

BASIC ASSESSMENT REPORT VOSLOORUS NODE PROJECT ONE SOCIAL HOUSING DEVELOPMENT

Prepared for:

Ekurhuleni Metropolitan Municipality

Strategic Support & Planning

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June 2016

PROJECT INFORMATION

Title: Basic Assessment for the Proposed Vosloorus Node Project One Social Housing Development

Competent Authority: Gauteng Department of Agriculture and Rural Development

Applicant: Ekurhuleni Metropolitan Municipality

Environmental Consultants: GA Environment (Pty) Ltd

Compiled by: Nyaladzi Nleya BSc Hons (*Cert. Sci. Nat.*)

Date: 27 June 2016

SIGNING OF THE ORIGINAL DOCUMENT

Original	Prepared by	Reviewed by	Approved by
Date:	Name:	Name:	Name:
27 June 2016	Nyaladzi Nleya	Nkhensani Khandhela	Andrew Woghiren
Version 0	Signature:	Signature:	Signature:

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Francois Malan	Servitude Management	TRANSNET



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.

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.

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?

YES

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?

NO

If no, why?

The Report is still at draft stage and comments are expected at the end of the regulated 30 day comment period.

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

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

VOSLOORUS NODE PROJECT ONE SOCIAL HOUSING DEVELOPMENT

1.1. Project and Activity Description

Ekurhuleni Human Settlements proposes to develop high density housing on the remainder of Erf 18383, Erf 18382 and Erf 6519 of Vosloorus Ext 9 as part of the Vosloorus nodal development. The project entails the development of high density residential units for rental and RDP housing to address the local economic development needs and housing backlog in the area. The site is located within the boundaries of Ekurhuleni Metropolitan Municipality, adjacent to the N3/ Interchange, to the north of Vosloorus township and on the immediate west of Botshelong Empilweni Private Hospital. Please refer to **Figure 1** for the locality map of the site.

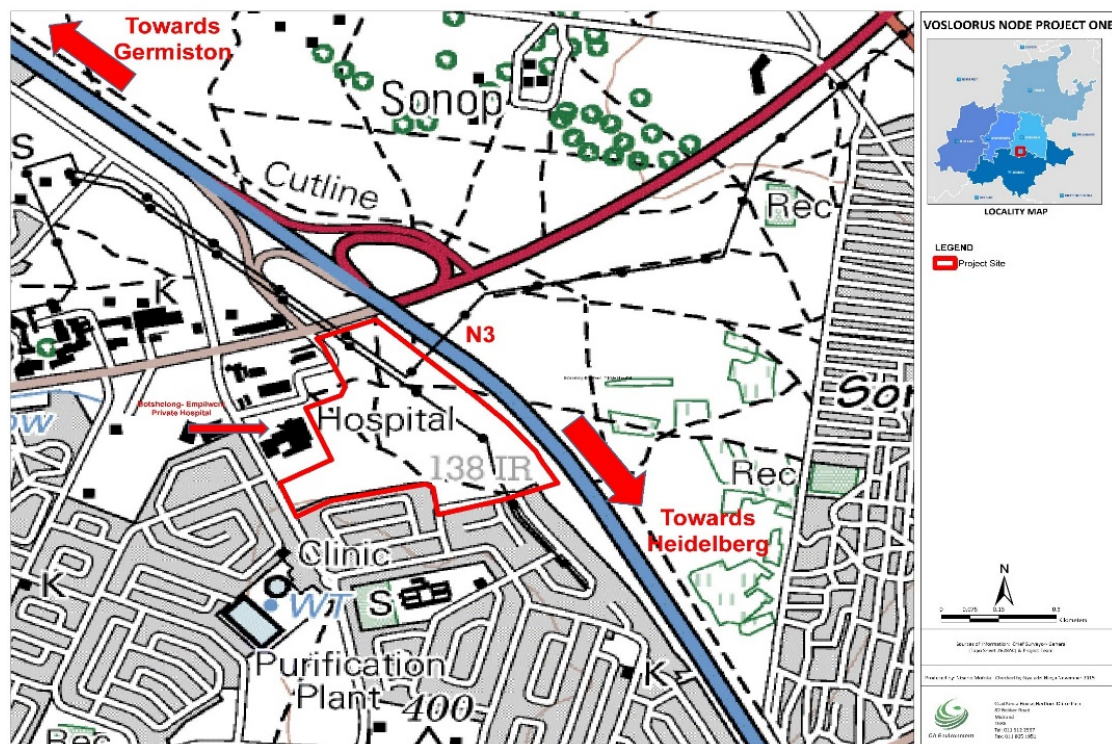


Figure 1: Locality map for the Vosloorus Node Development

Project 1 deliverable entails the planning, design and delivery of 4 to 10 storey walk-ups units at a density of between 80 and 100 units/hectare. This will complement the redevelopment of the existing Nguni and Sotho hostels and will further be supported by the development of the planned Vosloorus Station and transit oriented development around the station, inclusive of additional commercial and residential uses.

1.2. Environmental Description

The general natural drainage of the site is directed into the Rietspruit river system found on the east of the site and the Natalspruit River system found west of the site. There are no wet services currently installed on the site thus all surface water flows with the natural slopes either joining stormwater systems installed on the immediate vicinity or into the respective river systems.

The geology of the site falls under the Malamani subgroup within the Chuniespoort Group of the Transvaal Supergroup. Gravel sized dolerite rock chips also occur across the surface of the site and some rock dumps mainly composed of dolerite (not in situ) exist. The greater part of the site is characterised by shallow dolomite/chert rocks either outcropping or covered with thin

colluvium material. The shallow dolomite characteristics of the area infer small sinkhole manifestation possibility with high susceptibility to mobilization.

Based on the observation and the preliminary geotechnical studies undertaken, it was noted during the site visit that the site has two major constraints, that is, the Eskom servitudes and medium risk dolomite. These constraints have been considered and assessed in this Basic Assessment report.

1.3. Alternatives considered

For the purpose of this project, Two alternatives (layout design) were considered for this Basic Assessment. The alternatives considered are briefly presented as follows:

- a) Proposal- This alternative entails the construction of ten storeys Rental and RDP units on remainder of Erf 18983 and Erf 6519
- b) Alternative 1 -Ten storeys Rental and RDP units on remainder of Erf 18983
- c) Alternative 2 - Four storeys Rental and RDP units on remainder of Erf 18983, Erf 18982 and Erf 6519

Select the appropriate box

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

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

YES NO

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

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

YES	NO
YES	NO

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

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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:
Constitution of the Republic of South Africa	National Government	Act 108 of 1996
National Environmental Management Act No. 107 of 1998	National Department of Environmental Affairs	27 November 1998
National Water Act No 36 of 1998	Department of Water & Sanitation	20 August 1998
National Heritage Resources Act No. 25 of 1999	Provincial Heritage Resources Agency - Gauteng	14 April 1999
National Environmental Management: Waste Act No 59 of 2008	National Department of Environmental Affairs	10 March 2008
National Environmental Management: Air Quality Act No 39 of 2004	City of Johannesburg	19 February 2004

