No. 108 of 1996)	National & Provincial	1996
National Water act 1998 (Act No. 36 of 1998)	National & Provincial	1998
National Road Traffic Act, 1996 (Act No. 93 of 1996)	National & Provincial	1996
Hazardous Substances Act 1973 (Act No.15 of 1973)	National & Provincial	1973
National Environmental Management: Waste Act 2008, (Act No. 59 of 2008)	National & Provincial	01 July 2009
National Environmental Management: Air Quality Act 2004, (Act No. 39 of 2004)	National & Provincial	2004
National Environmental Management: Biodiversity Act (No 10 of 2004)	National & Provincial	2004
Promotion of Access to Information Act, 2000 (Act No 2 of 2000)	National & Provincial	2000
National Heritage Resources Act (Act No. 25 of 1999)	National & Provincial	1999
Petroleum Products Act, 1977 (Act No. 120 of 1977)	National & Provincial	1977
National Veld and Forest Fire Act, 1998 (Act No. 101 of 1998)	National & Provincial	1998
Provincial Acts / Regulations / Policies/ Plans / Programmes / Norms and Standards		
Gauteng Provincial Environmental Management Framework	Provincial	May 2015
Gauteng Noise Control Regulations, 1999	Provincial	1999

City of Tshwane Metropolitan Municipality Waste Management By-Law	Local	2016

Description of compliance with the relevant legislation, policy or guideline:

Legislation, policy of guideline	Description of compliance
National Legislations/ Policies/ Plans	
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	The proposed development will not temper with the rights of humans to a clean and safe environment. The communities' well-being and safety shall be put into consideration and impacts on the receiving environment will be mitigated to ensure sustainability for the future generations.
The Constitution of the Republic of South Africa 1996, (Act No. 108 of 1996)	The National Environmental Management Act (Act No. 107 of 1998) (NEMA) is the principal framework for environmental legislation as well as the Regulations for Environmental Impact Assessment. It sets out the principles that assist as a general framework for environmental planning, as guidelines by reference to which organs of state must exercise their functions and guide other laws concerned with the protection or management of the environment. The application takes into account the environmental and socioeconomic conditions in compliance with the NEMA principles
National Water act 1998 (Act No. 36 of 1998)	The general use of water in the construction and operational phase and possible drilling of water from an aquifer (borehole).
National Road Traffic Act, 1996 (Act No. 93 of 1996)	Road safety as the development of the project may lead to traffic jam as vehicles move in and out of the facility
Hazardous Substances Act 1973 (Act No.15 of 1973)	Hazardous Substances Act No. 15 of 1973 gives provision for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxicity, strong sensitizing or flammable nature and the generation of pressure

	thereby in certain circumstances. It further provides for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation sale, use, operation, application, modification, disposal or dumping of such substances and products; and to provide for matters connected therewith.
National Environmental Management: Waste Act 2008, (Act No. 59 of 2008)	Only a partial amount of solid construction waste will be stored and handled on the site, before being hauled away and dumped at the nearest registered landfill site. During operational phase, waste will be sorted at source, collected and recycled according to various streams. The remainder will be disposed of at registered landfills.
National Environmental Management: Air Quality Act 2004, (Act No. 39 of 2004)	The NEMA: AQA provides the framework for addressing air quality issues. The Act sets norms and standards for air quality management. During the construction phase, dust and the generation of noise can become a substantial factor, especially to the surrounding communities. Nevertheless, the mitigating measures for these potential impacts can be successfully implemented the proposed development's contribution to air pollution and the generation of air and noise pollution can become less substantial.
Occupational Health and Safety Act (No 85 of 1993)	The Act provides for the health and safety of persons at work and for the health and safety of persons in connection with the use of machinery; the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work. The EMPr provides for measures to ensure that objectives of the Act are met on this site

Promotion of Access to Information Act, 2000 (Act No 2 of 2000):	The act gives effect to constitutional right to access of information held by the state and any information that is held by another person and that is required for the exercise or protection of any rights; and to provide for matters connected therewith. Legislation that allows the public access to information about activities that influence their well-being and to make contributions to decision making. And will apply during public participation process of the project.
National Heritage Resources Act (Act No. 25 of 1999)	Section 38 states that Heritage Impact Assessments (HIAs) are required for certain kinds of development. There are no heritage features found on site and if by any chance these features are discovered during construction, the activities will temporarily cease and SAHRA will be notified.
National Veld and Forest Fire Act, 1998 (Act No. 101 of 1998)	This act aims to prevent and combat veld, forest and mountain fires throughout the Republic and provides for a variety of institutions, methods and practices for achieving the purpose. As fuel is flammable, it is important that this Act is adhered to
Provincial Acts / Regulations / Policies/ Plans / Programmes / Norms and Standards	
Gauteng Provincial Environmental Management Framework	The purpose of the Framework is to assist environmental impact management including EIA processes, spatial planning and sustainable development. Its objectives includee efficiency in urban development, optimal use of land, to protect Critical Biodiversity Areas (CBAs as defined in C-Plan 3.3) within urban and rural environments and to use ESAs as defined in municipal bioregional plans in spatial planning of urban open space corridors and links within urban areas. The development site is located within General zone and does not have any environmental sensitivities.
Gauteng Noise Control Regulations, 1999	Construction and operational activities may result in noise pollution. Noise will be controlled according to

	these regulations. Mitigation measures have been included in the EMPr
City of Tshwane Metropolitan Municipality Waste Management By-Law	Since there will be waste created during all the phases of the residential complex development, this by-law has to be adhered to.

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

The site is cross-cut by the busy R25 road. There are no any site alternatives as this is the only site available to the applicant for the purpose of this development. The site has been heavily modified. The type of vegetation found on site is only landscaped grass which is comprised of both invasive and indigenous species. Therefore, the project does not pose any adverse impacts to the local ecosystem. According to the Gauteng Conservation Plan Version 3.3, approximately 500 m^2 of the site is situated on an Ecological Support Area.

Provide a description of the alternatives considered

No.	**Alternative type**, either alternative: site on property, properties, activity, design, technology, energy, operational or other (provide details of "other")	**Description**
1	Proposal	Refer to Section 1 of this report.
2	Alternative 1: Operational aspect of the activity	The use of alternative energy source specifically solar. **<u>Solar installations</u>** The facility must consider using of solar power for its lights and equipment that requires light electrical energy. This will offset the dependency on the grid (Eskom) on lights and thereby also contributing to greenhouse emission reduction.
3	Alternative 2 n/a	
	Etc.	

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:

Size of the activity:

Proposed activity ***(Total environmental (landscaping, parking, etc.) and the building footprint)***	4 ha
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	
	Ha/ m^2

or, for linear activities:

	Length of the activity:
Proposed activity	
Alternatives:	
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):

	Size of the site/servitude:
Proposed activity	5 ha
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	
	Ha/m^2

5. SITE ACCESS

Proposal

Does ready access to the site exist, or is access directly from an existing road?	YES
If NO, what is the distance over which a new access road will be built	N/A

Describe the type of access road planned:

The site will be accessed through an existing road.