Hazardous Substances Act No 15 of 1973	National Department of Health	26 March 1973
National Amended Building Regulations No 107 of 1977	City of Johannesburg	1 October 1977
Occupational Health and Safety No. 85 of 1993	National Department of Labour	23 June 1993
Municipal Systems Act No. 32 of 2000	Gauteng Department of Public Transport, Roads and Works	20 November 2000
Municipal Structures Act No. 117 of 1998	Gauteng Department of Public Transport, Roads and Works	18 December 1998
The Gauteng Noise Control Regulations (GN 5479)	Gauteng Province	20 August 1999
Municipal Systems Act No.32 of 2000	Gauteng Department	1 March 2000
Local Government Ordinance (No.17 of 1939)	Gauteng Department	1 December 1939

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

Legislation, policy of guideline	Description of compliance
National Environmental Management Act (No.107 of 1998)	<p>Application for Environmental Authorisation for the following listed activities as required by GNR.985 Listing No.3:</p> <p>Proposed Rental units will include the following:</p> <ul style="list-style-type: none"> • 2 bedroom units • 1 bedroom units • Bachelors units • Creche • Parking Bays <p>Proposed RDP units will include the following:</p> <ul style="list-style-type: none"> • 2 bedroom units • Parking bays <p>Construction of Internal roads, Amphitheatre and other recreational facilities.</p> <p>Installation of the following services</p> <ul style="list-style-type: none"> • Municipal potable water • Municipal sewerage • Municipal stormwater • Refuse removal by Pikitup • Electricity from EMM <p>The construction of housing units, internal roads and other infrastructure in geographical areas listed in Listing Notice 3 require an Environmental Authorisation.</p>
Local Government Ordinance (No.17 of 1939)	<p>Application for Park Closure in terms of section 68 of the Local Government Ordinance for Erf 18983, Erf 18982 and Erf 6519.</p> <p>Permanent park closures (public open space) require consultation with the necessary stakeholders before final closure and rezoning.</p>

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 alternatives listed below were developed by the design team after a through consultative process that sought to address the need and purpose of the development. The project objectives were clearly defined and submitted to the design team who were tasked with producing a development concept. This concept was then evaluated against EMM's development objectives in order to link the project objectives to the overall development intent of Vosloorus. Location suitability and availability of resource requirements were considered before preparing a shortlist of appropriate alternatives. The proposed site was found to have several site constraints from which the below listed alternatives were proposed.

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 (Ten storeys Rental and RDP units on remainder of Erf 18983 and Erf 6519)	<p>The preferred design will have rental and RDP units located on the remainder of Erf 18983 and Erf 6519.</p> <p>Access to the new development will be via an entrance off Sam Sekoati Avenue</p> <p>Proposed 10 Storey Rental units will include the following:</p> <ul style="list-style-type: none"> • 2 bedroom: 320 units • 1 bedroom: 260 units • Bachelors: 260 units • Creche: 1 • Parking Bays: 106 bays <p>Proposed 4 Storey RDP units will include the following:</p> <ul style="list-style-type: none"> • 2 bedroom: 1016 units • Parking bays: 174 bays <p>The proposed site will have two distinct environments, namely housing and recreation.</p> <p>Housing will comprise of rental and RDP residential units and a crèche. This makes up the bulk of the development footprint which will include internal roads, pedestrian walkways and surface parking.</p>

		<p>Recreation characteristics will include the open space and landscaping. An extensive park development with amenity is proposed, including play areas, amphitheater, braai area, soccer field, volley ball and tennis courts.</p> <p>The following essential services will also be provided:</p> <ul style="list-style-type: none"> • Municipal potable water • Municipal sewerage • Municipal stormwater • Refuse removal by Pikitup • Electricity from EMM <p>The perimeter of the development will be fenced and access will be controlled via 2 entrances.</p> <p><i>Refer to Appendix A.2 for the development layout</i></p>
2	<p>Alternative 1 (Site layout and scale alternative) (Ten storeys Rental and RDP units on remainder of Erf 18983)</p>	<p>The preferred design will have rental and RDP units located on the remainder of Erf 18983 only.</p> <p>Access to the new development will be via an entrance off Sam Sekoati Avenue</p> <p>Similar to the proposal, this alternative will also include Proposed 10 Storey Rental units will include the following:</p> <ul style="list-style-type: none"> • 2 bedroom: 320 units • 1 bedroom: 260 units • Bachelors: 260 units • Creche: 1 • Parking Bays: 75 bays <p>Proposed 4 Storey RDP units will include the following:</p> <ul style="list-style-type: none"> • 2 bedroom: 488 units • Parking bays: 105 bays <p>The proposed site will also have two distinct environments, namely housing and recreation.</p> <p>Housing will comprise of rental and RDP residential units and a crèche. This makes up the bulk of the development footprint which will include internal roads and surface parking.</p> <p>Recreation characteristics will include the open space and landscaping. An extensive park development with amenity is proposed, including play areas, amphitheater, braai area, soccer field, volley ball and tennis courts.</p> <p>The following essential services will be provided:</p> <ul style="list-style-type: none"> • Municipal potable water • Municipal sewerage • Municipal stormwater • Refuse removal by Pikitup • Electricity from EMM <p>The perimeter of the development will be fenced and access will be controlled via 2 entrances.</p>

		<i>Refer to Appendix A3 for the development layout</i>
3	Alternative 2 (Site scale and design alternative) (Four storeys Rental and RDP units on remainder of Erf 18983, Erf 18982 and Erf 6519)	<p>The preferred design will have rental and RDP units located on the remainder of Erf 18983, Erf 18982 and Erf 6519.</p> <p>Access to the new development will be via an entrance off Sam Sekoati Avenue</p> <p>Proposed Rental units will include the following:</p> <ul style="list-style-type: none"> • 1 bedroom: 270 units • Parking Bays: 120 bays <p>Proposed RDP units will include the following:</p> <ul style="list-style-type: none"> • 2 bedroom: 954 units • Parking bays: 400 bays <p>The proposed site will have two distinct environments, namely housing and recreation.</p> <p>Housing will comprise of rental and RDP residential units. This makes up the bulk of the development footprint which will include internal roads and surface parking.</p> <p>Recreation characteristics will include the open space and landscaping. An extensive park development with amenity is proposed, including play areas, amphitheater, open space gym, braai area, soccer field, volley ball and tennis courts.</p> <p>The following essential services will be provided:</p> <ul style="list-style-type: none"> • Municipal potable water • Municipal sewerage • Municipal stormwater • Refuse removal by Pikitup • Electricity from EMM <p>The perimeter of the development will be fenced and access will be controlled via 2 entrances.</p> <p><i>Refer to Appendix A4 for the development layout</i></p>
	Etc.	

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

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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)	15 ha
Alternatives:	
Alternative 1 (if any)	11.5 ha
Alternative 2 (if any)	18.5 ha

or, for linear activities:

Proposed activity

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Length of the activity:

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

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Ha/m²

5. SITE ACCESS

Proposal

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

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

Describe the type of access road planned:

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?

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

Describe the type of access road planned:

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?

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

Describe the type of access road planned:

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 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)

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.

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.

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.

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 times

Instructions for completion of Section B for location/route alternatives

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

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

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

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

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

Section B - Section of Route

(complete only when appropriate for above)

Section B – Location/route Alternative No.

(complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)	The proposed site is located on Erf 18383, Erf 6519 and Erf 18382 of Vosloorus Ext 9. This vacant land is located to the west of the N3 freeway just south of Barry Marais Road. The overall proposed site is owned by 3 different land owners, namely Ekurhuleni Metropolitan municipality, Department of education and a Private Hospital group.
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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):

26°20' 36, 95" S

28°13' 14, 74" E

In the case of linear activities:

Alternative:

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

Latitude (S):

Longitude (E):

°	°
°	°
°	°

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

Addendum of route alternatives attached

The 21 digit Surveyor General code of each cadastral land parcel

PROPOSAL	T	O	I	R	0	7	7	8	0	0	0	1	8	3	8	3	0	0	0	0	0
	T	O	I	R	0	7	7	8	0	0	0	0	6	5	1	9	0	0	0	0	0
ALT. 1	T	O	I	R	0	7	7	8	0	0	0	1	8	3	8	3	0	0	0	0	0
ALT. 2	T	O	I	R	0	7	7	8	0	0	0	0	6	5	1	9	0	0	0	0	0
	T	O	I	R	0	7	7	8	0	0	0	0	6	5	1	9	0	0	0	0	0
	T	O	I	R	0	7	7	8	0	0	0	1	8	3	8	2	0	0	0	0	0

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
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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
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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)

Dolomite, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)

Unstable rocky slopes or steep slopes with loose soil

Dispersive soils (soils that dissolve in water)

Soils with high clay content (clay fraction more than 40%)

Any other unstable soil or geological feature

An area sensitive to erosion

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	NO
YES	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). A Geotechnical Assessment and a Dolomite Investigation has been undertaken to determine potential stability issues within and around the study site, please refer to **Appendix G3** for the copies of these reports.

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

YES	NO
-----	-----------

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

Latitude (S):

Longitude (E):

°	°
---	---

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

YES	NO
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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):

°	°
---	---

d) are any sinkholes located within a 300m radius of the site(s)

YES	NO
-----	-----------

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

Latitude (S):

Longitude (E):

°	°
---	---

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)?

YES	NO
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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 % = 5	Natural veld with scattered aliens % =25	Natural veld with heavy alien infestation % =15	Veld dominated by alien species % =50	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =	Bare soil % =5

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

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

YES	NO
-----	----

If YES, specify and explain:

--

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

YES	NO
-----	----

If YES, specify and explain:

--

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

YES	NO
-----	----

If YES, specify and explain:

--

Was a specialist consulted to assist with completing this section

YES	NO
-----	----

If yes complete specialist details

Name of the specialist:			
Qualification(s) of the specialist:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Are any further specialist studies recommended by the specialist?

YES	NO
-----	----

If YES, specify:

--

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

YES	NO
-----	----

If YES list the specialist reports attached below

--

Signature of _____ Date: _____

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. Please note the Gauteng Department of Agriculture and Rural Development Biodiversity Department was consulted during the earlier stages of the project to determine requirements for Biodiversity. The Department has advised that no biodiversity issues are known to exist on site. Please refer to **Appendix E6** for a copy of the letter.

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

	9/12	12	1	1/7	20	
	9	12/13	25	1/25	1/7	= Site
WEST	9	9/13		1/25	1	EAST
	9	9/12/13	9	25	20	
	9/12	9	9	9/12/13	1	

SOUTH

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 NO

If yes indicate the type of reports below

9. SOCIO-ECONOMIC CONTEXT

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

The proposed site for the development falls within Ward 45 of the EMM. Ward 45 includes the densely populated area of Vosloorus, including the Somalia Park informal settlement as well as Villa Liza Ext. 1 and 8. The site is furthermore characterized by the less densely populated Mapleton Agricultural Holdings (A.H.) and the farm Roodekraal 133 IR.

The Densification Framework: Status Quo: Analysis & Findings Document (2008) indicated that Ward 45 had a population of 31 266 individuals and approximately 8 700 households with an average household size of 3.5. The average population density for the Ward was 2 183 people per km². The neighboring ward 46 and 95 had a much higher population density.

The largest section of the population (72%) within the EMM falls within the 15 to 64 years age category. The majority of the local population of the EMM has some form of secondary schooling followed by those that have completed secondary school. Only 8% of Ekurhuleni's population has a post-matric qualification and about 92% of the employed in the municipal area are required only in unskilled or semi-skilled job opportunities. It is thus highly likely that the overall skills levels in the local area of Vosloorus are also low.

Within Ekurhuleni the unemployment rate is as high as 30%. Most of the residents including those in informal settlements in the city survive on relatives, hand-outs, and Government grants. Most of these residents are on the margins of poverty and destitute. These residents engage in the informal sector enterprise which is not accommodated by the commercial business sector or the banks¹.

The EMM economy is large and quite diverse. The biggest contributor to the local economy is the manufacturing sector, which places a huge demand on labour with the steel and fabricated metal products serving as inputs into other areas' economies. Ekurhuleni is thus not benefiting from direct capital investments as a result of the automotive sector developments. Other important sectors in the Ekurhuleni economy are finance, commercial services, trade and transport. The primary sectors (agriculture and mining) play a very small role in the current economy of the Metro.

Over the period 1996 to 2011, however, Ekurhuleni's economy grew by an estimated average of 3.2% per annum.

A detailed account of the existing social and economic characteristics of the area is provided in the *Social Impact Assessment*, **Appendix G1**.

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 categorised 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

¹ Ekurhuleni Metropolitan Municipality. 2013. IDP, Budget and SDBIP 2013/14 – 2015/16

- (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?

YES	NO
-----	----

If YES, explain:

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

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

A Heritage Impact Assessment was undertaken during the Basic Assessment Process. The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which the development is proposed. Impact analysis of cultural heritage resources under threat of the proposed development, were based on the present understanding of the development.

An informal cemetery was identified with graves believed to be less than 60 years. No other site, features or objects of cultural significance were found in the study area.
(Heritage Impact Assessment, Appendix G2)

Will any building or structure older than 60 years be affected in any way?
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	NO
YES	NO

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

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

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

2. LOCAL AUTHORITY PARTICIPATION

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

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

YES	NO
-----	----

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

YES	NO
-----	----

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

--

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

This draft BAR will also be sent to EMM for review and comment. It is expected that the Local Authority will submit formal comments following the review of this draft BAR. Such comments will be incorporated in the final BAR that will be submitted to GDARD for review and consideration.

3. CONSULTATION WITH OTHER STAKEHOLDERS

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

Has any comment been received from stakeholders?

YES	NO
-----	----

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

GDARD Biodiversity Unit: No Specialist Biodiversity studies are required. Absence of wetlands on site must be verified. Should a wetland be located, a wetland specialist study will be required. (refer to **Appendix E6**)

South African Heritage Resources Agency: Prior to the development it is incumbent on the developer to ensure that a Heritage Impact Assessment is done. This must include the archaeological component phase 1 and any other applicable heritage components. (refer to **Appendix F**)

South African Roads Agency: Before the construction and installation of the water pipeline across the N3 section 12 road prism, the written authorization of SANRAL in terms of Act 7 of 1998 will be sought. For evaluation a detailed cross-section of the proposed N3 road crossing showing apart from others pipe invert level, pipe size, sleeve pipe size, road reserve boundaries, dimensions and distance along national route(N3). (refer to **Appendix E6**)

EMM Water & Sanitation: The Department has no objection to the proposed work being carried out provided the requirements of the Wayleave application letter (refer to **Appendix F**) are met.