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).

Alternative 1

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

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

Describe the type of access road planned:

N/A

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).

Alternative 2

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

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

Describe the type of access road planned:

N/A

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).

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)

A site layout plan has been attached as ***Appendix A (2)***

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.

Locality map has been attached as ***Appendix A (1)***

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.

Site photographs have been attached as ***Appendix B***

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.

Facility illustration have been attached as ***Appendix C***

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

1) 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.
2) Indicate on a plan(s) the different environments identified
3) Complete Section B for each of the above areas identified
4) Attach to this form in a chronological order
5) 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	**0**	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 alterative 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	**0**	times	(complete only when appropriate)

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	**N/A**	(complete only when appropriate for above)

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

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)	Portion 11 and 12 of Farm Klipieland 524 JR and Erf 2495 and Erf 2496 Erasmus Extension 20, Bronkhorstspruit.

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.

Alternative:	**Latitude (S):**	**Longitude (E):**
	[redacted]	

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
□ Starting point of the activity	[redacted]	
□ Middle point of the activity	[redacted]	
□ End point of the activity	[redacted]	

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

PROPOSAL	**T**	**0**	**J**	**R**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**4**	**0**	**0**	**0**	**0**	**1**	**2**
	T	**0**	**J**	**R**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**4**	**0**	**0**	**0**	**0**	**1**	**1**
	T	**0**	**J**	**R**	**0**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**2**	**4**	**4**	**9**	**5**	**0**	**0**	**0**	**0**
	T	**0**	**J**	**R**	**0**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**2**	**4**	**4**	**9**	**6**	**0**	**0**	**0**	**0**
ALT. 1																					
ALT. 2																					
etc.																					

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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.

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

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)	NO
Dolomite, sinkhole or doline areas	NO
Seasonally wet soils (often close to water bodies)	NO
Unstable rocky slopes or steep slopes with loose soil	NO

Dispersive soils (soils that dissolve in water)	YES	[redacted]
Soils with high clay content (clay fraction more than 40%)	[redacted]	NO
Any other unstable soil or geological feature	[redacted]	NO
An area sensitive to erosion	[redacted]	NO

(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)	[redacted]	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):**

[redacted]

c) are any caves located within a 300m radius of the site(s)	[redacted]	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):**

[redacted]

d) are any sinkholes located within a 300m radius of the site(s)	[redacted]	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):**

[redacted]

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

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?	[redacted]	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 % =	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =80	**Veld dominated by alien species %=30**	**Landscaped (vegetation) % = 70**
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =10	Bare soil % =

The site is located at an area that is heavily modified. There are no trees and the ground is covered by small grass. Furthermore, there are no any plant species of significance found on site. Approximately 100% of the site is covered by indigenous and alien landscaped grass.

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.	[redacted] NO

If YES, specify and explain:

[redacted]

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.	NO

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on the site?	YES	NO

If YES, specify and explain:

There is a stream on the western side of the site. Approximately 500 m^2 portion of the site is situated at an Ecological Support area.

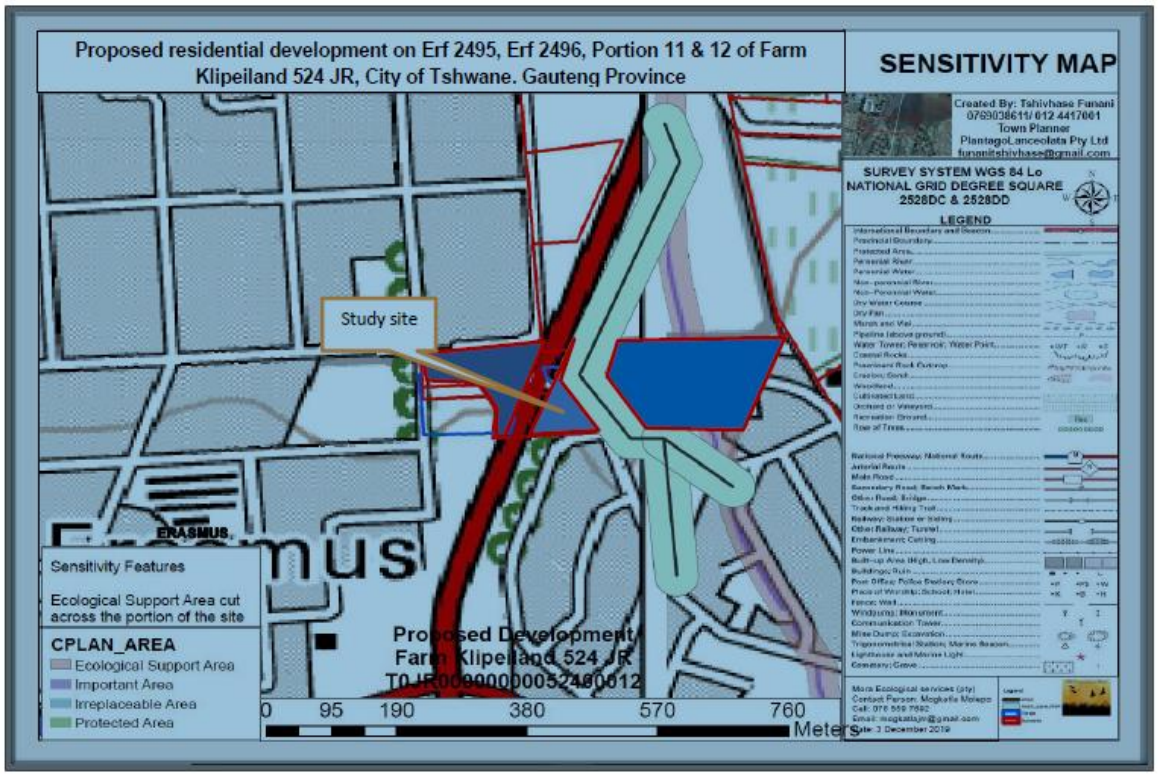


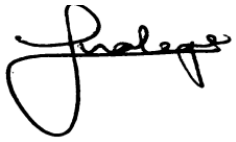
Figure 1: Sensitivity map of the site.

Was a specialist consulted to assist with completing this section	YES	NO

If yes complete specialist details

Name of the specialist:	Mokgatla Molepo

Qualification(s) of the specialist:	MSc Zoology (Ornithology)		
Postal address:	350 Johan St, Pretoria		
Postal code:	0007		
Telephone:	None	Cell:	(+27) 76 559 7692
E-mail:	mokgatlajm@gmail.com	Fax:	
Are any further specialist studies recommended by the specialist?			NO
If YES, specify:	N/A		
If YES, is such a report(s) attached?		YES	
If YES list the specialist reports attached below			
Ecological Assessment			

Signature of specialist:  Date: 28/01/2020

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.