TRANSNET: Transnet SOC Limited has no objection in principle to the proposed design and construction of internal and bulk services crossing or in close proximity of the Ø406.4 mm within Transnet's 6m wide pipeline servitude. Prior to commencement of the work it is required that a representative of Transnet Pipelines be present to indicate the position of the pipelines and to undertake any work on Transnet Pipelines be present to indicate the position of the pipelines and to undertake any work on Transnet's pipeline(s) that may be necessary. (refer to **Appendix E6**)

ESKOM: The existing HV 88KV Vosloorus/Vosloorus South and HV 88 Finaalspan/Natalspruit overhead powerlines are affected with a structure or building restriction of 11m from the center of each line. (refer to **Appendix E6**)

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

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

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

5. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of site notice

Appendix 2 – Written notices 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 alternative needs to be clearly indicated in the box below
- 5) Attach the above documents in a chronological order

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

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

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

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

YES	NO
-----	----

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

2.4 m ³

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

All inert solid construction waste will be collected on site and transported by road for disposal at the closest licensed landfill site. Disposal will either be according to a time schedule (i.e. weekly) or according to volume (i.e. once a certain volume of waste has been reached).
--

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

Inert solid construction waste will disposed of at the nearest licensed landfill site.
--

Will the activity produce solid waste during its operational phase?

YES	NO
-----	----

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

35 m ³

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

Solid waste will be collected weekly by the EMM waste removal service and disposed of at their registered landfills.
--

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

YES	NO
-----	----

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

--

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

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

YES	NO
-----	----

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

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

YES	NO
-----	----

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

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

General waste which makes up 90% of the monthly amount will be sorted and retained in several skips from which contracted recycling agents will collect at stipulated times. A municipal permit must be applied for. Recycling is a resource recovery practice that allows the collection and reuse of waste materials. The materials from which the items are made can be reprocessed into new products. Material for recycling may be collected separately from general waste using dedicated bins for glass, cans, paper and plastic.

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?

m ³

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

YES	NO
-----	----

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

Yes	NO
-----	----

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

m ³

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

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

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

YES	NO
-----	----

If yes, provide the particulars of the facility:

Facility name:			
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:

Grey water from construction camp ablution areas will not be recycled for potable use, but will be collected in a dedicated collection tank and used for dust control and cleaning drive ways or spills.

Liquid effluent (domestic sewage)

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

YES	NO
-----	----

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

12 600m ³

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

YES	NO
-----	----

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

YES	NO
-----	----

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

--

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO
YES	NO

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

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

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

- Carbon monoxide from construction vehicle emissions
- Dust from excavation and other construction activities

The concentration of each emission will be low and managed by mitigation measures as prescribed by the EMPr (Appendix H)

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:

liters

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

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

YES	NO
-----	----

If yes, list the permits required

--

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

YES	NO
YES	NO

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

3. POWER SUPPLY

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

Eskom own the electricity reticulation infrastructure in the area. EMM have confirmed that any connections and wayleaves should be addressed with Eskom. Consultation has been commenced with Eskom (**Appendix E6**)

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

--

4. ENERGY EFFICIENCY

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

The largest saving in energy requirement lies in making best possible use of construction labour for task that do not specifically require electrical machinery. This will have the added advantage of reducing noise and air pollution generated on site.

During Operation the Green' building technology will be used for the structure where possible:

- Correctly orientate buildings;
- Create indoor spaces that encourage natural ventilation with limited mechanical assistance;
- Dry the air – higher ambient temperatures are tolerated when the air is dry.
- Fit external security lights with motion detectors, implying that they only activate when necessary; and
- Train residents in energy-wise practices, such as switching off lights.

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

Low consumption solar or gas powered equipment will be favoured for electronics and stoves.

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.

Feedback related to the Project Development and Programme:

- What is the timing of the project: when will construction begin and when will the various aspects such as the retail and community be launched?
- Who are the developers and are housing units for sale?
- Is there opportunity for service providers / developers to get involved in the project?

Feedback related to the Development Proposal:

- Notice must be taken of other existing retail developments in nearby areas and how they will be affected.
- Will access to the development be controlled, and how permeable will the development be for the public?
- The building footprints, facades and hierarchy of spaces must be further refined.
- The proposal should incorporate open space for passive recreation.

Feedback related to Services:

- Can the entrance not be located off the Barry Marais Road?
- Does the development take into account the BRT route?
- Approvals from EMM Water and Sanitation Department to guarantee sewerage capacity in the area.
- The management of surface runoff from the N3 should be designed to minimise pollution risks from water run-off.
- No layout should be finalised until the storm water management plan has been finalised and approved.

Feedback related to Socio Economics:

- Is there consideration of the socio economic standing of communities within a 5km radius?

Feedback related to Construction:

- Concern regarding the regular and safe continuity of business around the area.
- How will dust, noise and traffic be controlled?

*Refer to **Appendix E** for a detailed account of issues and comments raised by stakeholders.*

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):

- Construction will begin at the end of the detailed design phase. Project one will be the first project in the Vosloorus-Thokoza development Node.
- There will be limited retail as the development seeks to mainly address the housing shortage in the area.
- The developer is Ekurhuleni Metropolitan Municipality. Service providers and contractors can contact the developer to register their interest during the planning phase.

- It is highly unlikely for the entrance to be off Barry Marais Road due to existing congestion on this road
- The development does take into account the proposed and future BRT routes in the area
- Existing retail units in the area have been noted and hence the retail component has been reduced in the development concept.
- Access to the development will be controlled however public open spaces and amenities will be open to the public

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

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

The impacts anticipated to occur as a result of the proposed development are evaluated to determine their significance. The following evaluation criteria are used:

Duration (the timeframe over which the effects of the impact will be felt):

- **(1) Short term:** 0-10 yrs
- **(2) Medium term:** 11-25 yrs
- **(3) Long term:** more than 25 yrs.

Magnitude (the extent of the impact):

- **(1) Low:** within the defined study area
- **(2) Medium:** within the local neighbourhoods
- **(3) High:** within the city.

Probability (the likelihood of the impact actually occurring):

- **(1) Unlikely:** Less than 30% sure of the likelihood of an impact occurring.
- **(2) Possible:** 30-60% sure of the likelihood of an impact occurring.
- **(3) Probable:** 60-90% sure of the likelihood of that impact occurring.
- **(4) Definite:** More than 90% sure of the likelihood of that impact occurring.

Based on the above, the significance rating scale is determined as follows:

(H) High: Impacts of a substantial order. In the case of negative impacts, mitigation and / or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.

(M) Moderate: Impact would be real but not substantial within the bounds of those, which could occur. In the case of negative impacts, mitigation and / or remedial activity would be both feasible and fairly easily possible. In the case of positive impacts, other means of achieving these benefits would be about equal in time, cost, and effort.