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[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities

21. Golf course/polo fields	22. Airport[N]	23. Train station or shunting yard[N]	24. Railway line[N]	25. Major road (4 lanes or more)[N]
26. Sewage treatment plant[A]	27. Landfill or waste treatment site[A]	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam[A]	34. Small Holdings	
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

NORTH

12,13	**12,13**	**1,25,2**	**1**	**1**
12,13	**12,13**	**25, 2,1**	**1**	**1**
9	**9**	**SITE**	**9**	**9**
9	**9**	**9,2,1**	**9**	**9**
9	**9.1**	**9, 2**	**1**	**1**

WEST EAST

SOUTH

= Site

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

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

If yes indicate the type of reports below

- Ecological Assessment (Refer to appendix G1)
- Wetland Assessment (Refer to appendix G2)
- Civil Engineering Services (Refer to appendix G3)
- Heritage Impact Assessment (Refer to appendix G4)

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.

Bronkhorstspruit falls under Region 7 in the City of Tshwane Metropolitan Municipality. This region is comprised of low-income residential areas and rural areas. Bronkhorstspruit is more developed compared to other areas in the region and has modern infrastructure with good access to water, electricity, roads, communication networks and sanitation facilities.

The area has a rather weak spatial structure and it characterized by heavy traffic and small economic centers. The area is predominantly rural, with low population densities. The highest densities are within the vicinity of the Bronkhorstspruit CBD. The region had a total population of 109 766 people in 2011 (Stats SA Census 2011).

The region has fairly low education levels, with few people having a tertiary qualification.

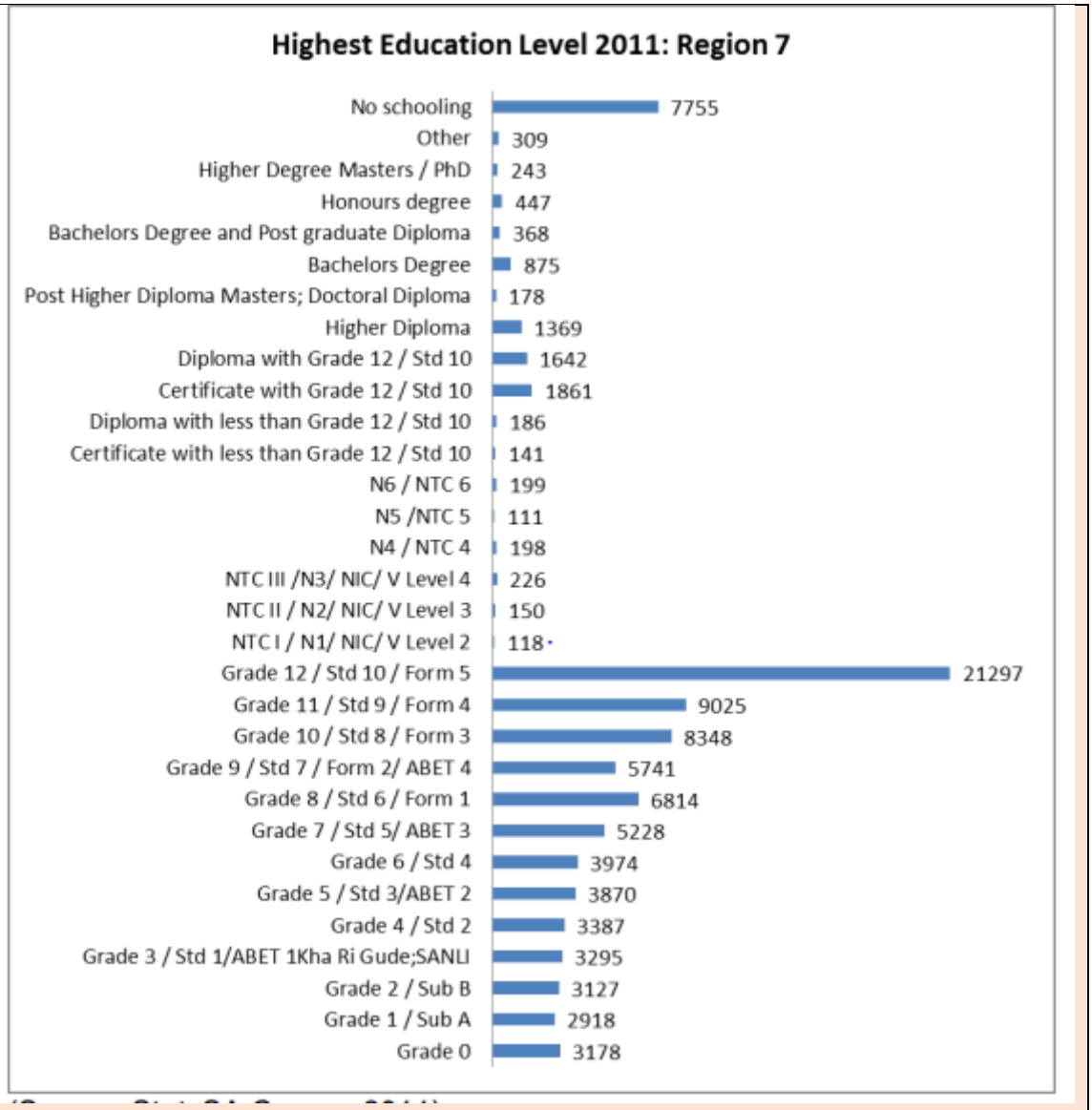


Figure 2: Education levels in Region 7.

Approximately 26% of economically active people are permanently unemployed as shown in Figure 2 below (Stats SA, 2011).

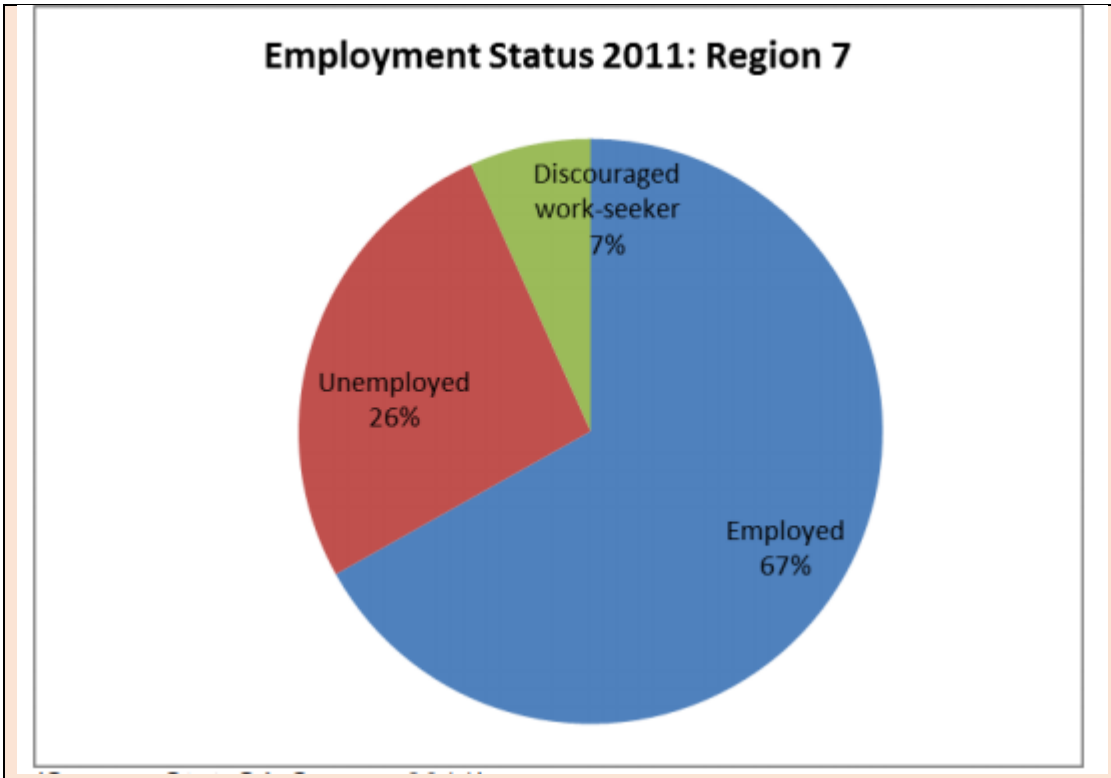


Figure 3: Employment status

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, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

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

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

(i) exceeding 5 000 m2 in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources

authority;

(d) the re-zoning of a site exceeding 10 000 m2 in extent; or

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

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?	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:

According to the specialist, there are no sites, features or objects of cultural significance are known to exist in the development area. Hence, there would be no impact on heritage resources as a result of the proposed development.

Will any building or structure older than 60 years be affected in any way?	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	NO
If yes, please attached the comments from SAHRA in the appropriate Appendix	

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

The Environmental Assessment Practitioner must conduct public participation process in accordance with the requirement of the EIA Regulations, 2014.

1. 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?	[redacted] NO
If yes, has any comments been received from the local authority?	[redacted] N/A

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

No correspondence has been made at this stage.

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

[redacted]

2. 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?	[redacted] NO

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

No correspondence has been made at this stage.

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

[redacted]

3. 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 authorisation 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.

4. 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 issued as required in terms of the regulations
Appendix 3 – Proof of newspaper advertisements
Appendix 4 –Communications to and from interested and affected parties
Appendix 5 – Minutes of any public and/or stakeholder meetings
Appendix 6 - Comments and Responses Report
Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report
Appendix 8 –Comments from I&APs on amendments to the BA Report
Appendix 9 – Copy of the register of I&Aps

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 alterative 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 (complete only when appropriate)	**0**	time

Section D Alternative No.	0	(complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

1.1 Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES
If yes, what estimated quantity will be produced per month?	Unknown at this stage
How will the construction solid waste be disposed of (describe)?	

Construction waste will comprise mainly of excess spoil material from excavation and trenching activities, vegetation, construction material, general waste from site personnel, paints and solvents and wastewater and sewage. Spoil material will be reused where possible (as backfill or erosion mitigation works) while excess spoil will need to be disposed of off-site. Spoil material will be hauled with tipper trucks to a predetermined spoil site (usually excavated) identified by the contractor (off-site) or to a registered landfill. On closing the spoil site, the area will be covered with a layer of topsoil and re-vegetated. General waste will be kept in bins within the construction site and will be collected and disposed of on a weekly basis or failing this will be disposed of into a skip and transported to the nearest landfill site. Spent canisters for paints and solvents will be the responsibility of the respective contractor and will be disposed of at a suitable licensed landfill site or recycled.

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

In order to comply with legal requirements, should there be excess construction waste after recycling options have been exhausted, the waste will be transported to the nearest licensed waste disposal facility for disposal.

Will the activity produce solid waste during its operational phase?	YES [redacted]
If yes, what estimated quantity will be produced per month?	Unknown at this stage

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

General waste will be collected into waste bins and will be removed and disposed on a weekly basis by the local municipality and disposed at a registered municipal landfill site.

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?	[redacted] NO

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

The waste will be recycled or reused if ever they do not feed into a municipal waste stream.

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?	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?	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:

N/A

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

Will the activity produce any effluent that will be treated and/or disposed of on site?		NO
If yes, what estimated quantity will be produced per month?	N/A	

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?	NO
If yes, provide the particulars of the facility:	

Facility name:	**N/A**		
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

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

There will be no waste water to be produced on site.

1.3 Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	YES ■
If yes, what estimated quantity will be produced per month?	Unknown
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	■ NO

Will the activity produce any effluent that will be treated and/or disposed of on site?	■ NO

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

N/A.

1.4 Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	YES ■
If yes, is it controlled by any legislation of any sphere of government?	■ 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.

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

During construction, there will be localized liberation of dust due to excavations and the hauling of materials around the site.

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 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:

Approximately 300 000 litres per month.

The option to use groundwater will depend on whether the application to use municipality water has been accepted or not. The use of municipality water will also rely on the recommendation to be made by the municipality. If the use of groundwater is required, the applicant shall follow all the right procedures i.e. apply for water permit from Department of Water and Sanitation (DWS).

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? [redacted]

If yes, list the permits required

[redacted]

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

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

3. POWER SUPPLY

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

Eskom

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

N/A

4. ENERGY EFFICIENCY

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

- Install high-efficiency equipment that provide energy and operational savings.
- Check the efficiency of electrical equipment and machinery regularly.
- Regularly check compressed air system for leaks.
- Switch off lights and equipment when they are not required.
- Install energy-efficient lighting and other equipment.

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

The alternative energy source considered viable is the solar system. The solar system will be installed at rooftops specifically for light purposes and other lighter energy demands. This will only be implemented after considering the financial ability of the client.

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

Summarise the issues raised by interested and affected parties.

No comments have been received at this stage.

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):

No comments have been received at this stage.