(L) Low: Impact would be negligible. In the case of negative impacts, almost no mitigation or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap, and simple. In the case of positive impacts, alternative means would almost all likely be better, in one or a number of ways, than this means of achieving the benefit.

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.

Proposal (Ten storeys Rental and RDP units on remainder of Erf 18983 and Erf 6519)

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				
Hydrology (surface & ground water)				
Pollution of the surface water system by litter.	Medium	A drainage diversion system will be installed at the contractors camp (and where necessary at the construction sites) to divert clean runoff around areas of potential pollution, e.g. batching area, workshops, etc.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Pollution of the surface water system by chemical toilets (leaks and spills).	Medium	Chemical toilets will be serviced and cleaned on a regular basis to avoid leaks and spills.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Pollution of the surface water system by cement slurry (runoff from construction areas).	Medium	<ul style="list-style-type: none"> - Ensure that concrete and cement works are undertaken in specified areas only; - Install a drainage diversion system to divert clean runoff around areas of potential pollution, e.g. batching area, workshops, etc; - Direct polluted runoff and waste water emanating from the construction site into a collection system (e.g. sump, attenuation dam, PVC porta-ponds, etc.) for treatment or collection and disposal. 	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Pollution of the surface water system by grey water (runoff from construction areas).	Medium	Contaminated runoff and waste water emanating from the construction site will be directed into a collection system (e.g. sump, attenuation dam, PVC porta-ponds etc.) for treatment or collection and disposal.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.

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:
Soil				
Loss of soil fertility due to general construction activities (pollution and compaction around construction sites).	Low	Strip topsoil from all areas earmarked for construction, materials laydown and other works and stockpile for later use in rehabilitation of the site.	Low	The displacement of soil leads to the burying of seeds, which can delay or entirely block new plant growth. The loss of nutrient-rich topsoil also means less nutrients for plants that are already growing in the area.
Erosion due to altered surface runoff (as a result of topographical manipulation, earth forming and trenching)	Medium	<ul style="list-style-type: none"> - Do not excavate until all required materials / services are on-site, to facilitate immediate laying of services / construction of subsurface infrastructure; - Preferably undertake clearing activities during the dry season in order to prevent erosion and siltation; Compact backfilled trenches to prevent erosion; - Monitor backfilled areas for erosion and remediate as required; - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed. - Cordon off areas that are under rehabilitation to prevent unauthorised access; - Regularly inspect all rehabilitated areas and implement remedial measures as required; 	Low	The direct effects can often lead to broader consequences, including shrinking habitats for animals, accumulation of sediments, the removal of nutrients and other negative effects.

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:
		- Dissipate concentrated storm water flows through energy dissipaters or vegetated areas.		
Erosion of steep and unstable backfilled slopes at the north end of the site. This is especially relevant if the vegetation is to be removed from the slope, exposing it.	Low	<ul style="list-style-type: none"> - Properly programme site works and ensure that vegetation clearing does not take place prematurely and leave areas unnecessarily exposed / denuded; - Preferably undertake clearing activities during the dry season in order to prevent erosion and siltation; - Make use of erosion control measures as specified by the Engineer to reinforce steep or unstable slopes as required; - Near vertical slopes must be stabilised according to Engineer's specification; - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed. - Cordon off areas that are under rehabilitation to prevent unauthorised access; - Regularly inspect all rehabilitated areas and implement remedial measures as required; - Dissipate concentrated storm water flows through energy dissipaters or vegetated areas. 	Low	Steep slopes are highly susceptible to erosion, and the loss of organic matter, loss of soil structure, poor internal drainage, salinisation and soil acidity problems.
Topsoil erosion due to loss of vegetation and concentration of runoff.	Medium	Topsoil will be stripped from all areas where permanent or temporary structures	Low	Loss of fertile soils will result in problems during rehabilitation

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:
		and access roads are to be constructed. Topsoil will be stockpiled for later use.		and landscaping.
Stockpiles should not be higher than 2.5 meters to avoid compaction, while the slopes of the stockpiles should not be steeper than 1 vertical to 1.5 meters horizontally.	Medium	Stockpiles should be demarcated and staff informed of the allowable height for stockpiles.	Low	Compaction and soil erosion will persist and the stockpiles will become increasingly difficult to manage.
Soils from different horizons must be stockpiled so that topsoil stockpiles do not get contaminated by sub-soil material.	Medium	Top soils must be piled separately from other sub soil material and adequately protected.	Low	Contamination of top soil impacting on its agriculture potential and therefore reducing its suitability for re-use.
Soil pollution by litter and other inert construction waste.	Medium	<ul style="list-style-type: none"> - Ensure that all personnel are familiar with waste management requirements on site; - Collect and sort-at-source the different types of waste (recyclables, inert rubble, hazardous and non-recyclable general waste) by placing receptacles at specific points throughout the construction site; - Ensure that personnel make use of the receptacles provided; Empty receptacles for disposal at least once per week, but more often if required; - Dispose of solid waste at the nearest, applicably licensed recycling center, salvage yard or landfill site; - Undertake weekly site cleanup operations to maintain the site in a 	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.

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:
		neat and litter-free state.		
Air				
Air pollution by emission from construction vehicles and equipment.	Medium	Maintain site vehicles and equipment in an acceptable state of repair (these may not smoke and must comply with SABS standards).	Low	Vehicle emissions contribute to the formation of smog. Nitrogen oxides (NOx) and volatile organic compounds (VOCs) in vehicle emissions can react to form ground level ozone and other secondary pollutants.
Dust liberated by general construction activities (construction and movement of vehicles over the site)	High	<ul style="list-style-type: none"> - Vegetate or cover long-term stockpiles of soil and fine spoil material to minimise the sources of dust pollution; - Maintain all site roads and repairs these as required; - Enforce speed limits on site to limit levels of dust generated - Regularly spray construction and haul roads with water to reduce dust; - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed; - Cordon off areas that are under rehabilitation to prevent unauthorised access. 	Low	Some dust particles are toxic and their effect to human health is mostly determined by the amount of dust present in the air and how long they have been exposed to it.
Smoke from open fires used by site staff for heating and cooking as well as uncontrolled fires.	Medium	- No open fires will be allowed anywhere on the site;	Low	Harmful to human health, air pollution can cause a variety of environmental

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:
		<ul style="list-style-type: none"> - No incineration or burning of waste is permitted on the site; - Provide personnel with gas for cooking in designated and safe areas. - Ensure that the necessary firefighting equipment is on site in terms of SABS 1200 and act in accordance with relevant legislative requirements. 		<p>effects: Acid rain is precipitation containing harmful amounts of nitric and sulfuric acids.</p> <p>These acids are formed primarily by nitrogen oxides and sulfur oxides released into the atmosphere when fossil fuels are burned.</p>
Biodiversity (Fauna & Flora)				
Colonisation of the site by invasive plant species.	High	Draw up a management and monitoring programme for invasive species detailing actions to prevent the establishment of invasive plants of site during construction. Implement management actions according to the management plan.	Low	Proliferation of alien species which will not only have an adverse impact on people's health but agriculture, forestry and fishery, but also disturbs the indigenous ecosystem.
Removal of and damage to ecologically and socially significant specimens (especially large trees).	Medium	<ul style="list-style-type: none"> - Draw up a plan (during project planning) indicating the mapped positions of vegetation specimens to be conserved and which should be removed and replaced; - Demarcate specimens to be retained with danger tape and / or fencing as required. This barrier to be at least 2m from the stem of the specimen. - Implement fines for the damage or destruction of marked and protected specimens. It is the contractor's responsibility to ensure that these are retained. 	Medium	This will result in increased soil erosion and less organic matter for soil.

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:
Migration of species due to activity levels on site.	High	All natural areas will be demarcated as sensitive environments, and only low-key development of pathways through suitable areas will be permitted. These natural areas will be maintained as conservation areas.	Medium	Natural ecosystem will be significantly affected.
Damage to and removal of plant habitats.	Medium	<ul style="list-style-type: none"> - Do not deface, paint or otherwise mark and / or damage natural features / vegetation on the site; - Only wood from trees felled as part of the construction contract may be sold / made available to personnel; Regulate and control movement over the site. Personnel, vehicles and equipment to move along designated routes. - Demarcate the perimeter of all construction sites. Prohibit construction activities and access by personnel beyond these barriers. - Demarcate areas of vegetation to be retained with danger tape and / or fencing as required. - Implement fines for the damage or destruction of marked and protected vegetation. It is the contractor's responsibility to ensure that these are retained. 	Medium	This will result in a reduction in natural habitats for fauna.
Death / injury of resident wildlife (including common species of birds, small mammals, small reptiles,	Medium	- The development will be planned with connectivity between pristine areas for fauna	Low	

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:
amphibians and insects) by construction personnel.		to move naturally and freely. - There should be no fences or walls between open spaces without passages for wild life. - All construction staff will be educated in terms of the unacceptability of poaching. A system of internal fines should be implemented by the contractor if a problem persists.		
Land Use Character & Aesthetics				
Acoustic intrusion due to construction activity and equipment use.	High	Construction work must be limited to working hours with all construction vehicles equipped with silencers.	Medium	This will cause unnecessary discourse between the communities and the contractor
Aesthetic intrusion due to visible buildings once construction is complete. These buildings will be visible from the N3 and community around the proposed site.	High	Use of earthy paint colours and building material.	Low	Buildings with reflective paint material can be a nuisance to motorists along the N3 highway
Aesthetic intrusion due to visible construction activities, stockpiles, rubble piles, untidy construction yards and equipment.	High	Site camps and laydown areas must be located in concealed parts of the site	Low	This will cause unnecessary discourse between the communities and the contractor
Municipal services & traffic				
Damage and deterioration of roads due to construction vehicle use and materials spills.	High	Effective management of movement of construction vehicles, taking cognizance of peak traffic periods and only fairly clean vehicles should leave the site.	Low	Throughout the duration of the project the roads will be gradually damaged if the same routes are consistently used. Loose stones can damage other vehicles.

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:
				Loose soil can discolor the tarmac
Socioeconomic				
Creation of short term employment opportunities (positive impact)	Low	No Mitigation	High	
Rates income for the local municipality (positive impact)	Low	No Mitigation	High	
Improved social and educational offering for the locality (positive impact)	Low	No Mitigation	High	
Increase in opportunistic crime as a result of increased working and work-seeking population at the construction site.	Medium	Consultation between the contractor, ward councilor and the community security group to discourage any potential crime increase due to the activity.	Low	If crime escalates due to construction activities this can result in discourse between the community and the contractor.
Increase in alcohol abuse and sexually transmitted diseases	Medium	HIV awareness and training must be offered to all employees to help manage this impact	Low	There is a danger of increased infections particularly to vulnerable members of society

Alternative One (Ten storeys Rental and RDP units on remainder of Erf 18983)

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				
Hydrology (surface & ground water)				
Pollution of the surface water system by litter.	Medium	A drainage diversion system will be installed at the contractors camp (and where necessary at the construction sites) to divert clean runoff around areas of potential pollution, e.g. batching area, workshops, etc.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.

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:
Pollution of the surface water system by chemical toilets (leaks and spills).	Medium	Chemical toilets will be serviced and cleaned on a regular basis to avoid leaks and spills.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Pollution of the surface water system by cement slurry (runoff from construction areas).	Medium	<ul style="list-style-type: none"> - Ensure that concrete and cement works are undertaken in specified areas only; - Install a drainage diversion system to divert clean runoff around areas of potential pollution, e.g. batching area, workshops, etc; - Direct polluted runoff and waste water emanating from the construction site into a collection system (e.g. sump, attenuation dam, PVC porta-ponds, etc.) for treatment or collection and disposal. 	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Pollution of the surface water system by grey water (runoff from construction areas).	Medium	Contaminated runoff and waste water emanating from the construction site will be directed into a collection system (e.g. sump, attenuation dam, PVC porta-ponds etc.) for treatment or collection and disposal.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Soil				
Loss of soil fertility due to general construction activities (pollution and compaction around construction sites).	Low	Strip topsoil from all areas earmarked for construction, materials laydown and other works and stockpile for later use in rehabilitation of the site.	Low	The displacement of soil leads to the burying of seeds, which can delay or entirely block new plant growth. The loss of nutrient-rich topsoil also means less nutrients for plants that are

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:
				already growing in the area.
Erosion due to altered surface runoff (as a result of topographical manipulation, earth forming and trenching)	Medium	<ul style="list-style-type: none"> - Do not excavate until all required materials / services are on-site, to facilitate immediate laying of services / construction of subsurface infrastructure; - Preferably undertake clearing activities during the dry season in order to prevent erosion and siltation; Compact backfilled trenches to prevent erosion; - Monitor backfilled areas for erosion and remediate as required; - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed. - Cordon off areas that are under rehabilitation to prevent unauthorised access; - Regularly inspect all rehabilitated areas and implement remedial measures as required; - Dissipate concentrated storm water flows through energy dissipaters or vegetated areas. 	Low	The direct effects can often lead to broader consequences, including shrinking habitats for animals, accumulation of sediments, the removal of nutrients and other negative effects.
Erosion of steep and unstable backfilled slopes at the north end of the site. This is especially relevant if the vegetation is to be removed from the slope, exposing it.	Low	<ul style="list-style-type: none"> - Properly programme site works and ensure that vegetation clearing does not take place prematurely and leave areas unnecessarily exposed / denuded; - Preferably undertake clearing activities during the dry season 	Low	Steep slopes are highly susceptible to erosion, and the loss of organic matter, loss of soil structure, poor internal drainage, salinisation and soil acidity problems.