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

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

- **Nature:** A brief written statement of the environmental aspect being impacted upon by particular action or activity.
- **Extent:** The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- **Duration:** Indicates what the lifetime of the impact will be;
- **Intensity:** Describes whether an impact is destructive or benign;
- **Probability:** Describes the likelihood of an impact actually occurring; and
- **Cumulative:** In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Table 6: Impact Assessment Methodology

Criteria	Description

Extent	**National (4)** The whole of South Africa	**Regional (3)** Provincial and parts of neighbouring provinces	**Local (2)** Within a radius of 2 km of the construction site	**Site (1)** Within the construction site
Duration	**Permanent (4)** Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	**Long-term (3)** The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory	**Medium-term (2)** The impact will last for the period of the construction phase, where after it will be entirely negated	**Short-term (1)** The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase
Intensity	**Very High (4)** Natural, cultural and social functions and processes are altered to extent that they permanently cease	**High (3)** Natural, cultural and social functions and processes are altered to extent that they temporarily cease	**Moderate (2)** Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way	**Low (1)** Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected

Probability of Occurrence	**Definite (4)** Impact will certainly occur	**Highly Probable (3)** Most likely that the impact will occur	**Possible (2)** The impact may occur	**Improbable (1)** Likelihood of the impact materializing is very low
Impact Reversal	**Highly Impossible (4)** Impact reversal will certainly be impossible	**Moderate (3)** Impact can be reversed to some extent with loss of natural resources	**Possible (2)** High possibility of impact reversal	**Definite (1)** Impact can be totally reversed
Loss of Irreplaceable resources	**Definite (4)** Resources definitely be lost	**Highly Probable (3)** Most likely that resources will be lost	**Possible (2)** Resources may be lost	**Improbable (1)** Loss of resources is highly unlikely

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

Significance=Extent+ Duration +Intensity x Probability

Table 7: Significance rating

Low impact/ Minor (3 -10 points)	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
Medium impact/ Moderate (11 -20 points	Mitigation is possible with additional design and construction inputs.
High impact (21 -30 points)	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very high impact/ Major (31 - 48 points)	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact.
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse.
It is important to note that the status of an impact is assigned based on the status quo – i.e. should the project not proceed.	

The suitability and feasibility of all proposed mitigation measures is included in the assessment of significant impacts. This was achieved through the comparison of the significance of the impact before and after the proposed mitigation measure is implemented.

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 phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Table 8: Impacts assessment for the preferred activity, operational alternative and no-go alternative

Activity	**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**
Construction phase					
Air quality					

Site clearance and construction activities.	Dust generation that may cause nuisance and respiratory problems.	Medium (-ve)	Avoid site clearing during dry and windy periods as far as possible. Water browsers or equivalent must be used in order to suppress dust around site. Wetting down the silt to suppress dust where there has been clearance of plant. Erection of shade netting to prevent off site dust migration. Site clearing should be limited at the actual footprint where the construction activities will take place. Regular manual sweeping of the surrounding roads and sidewalks.	Low (-ve)	Low

Concrete mixing.	Dust generation that may cause nuisance and respiratory problems.	Medium (-ve)	Covering construction materials (sand) with weighted down shade cloth or a similar material. Demarcate concrete mixing areas in places which are not entirely exposed to wind	Low (-ve)	Low
Movement of construction vehicles	Dust generation that may cause nuisance and respiratory problems.	Medium (-ve)	Spray water on the ground to suppress dust regularly. Limit speed to 30 km/h to avoid dust from being blown. Dust control and management should be undertaken in terms of National Dust Control regulations promulgated on 1 November 2013.	Low (-ve)	Low
Traffic congestion					
Increase of vehicles on the nearby road especially on R25.	Increase in construction and material delivery vehicles moving to and	Medium (-ve)	The contractor must provide a Traffic Marshal for situations where construction traffic may impede normal traffic flows on	Low (-ve)	Low

	from the site resulting in an increase of traffic on nearby roads especially the R25.		R25 adjacent to the site. Construction vehicles are not to be parked on the roads thereby blocking the way. Clear signs should be displayed and entrance to the site indicating a construction site and turning construction vehicles. Construction vehicles must preferably move in and out of site during off traffic peak hours (10am to 3pm).		
Soil					
Construction vehicles and equipment -hydrocarbon spills	Contamination of soil through spillage of hydrocarbons	Low (-ve)	Ensure that equipment and vehicles are maintained and are good working conditions.	Low (-ve)	Low

			Spill kits must be available on site so that spills on site may be cleaned immediately after such incident.		
Concrete mixing.	Soil pollution caused by concrete mixing.	Low (-ve)	There must be a dedicated concrete mixing area. Limit concrete mixing activities when wind speed is high.	Low (-ve)	Low
Earthworks and excavation.	Soil disturbances and loss of top soils caused by earthworks. Soil erosion along excavated areas	High (-ve)	Excavated soil material must be correctly located and preferably covered to prevent erosion of the soil. The trench routes and associated working areas must be clearly demarcated before excavation takes place. Trench lengths shall be kept as short as practically possible before backfilling and compacting.	Medium (-ve)	Medium

			Trenches should be re-filled to the same level as, or slightly higher (to allow for settlement) than the surrounding surface to minimise erosion. After trenches are refilled, the trenches and associated working areas must be planted with suitable indigenous vegetation and regularly watered and monitored. During and after construction of the infrastructure, ensure effective storm water management around permanent infrastructure, rehabilitate disturbed areas using indigenous vegetation, protect topsoil and avoid sensitive soils on steep slopes. This will reduce the possibility of soil erosion.		

Storing of stockpiles.	Inappropriate stock piling that may result in nuisance and generation of dust.	Medium (-ve)	All stockpiles must be restricted to designated areas and are not to exceed a height of 2 meters. Stockpiles created during the construction phase are not to remain during the operational phase. The contractor must be limited to clearly defined access routes to ensure that sensitive and undisturbed areas are not disturbed. Avoid translocating topsoil stockpiles from one place to another or importing topsoil from other sources that may contain alien plant propagules.	Low (-ve)	Low
Ground water and surface water quality					

Accidental spillage of hydrocarbons by construction vehicles.	Contamination of groundwater and surface water through accidental leakage of hydrocarbons from construction vehicles.	Low (-ve)	All vehicles shall be properly maintained and serviced so that no oil leaks occur on site. Spill trays must be provided for refueling of plant vehicles. Spillage must be cleaned immediately using spill kits. No construction activities should be undertaken within 100 meters from the stream close to the site.	Low (-ve)	Low
Noise					
Construction activities, movement of construction vehicles and delivery trucks.	Increased noise volumes caused by construction activities and machinery.	High (-ve)	The construction contractor must use modern equipment, which produces the least noise.	Medium (-ve)	Medium

			Any unavoidably noisy equipment must be identified and reasonably located in an area where it has least impact. The operation of machinery must be restricted to when it is actually required. No noise generating work is to be conducted outside of normal working hours as approved by the local authority. Neighbouring land occupiers must be notified when noise producing activities are planned at least 2 weeks before. All construction activities should be undertaken during daylight working hours between the hours of 07:00 – 17:00. No construction activities may be undertaken on Sunday.		

			Provide all equipment with standard silencers as far as possible. Maintain silencer units in vehicles and equipment in good working order. Construction staff working in the area where the 8-hour ambient noise levels exceed 60 dBA must have the appropriate Personal Protective Equipment (PPE). All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993).		
Safety, health and security.					
Construction activities and movement of personnel in and out of the site	Loss of material and site equipment. A construction site can be a dangerous place and thus could result in harm to	Very high (-ve)	Ensure that only suitably qualified personnel use construction vehicles. Ensure that the contact details of the police or security company and ambulance services are available on site.	Medium (-ve)	**Medium**

	workers and surrounding community.		Only allow access to the site to only authorised personnel. The construction site to be fenced off to prohibit unauthorized entry. Health and Safety Officer to be appointed to continuously monitor the safety conditions during construction. If any valuable materials are to be left over night on site, a security guard must be hired to guard the materials. All construction staff must wear all the appropriate PPE i.e. gloves, helmets, dust masks, gloves etc.		