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:
		<p>in order to prevent erosion and siltation;</p> <ul style="list-style-type: none"> - Make use of erosion control measures as specified by the Engineer to reinforce steep or unstable slopes as required; - Near vertical slopes must be stabilised according to Engineer's specification; - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed. - Cordon off areas that are under rehabilitation to prevent unauthorised access; - Regularly inspect all rehabilitated areas and implement remedial measures as required; - Dissipate concentrated storm water flows through energy dissipaters or vegetated areas. 		
Topsoil erosion due to loss of vegetation and concentration of runoff.	Medium	Topsoil will be stripped from all areas where permanent or temporary structures and access roads are to be constructed. Topsoil will be stockpiled for later use.	Low	Loss of fertile soils will result in problems during rehabilitation and landscaping.
Stockpiles should not be higher than 2.5 meters to avoid compaction, while the slopes of the stockpiles should not be steeper than 1 vertical to 1.5 meters horizontally.	Medium	Stockpiles should be demarcated and staff informed of the allowable height for stockpiles.	Low	Compaction and soil erosion will persist and the stockpiles will become increasingly difficult to manage.
Soils from different horizons must be stockpiled so that topsoil	Medium	Top soils must be piled separately from other	Low	Contamination of top soil impacting on its

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:
stockpiles do not get contaminated by sub-soil material.		sub soil material and adequately protected.		agriculture potential and therefore reducing its suitability for re-use.
Soil pollution by litter and other inert construction waste.	Medium	<ul style="list-style-type: none"> - Ensure that all personnel are familiar with waste management requirements on site; - Collect and sort-at-source the different types of waste (recyclables, inert rubble, hazardous and non-recyclable general waste) by placing receptacles at specific points throughout the construction site; - Ensure that personnel make use of the receptacles provided; Empty receptacles for disposal at least once per week, but more often if required; - Dispose of solid waste at the nearest, applicably licensed recycling center, salvage yard or landfill site; - Undertake weekly site cleanup operations to maintain the site in a neat and litter-free state. 	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Air				
Air pollution by emission from construction vehicles and equipment.	Medium	Maintain site vehicles and equipment in an acceptable state of repair (these may not smoke and must comply with SABS standards).	Low	Vehicle emissions contribute to the formation of smog. Nitrogen oxides (NOx) and volatile organic compounds (VOCs) in vehicle emissions can

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:
				react to form ground level ozone and other secondary pollutants.
Dust liberated by general construction activities (construction and movement of vehicles over the site)	Medium	<ul style="list-style-type: none"> - Vegetate or cover long-term stockpiles of soil and fine spoil material to minimise the sources of dust pollution; - Maintain all site roads and repairs these as required; - Enforce speed limits on site to limit levels of dust generated - Regularly spray construction and haul roads with water to reduce dust; - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed; - Cordon off areas that are under rehabilitation to prevent unauthorised access. 	Low	Some dust particles are toxic and their effect to human health is mostly determined by the amount of dust present in the air and how long they have been exposed to it.
Smoke from open fires used by site staff for heating and cooking as well as uncontrolled fires.	Medium	<p>No open fires will be allowed anywhere on the site;</p> <p>No incineration or burning of waste is permitted on the site;</p> <p>Ensure that the necessary firefighting equipment is on site in terms of SABS 1200 and act in accordance with relevant legislative requirements.</p>	Low	<p>Harmful to human health, air pollution can cause a variety of environmental effects: Acid rain is precipitation containing harmful amounts of nitric and sulfuric acids.</p> <p>These acids are formed primarily by nitrogen oxides and sulfur oxides released into the atmosphere</p>

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:
				when fossil fuels are burned.
Biodiversity (Fauna & Flora)				
Colonisation of the site by invasive plant species.	Medium	- Draw up a management and monitoring programme for invasive species detailing actions to prevent the establishment of invasive plants of site during construction. Implement management actions according to the management plan.	Low	Proliferation of alien species which will not only have an adverse impact on people's health but agriculture, forestry and fishery, but also disturbs the indigenous ecosystem.
Removal of and damage to ecologically and socially significant specimens (especially large trees).	Medium	- Draw up a plan (during project planning) indicating the mapped positions of vegetation specimens to be conserved and which should be removed and replaced; - Demarcate specimens to be retained with danger tape and / or fencing as required. This barrier to be at least 2m from the stem of the specimen. - Implement fines for the damage or destruction of marked and protected specimens. It is the contractor's responsibility to ensure that these are retained.	Medium	This will result in increased soil erosion and less organic matter for soil.
Migration of species due to activity levels on site.	High	All natural areas will be demarcated as sensitive environments, and only low-key development of pathways through suitable areas will be permitted. These natural areas will be maintained as conservation areas.	Medium	Natural ecosystem will be significantly affected.
Damage to and removal of plant habitats.	Medium	- Do not deface, paint or otherwise mark and / or damage natural	Medium	This will result in a reduction in

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:
		<p>features / vegetation on the site;</p> <ul style="list-style-type: none"> - Only wood from trees felled as part of the construction contract may be sold / made available to personnel; Regulate and control movement over the site. Personnel, vehicles and equipment to move along designated routes. - Demarcate the perimeter of all construction sites. Prohibit construction activities and access by personnel beyond these barriers. - Demarcate areas of vegetation to be retained with danger tape and / or fencing as required. - Implement fines for the damage or destruction of marked and protected vegetation. It is the contractor's responsibility to ensure that these are retained. 		<p>natural habitats for fauna.</p>
<p>Death / injury of resident wildlife (including common species of birds, small mammals, small reptiles, amphibians and insects) by construction personnel.</p>	<p>Medium</p>	<ul style="list-style-type: none"> - The development will be planned with connectivity between pristine areas for fauna to move naturally and freely. - There should be no fences or walls between open spaces without passages for wild life. - All construction staff will be educated in terms of the unacceptability of poaching. A system of 	<p>Low</p>	

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:
		internal fines should be implemented by the contractor if a problem persists.		
Land Use Character & Aesthetics				
Acoustic intrusion due to construction activity and equipment use.	High	Construction work must be limited to working hours with all construction vehicles equipped with silencers.	Medium	This will cause unnecessary discourse between the communities and the contractor
Aesthetic intrusion due to visible buildings once construction is complete. These buildings will be visible from the N3 and community around the proposed site.	High	Use of earthy paint colours and building material.	Low	Buildings with reflective paint material can be a nuisance to motorists along the N3 highway
Aesthetic intrusion due to visible construction activities, stockpiles, rubble piles, untidy construction yards and equipment.	Medium	Site camps and laydown areas must be located in concealed parts of the site	Low	This will cause unnecessary discourse between the communities and the contractor
Municipal services & traffic				
Damage and deterioration of roads due to construction vehicle use and materials spills.	Medium	Effective management of movement of construction vehicles, taking cognizance of peak traffic periods and only fairly clean vehicles should leave the site.	Low	Throughout the duration of the project the roads will be gradually damaged if the same routes are consistently used. Loose stones can damage other vehicles. Loose soil can discolor the tarmac
Socioeconomic				
Creation of short term employment opportunities (positive impact)	Low	No Mitigation	Medium	
Rates income for the local municipality (positive impact)	Low	No Mitigation	Medium	
Improved social and educational offering for the locality (positive impact)	Low	No Mitigation	Medium	

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:
Increase in opportunistic crime as a result of increased working and work-seeking population at the construction site.	Medium	Consultation between the contractor, ward councilor and the community security group to discourage any potential crime increase due to the activity.	Low	If crime escalates due to construction activities this can result in discourse between the community and the contractor.
Increase in alcohol abuse and sexually transmitted diseases	Medium	HIV awareness and training must be offered to all employees to help manage this impact	Low	There is a danger of increased infections particularly to vulnerable members of society

Alternative Two (Three storeys Rental and RDP units on remainder of Erf 18983)

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				
Hydrology (surface & ground water)				
Pollution of the surface water system by litter.	Medium	A drainage diversion system will be installed at the contractors camp (and where necessary at the construction sites) to divert clean runoff around areas of potential pollution, e.g. batching area, workshops, etc.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Pollution of the surface water system by chemical toilets (leaks and spills).	Medium	Chemical toilets will be serviced and cleaned on a regular basis to avoid leaks and spills.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Pollution of the surface water system by cement slurry (runoff from construction areas).	High	- Ensure that concrete and cement works are undertaken in specified areas only; - Install a drainage diversion system to divert clean runoff	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.