			Signs should be erected to warn people of construction activities. The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations. An environmental awareness training programme for all workers shall be put in place by the Contractor before commencing with any work, all workers shall be appropriately briefed about the EMPr and relevant Occupational health and safety issues. No unauthorized firearms will be permitted on site.		

			Workers must not be allowed to work under the influence of drugs or alcohol. Adequate emergency tools (first aid kit) must be provided or the treatment of any emergency on the site.		
Waste management					
Site clearance waste and construction materials.	Generation of construction waste as well as general waste from workers on site.	High (-ve)	Manage waste generated during construction activities by ensuring that the design of the development includes adequate facilities for the temporary storage of waste, in terms of volume location and storage containers. Ensure that waste handling, storage and collection is undertaken in accordance with the relevant legislation, practices and procedures; Provision of adequate number of waste containers throughout the development;	Low (-ve)	Low

			Ensure regular removal of waste to a licensed waste disposal facility. All hazardous waste that may be produced on site must be stored in closed containers until removal to registered landfill. Waste produced on site must be recycled, re-used or reduced as far as possible.		
Socio-economic aspects					
Employment	Employment of contractors	High (+ve)	No mitigation required as it is a positive impact.	High (+ve)	**N/A**
Visual intrusion					
Construction activities	Alteration of aesthetic properties of the site due to construction activities	High (-ve)	Vehicles must be parked in one specific area whilst materials placed on site must be placed in neat piles in specified sections of the site prior to use.	Medium (-ve)	Medium

	and construction of permanent structures.		The site must be managed properly and all rubbish and rubble removed to a registered waste disposal facility. Excess soil and bedrock should be disposed of at an appropriate facility. Refuse bins must be provided on site and these must be emptied regularly. Vehicles and machinery must be parked in a specific area away from the main road.		
Energy use					

Use of energy saving technology	Reckless use of energy can contribute to increased greenhouse emission through the use of coal produced electricity.	Medium (-ve)	Install high-efficiency equipment that provide energy and operational savings. Check the efficiency of electrical equipment and machinery regularly. Regularly check compressed air system for leaks. Switch off lights and equipment when they are not required. Install energy-efficient lighting, fridges and other equipment. Where possible, use other energy alternatives such as solar power.	Low (-)	Medium
Flora					

Clearance of vegetation	Uncontrolled clearance of vegetation of may result in removal of protected or important ingenious trees.	Low (-ve)	No large tree shall be cut down unnecessarily. Sparsely vegetated areas should be cleared first, with densely vegetated areas being cleared last. All vegetation not required to be removed must be protected against damage.	Low (-ve)	Low
Fauna					
Clearance of vegetation.	Possible harm to fauna found on site.	Low (-ve)	No animal may be hunted, trapped, snared or captured for any purpose whatsoever. Speed of vehicles should be limited to allow for sufficient safety margins. Monitoring of the fences is of importance to ensure no animals are trapped.	Low (-ve)	Low

Excavation and trenching.	Construction activities could result in irreversible damage to heritage resources and depletion of the archaeological record of the area.	Medium (-ve)	Known sites should be clearly marked in order that they can be avoided during construction activities. The contractors and workers should be notified that archaeological sites might be exposed during the construction activities. Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or paleontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible.	Low (-ve)	Low

			All discoveries shall be reported immediately to a heritage practitioner (Provincial Heritage Resources Authority Gauteng (PHRAG) and/ or South African Heritage Resources Agency (SAHRA)) so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken. Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site.		
Storm water management					
Increased surface water runoff.	Increased run off of water due to paved surface.	High (-ve)	Erosion control measures should be installed to stabilize the banks and prevent	Medium (-ve)	Medium

			future erosion that may affect the development and the vegetation. Sewerage and waste water systems should be properly connected. Storm water drainages should be installed properly.		
Operational Phase					
Fire incidents					
Usage of appliances and electricity.	Fire may be caused by faults in appliances and negligence and well as open fires.	Medium (-ve)	Fire extinguishers must be easily accessible on site. Employees must be trained on fire safety procedures. Local emergency fire brigade number should be placed at a visible area and should be known to all workers	Low (-ve)	Low

			Use the prescribed fire safety precautions in terms of the Occupational Health and Safety Act The residential complex management must develop an Emergency Plan. All staff must be adequately trained in the implementation of this plan. There must be dedicated emergency assembly points in site.		
Storm water Impact:					
Increased surface water runoff.	Increased run off of water due to paved surface.	High (-ve)	Erosion control measures should be installed to stabilize the banks and prevent future erosion that may affect the development and the vegetation. Sewerage and waste water systems must be monitored for leaks and must be well	Medium (-ve)	Medium

			maintained throughout the operational phase. Storm water drainages must be maintained.		
Traffic congestion					
Vehicles moving into the site.	Traffic congestion because of increased flow of vehicles to the site.	Medium (ve)	Relevant traffic signage must be erected on and off the site to control traffic speeds and movements (as required). All vehicles travelling on site will adhere to the specified speed limits. The movement of all vehicles will be controlled such that they remain on designated routes. The detail design of the proposed residential complex development should adhere to the	Low (-ve)	Low

			prescribed specifications (and subsequent approval) of the applicable road authorities. Care should be taken pertaining to the placing of signage in the proximity of access points to the proposed residential complex. Issues pertaining to damages and poor condition of the roads in close proximity of the site should be reported to the applicable authority and custodian of the respective roads. Appropriate signage and traffic measures should be implemented at the site to ensure safety and convenient access for passing traffic volumes.		
Waste Management					

Generation of waste.	Generation of waste produced by residents and as well as organic waste from cutting of plants.	High (-ve)	Waste is to be collected and disposed of in accordance with municipal waste management system. Separate dry and wet waste on site by demarcating separate bins for that as far as possible. All building rubble, solid and liquid waste etc. must be disposed of as necessary at an appropriately licensed refuse facility. Waste bins to be emptied at least once a week or whenever they are full and the must be transported to a local registered landfill site. Manage waste generated during construction activities by ensuring that the	Low (-ve)	Low

			design of the development includes adequate facilities for the temporary storage of waste, in terms of volume, location and storage containers. Ensure that waste handling, storage and collection is undertaken in accordance with the relevant legislation, practices and procedures; All hazardous waste that may be produced on site must be stored in closed containers until removal to registered landfill. The disposal of materials must be monitored and recorded by the ECO. The burning and on-site disposal of waste is prohibited.		

			The contractor should ensure that recyclables are stored separately on site and recycled (wherever possible) e.g. paper, cardboard, plastic, glass, metals, concrete, etc.		
Noise					
Noise from residents and visitors.	Increased level in noise may cause a nuisance to the surrounding occupants resulting from the influx of residents and vehicles on site.	High (-ve)	A noise control policy must be compiled and enforced to control the level of noise at the facility, paying particular reference to the immediate neighbours. Signs to prohibit hooting and playing of loud music should be put up.	Medium (-ve)	Medium
Water usage					
Water consumption.	Reckless usage of water resulting in shortage of water.	High (-ve)	Check for water leaks regularly. Ensure to install water saving water taps and systems in the residential complex.	Medium (-ve)	Medium

			Drip Irrigation and Micro-Sprinklers shall be used by the project for irrigating the landscaped that shall be developed on site. The project must use only low flow and low flush – water saving plumbing fixtures, automatic level controllers at water tanks to reduce/optimize the demand side of water resource. Repairs for the damaged pipes should be carried out as soon as possible. Fine should n=be imposed to any personnel that is found leaving water pipes overflowing unattended.		
Safety and security					

Potential safety and security risk to residents.	Residents safety may be compromised by people entering the site unauthorized.	Medium (-ve)	There must be a 24 hours security guards on site. Access to site must be controlled by means of using any methods that ensures that the visitors' details are known and can be traced in case of an incident linked to the visitor. Staff should be adequately trained with respect to dealing with crime. Staff must be regularly updated about the safety procedures. Emergency contact details for the police, Security company and fire department must be readily available.	Low (-ve)	Low
Visual intrusion					

Visual intrusion by activities being carried out on-site.	Operational activities may impact on the aesthetic properties of the area.	Medium (-ve)	Site must always be kept clean. There must be managed and dedicated areas for parking.	Low (-ve)	Low
Light pollution.	Light pollution from the development affecting the neighbouring residential area.	High (-ve)	Minimise illumination by directing all lighting towards the ground and inwards away from the boundaries; avoid stark white fluorescent lighting; and avoid high wattage flood lights.	Medium (-ve)	Medium
Employment opportunities					
Employment of local people for the operational activities	The operational activities will have a small-scale impact on local employment and income opportunities for both local skilled and unskilled workers and subsequent improvement in the livelihoods of all those	Medium (+ve)	No mitigation as it is a positive impact.	High (+)	High

	employed as well as their dependents.				
Energy use					
Use of energy saving technology	Reckless use of energy can contribute to increased greenhouse emission through the use of coal electricity.	High (-ve)	Check the efficiency of electrical equipment and machinery regularly. Switch off lights and equipment when they are not required. Install energy-efficient lighting, fridges and other equipment. If possible, use other energy alternatives such as solar power.	Low (-)	Medium
Alien plant invasion.					
Introduction of alien plant species.	The clearing of vegetation may result in	Medium (-ve)	A monitoring and eradication program for all invasive and weedy plant species should be developed and implemented on site.	Low (-ve)	Medium

	the loss of endemic plant species. Developed sites tend to be highly susceptible to weed and invader plant spread as the natural vegetation is disturbed and alien seeds are inadvertently introduced.		Alien species found on site should be removed regularly. Indigenous plant species naturally growing along on the site should be used for re-vegetation.		

Alternative 1: Operational aspects: Use of energy saving equipment's and solar power.

Aspects	**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
Energy use					
Use of energy saving technology.	Reckless use of energy can contribute to increased greenhouse emission through the use of coal electricity.	Medium (-ve)	Check the efficiency of electrical equipment and machinery regularly. Regularly check compressed air system for leaks. Switch off lights and equipment when they are not required. Install energy-efficient lighting, fridges and other equipment. Use solar power for lighting as far as possible.	Low (-)	Medium

No Go Alternative

Aspects	**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**
Residential complex needs.	The need to provide people with housing will not be met. The principle of building sustainable human settlements will not be supported and the reduction of urban sprawl and traffic congestion will not be reduced.	**- ve**	Construction of the proposed residential complex development.	**+ve**	Medium-high

Socio economic aspects	There will be no opportunity for any economic activities, the development will not provide opportunity for job creation within the local community or further growth in development in the area.	**- ve**	Construction of the proposed residential complex development.	**+ve**	Medium
Visual impacts	There will be no visual impact to affected areas, no removal of indigenous vegetation or impact on fauna, flora or watercourses.	**+ve**	No management measures applicable.	**+ve**	Medium
Disturbance of natural resources	The property will retain its current status and no construction activities will be undertaken.	**+ ve**	No management measures applicable.	**+ve**	High

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

- Ecological Assessment (Refer to appendix G1)
- Wetland Assessment (Refer to appendix G2)
- Civil Engineering Services (Refer to appendix G3)
- Heritage Impact Assessment (Refer to appendix G4)

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

Assumptions

- All information presented to the EAP by the Applicant, Specialists and I&APs was correct and valid at the time that it was provided;
- Every effort was made to involve as many as possible I&APs to participate in the EA process;
- All information included into the BAR was obtained from the Applicant and Specialists and is therefore unbiased and accurate;
- The proposed development will be undertaken in accordance with the management and mitigation measures contained in the EMPr.

Gaps

- The scope of this BAR is limited to mostly assessing the environmental impacts associated with the construction and operational phases of the proposed residential complex development.
- No feasible site alternatives were obtained for the proposed development and therefore only environmental impacts for the Proposal (Preferred Alternative) were assessed.

3. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING 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.

Table 9: Impact assessment for decommissioning and closure phase

Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact** and **mitigation not being implemented**
No decommissioning is envisaged for this development.				

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

- Ecological Assessment (Refer to appendix G1)
- Wetland Assessment (Refer to appendix G2)
- Civil Engineering Services (Refer to appendix G3)
- Heritage Impact Assessment (Refer to appendix G4)

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

No decommissioning phase is envisaged for this development.

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 are impacting that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. This section provides a description and analysis of the potential cumulative effects of the proposed residential complex development with associated infrastructure and considers the effects of any such changes on the biophysical environment; and the socio-economic conditions.

1. Encroachment of alien vegetation.
    - Rehabilitation measures must be implemented once construction activities are complete to ensure that alien vegetation will be controlled during the construction and operational phases.
    - All conditions of the EMPr must be adhered to.
    - Construction activities should be restricted to the development footprint area.

- Newly cleared soils will have to be re-vegetated and stabilised and there should be an on-going monitoring program to control and/or eradicate newly emerging invasive plants.

2. Loss of sense of place associated with visual impacts.
   - All construction waste, rubble and structures to be removed from site.
   - As much vegetation growth as possible should be promoted within the site in order to protect soils and to reduce the percentage of the surface area which is left as bare ground. In this regard special mention is made of the need to use indigenous vegetation species as the first choice during rehabilitation. The plant material to be used for rehabilitation should be similar to what is found in the surrounding area.

3. Impact to the local road network (traffic disruptions and deterioration of road conditions).
   - Ensure appropriate traffic safety measures are implemented.
   - All properties adjacent to the site must be able to access the main roads.
   - Traffic safety measures to be implemented.

4. Greater demand for services.
   - Ensure all proposed upgrade and installations for services are undertaken.
   - Ensure all service level agreements have been received.
   - All conditions of the EMPr must be adhered to.

5. Increase in available residential complexes in Bronkhorstspruit
   - All conditions of the EMPr must be adhered to.

6. Increase in waste sent to landfill site.
   - Recycling must be undertaken where possible to reduce the amount of waste sent to the landfill site.
   - Waste must be sent to registered landfills and safe disposal certificates must be retained on site.

7. Increased economic development.
   - Employment opportunities: the construction and operation of the residential complex with its associated services will result in job opportunities being created.

- The development of the residential complex will attract investments and businesses in the to accommodate the growing population.

5. 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.

Proposal

Short term environmental impacts of the project during the construction phase include increased traffic, dust and noise. There is a potential for increased traffic volumes, risk of fire hazards, safety, noise and groundwater and storm water contamination during operational phase.

The socio-economic impacts have been identified as job opportunities during construction and operation phases. The development and operation of the proposed residential complex will have an initial favourable impact as there is a need for more residential complexes to accommodate the growing population in the area. It is estimated that the operation of the proposed residential complex will not irreparably jeopardise the business of any competitor in the study area. In order to mitigate the potential noise and visual nuisance on adjacent residential areas, proper siting and design of the infrastructure within the site is required.

The overall environmental and socio-economic impact associated with the proposed development is considered to be acceptable.

Alternative 1

The use of energy efficiency equipment and alternative energy source specifically solar.

Energy efficiency.

The installations of equipment such as compressed air, refrigeration facilities and lighting bulbs will be done in considerations to energy efficiency. Only energy efficient equipment will be purchased for installation. This method promotes saving of energy and thereby contributing to the carbon dioxide emission reduction considering the nature of the traditional energy source which is coal powered from Eskom.

Alternative energy source: Solar installations.

The facility will make use of solar power for its lights and equipment that require less electric power. This will offset the dependency on the grid (Eskom) on lights and thereby also contributing to greenhouse emission reduction. The adaptation of this option will strictly depend on the client's financial ability.

Alternative 2

N/A

No-go (compulsory)

This alternative would result in no construction related environmental impacts considering that the development would not be pursued. However, the no-go alternative could potentially result in a number of negative socio-economic impacts.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

Summary of the possible impacts during the Construction phase:

- Dust – air quality impact.
- Noise.
- Visual intrusion.
- Soil pollution.
- Underground water contamination.

- Traffic congestion.
- Health and safety challenges.

Summary of the possible impacts during the Operational Phase:

- Soil pollution.
- Groundwater and surface water (storm water) pollution.
- Fire and explosion.
- Safety and security.
- Noise.
- Light pollution.
- Visual impacts.

For alternative:

N/A

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 construction of the proposed residential complex in Bronkhorstspruit will provide additional housing in the area. The impacts on the environment (refer to the impact assessment) are considered to be minimal. The site has a small portion of ecological importance although from the ground, the area has been degraded by human activities.

The development will also provide safe and secure residential houses for the growing population in the area and also give rise economic growth as the development may attract more investments are in the area.

7. SPATIAL DEVELOPMENT TOOLS

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

Gauteng Conservation Plan.

Geographic Information Systems were used in determining the status quo of the receiving environment. The Gauteng Conservation Plan was utilised to indicate any sensitive surrounding environments and the level of protection of these. Small portion of the site falls under Ecological Support Area. Although, from the ground, the areas have been degraded by human activities.

Gauteng Environmental Management Framework (2014).

The Gauteng Environmental Management Framework was taken into consideration in determining the feasibility of the proposed project.

City of Tshwane Spatial Development Framework.

The Spatial Development Framework was taken into consideration during the planning of the proposed project. The SDF is the legislated component of the municipality's IDP that prescribes development strategies and policy guidelines to restructure and reengineer the urban and rural form. The SDF is the municipality's long-term vision of what it wishes to achieve spatially, and within the IDP programmes and projects. The site is zoned for agriculture. There is a currently a pending application to rezone it for residential.

City of Tshwane IDP (2019/2020).

The IDP is part of a suite of strategic planning instruments that guide development and service delivery in City of Tshwane.

8. RECOMMENDATION OF THE PRACTITIONER

	YES	NO
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)?		

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

[redacted]

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:

Storm water Pollution:

- A storm water management plan must be prepared as part of the engineering design of the site. A storm water management system must be implemented and maintained throughout the construction and operational phase of the project.

Construction phase.

- Dust suppression during construction during the dry/windy periods.
- Soil stockpiles which have the potential of generating dust must be covered.
- Maintain construction vehicles and machinery must be well maintained to control exhaust emissions.
- Spills shall be cleaned up immediately. The contaminated spilled material shall be removed by a registered waste removal company. Safe disposal certificates must be kept on record
- A register of all incidents shall be kept on site showing measures taken to manage the incident.
- Only water saving technology must be installed as far as possible.

Health & Safety:

- Traffic signage shall be erected to advice people of machinery and vehicles driving in the area.
- Construction employees must be restricted to the development area; they must be aware not to trespass on the neighbouring properties.
- All solid waste shall be disposed of at an approved registered municipal landfill site.

Monitoring and Reporting:

- Records of monitoring must be kept and made available on request.

- All machinery must be maintained in good working order as to prevent soil or water pollution from oil, fuel or other.

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

The proposed development will offer housing to those in the low-to-middle income bracket, which is within the urban edge and hence has many associated standards of living improvements. These include access to the municipal services, which will generally result in improved health and hygiene.

The residential complex, Umnotho Mews responds to aims of the Comprehensive Plan on Sustainable Human Settlements. The settlement is aimed at integrating communities and meeting the constitutional obligation for a non-racial and non-sexist integrated settlement. Key features of sustainability inform the design that speaks to the location and meeting conservation objectives.

The establishment of a new residential complex will also offer convenience to people who are working in the area who are currently travelling to work. Some people will be able to rent in the new residential complex addition, being in an urban area, residents closer to places of employment, resulting in shorter daily commutes and more employment opportunities.
No-go alternative: should the development not be approved the standard of living for those due to move from informal housing/from outside the urban area will not be improved.

The development will also provide employment opportunities to local communities. Approximately a number of 15 people will be employed during the construction phase whilst approximately 8 people will be employed during operational phase of the project. The operation of the facility will bring about economic growth and may attract investors.

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED
(CONSIDER WHEN THE ACITIVTY IS EXPECTED TO BE CONCLUDED)

The Environmental Authorisation is required for the lifetime of the development. No decommissioning phase in envisaged for this development

11. 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: APPENDICES

The following appendices 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 B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

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