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:
		<p>around areas of potential pollution, e.g. batching area, workshops, etc;</p> <p>- Direct polluted runoff and waste water emanating from the construction site into a collection system (e.g. sump, attenuation dam, PVC porta-ponds, etc.) for treatment or collection and disposal.</p>		
Pollution of the surface water system by grey water (runoff from construction areas).	High	Contaminated runoff and waste water emanating from the construction site will be directed into a collection system (e.g. sump, attenuation dam, PVC porta-ponds etc.) for treatment or collection and disposal.	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.
Soil				
Loss of soil fertility due to general construction activities (pollution and compaction around construction sites).	Medium	Strip topsoil from all areas earmarked for construction, materials laydown and other works and stockpile for later use in rehabilitation of the site.	Low	The displacement of soil leads to the burying of seeds, which can delay or entirely block new plant growth. The loss of nutrient-rich topsoil also means less nutrients for plants that are already growing in the area.
Erosion due to altered surface runoff (as a result of topographical manipulation, earth forming and trenching)	Medium	<p>- Do not excavate until all required materials / services are on-site, to facilitate immediate laying of services / construction of subsurface infrastructure;</p> <p>- Preferably undertake clearing activities during the dry season</p>	Low	The direct effects can often lead to broader consequences, including shrinking habitats for animals, accumulation of sediments, the removal of nutrients and

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:
		<p>in order to prevent erosion and siltation; Compact backfilled trenches to prevent erosion;</p> <ul style="list-style-type: none"> - Monitor backfilled areas for erosion and remediate as required; - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed. - Cordon off areas that are under rehabilitation to prevent unauthorised access; - Regularly inspect all rehabilitated areas and implement remedial measures as required; - Dissipate concentrated storm water flows through energy dissipaters or vegetated areas. 		other negative effects.
Erosion of steep and unstable backfilled slopes at the north end of the site. This is especially relevant if the vegetation is to be removed from the slope, exposing it.	Medium	<ul style="list-style-type: none"> - Properly programme site works and ensure that vegetation clearing does not take place prematurely and leave areas unnecessarily exposed / denuded; - Preferably undertake clearing activities during the dry season in order to prevent erosion and siltation; - Make use of erosion control measures as specified by the Engineer to reinforce steep or unstable slopes as required; - Near vertical slopes must be stabilised according to Engineer's specification; 	Low	Steep slopes are highly susceptible to erosion, and the loss of organic matter, loss of soil structure, poor internal drainage, salinisation and soil acidity problems.

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:
		<ul style="list-style-type: none"> - Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed. - Cordon off areas that are under rehabilitation to prevent unauthorised access; - Regularly inspect all rehabilitated areas and implement remedial measures as required; - Dissipate concentrated storm water flows through energy dissipaters or vegetated areas. 		
Topsoil erosion due to loss of vegetation and concentration of runoff.	High	Topsoil will be stripped from all areas where permanent or temporary structures and access roads are to be constructed. Topsoil will be stockpiled for later use.	Low	Loss of fertile soils will result in problems during rehabilitation and landscaping.
Stockpiles should not be higher than 2.5 meters to avoid compaction, while the slopes of the stockpiles should not be steeper than 1 vertical to 1.5 meters horizontally.	Medium	Stockpiles should be demarcated and staff informed of the allowable height for stockpiles.	Low	Compaction and soil erosion will persist and the stockpiles will become increasingly difficult to manage.
Soils from different horizons must be stockpiled so that topsoil stockpiles do not get contaminated by sub-soil material.	Medium	Top soils must be piled separately from other sub soil material and adequately protected.	Low	Contamination of top soil impacting on its agriculture potential and therefore reducing its suitability for re-use.
Soil pollution by litter and other inert construction waste.	Medium	<p>Ensure that all personnel are familiar with waste management requirements on site;</p> <p>Collect and sort-at-source the different types of waste (recyclables, inert</p>	Low	Pollutants can cause disruption in natural food chains resulting in diseases and other health risks.

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:
		<p>rubble, hazardous and non-recyclable general waste) by placing receptacles at specific points throughout the construction site;</p> <p>Ensure that personnel make use of the receptacles provided; Empty receptacles for disposal at least once per week, but more often if required;</p> <p>Dispose of solid waste at the nearest, applicably licensed recycling center, salvage yard or landfill site;</p> <p>Undertake weekly site cleanup operations to maintain the site in a neat and litter-free state.</p>		
Air				
Air pollution by emission from construction vehicles and equipment.	High	Maintain site vehicles and equipment in an acceptable state of repair (these may not smoke and must comply with SABS standards).	Low	Vehicle emissions contribute to the formation of smog. Nitrogen oxides (NOx) and volatile organic compounds (VOCs) in vehicle emissions can react to form ground level ozone and other secondary pollutants.
Dust liberated by general construction activities (demolition, construction and movement of vehicles over the site)	High	<p>Vegetate or cover long-term stockpiles of soil and fine spoil material to minimise the sources of dust pollution;</p> <p>Maintain all site roads and repairs these as required;</p>	Low	Some dust particles are toxic and their effect to human health is mostly determined by the amount of dust present in the air and how long they

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:
		<p>Enforce speed limits on site to limit levels of dust generated</p> <p>Regularly spray construction and haul roads with water to reduce dust;</p> <p>Progressively rehabilitate (rip, scarify and plant) areas as soon as works have been completed;</p> <p>Cordon off areas that are under rehabilitation to prevent unauthorised access.</p>		have been exposed to it.
Smoke from open fires used by site staff for heating and cooking as well as uncontrolled fires.	Medium	<ul style="list-style-type: none"> - No open fires will be allowed anywhere on the site; - No incineration or burning of waste is permitted on the site; - Provide personnel with gas for cooking in designated and safe areas. - Ensure that the necessary firefighting equipment is on site in terms of SABS 1200 and act in accordance with relevant legislative requirements. 	Low	<p>Harmful to human health, air pollution can cause a variety of environmental effects: Acid rain is precipitation containing harmful amounts of nitric and sulfuric acids.</p> <p>These acids are formed primarily by nitrogen oxides and sulfur oxides released into the atmosphere when fossil fuels are burned.</p>
Biodiversity (Fauna & Flora)				
Colonisation of the site by invasive plant species.	High	<p>Draw up a management and monitoring programme for invasive species detailing actions to prevent the establishment of invasive plants of site during construction. Implement management actions</p>	Low	<p>Proliferation of alien species which will not only have an adverse impact on people's health but agriculture, forestry and fishery, but also disturbs the</p>

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:
		according to the management plan.		indigenous ecosystem.
Removal of and damage to ecologically and socially significant specimens (especially large trees).	High	<ul style="list-style-type: none"> - Draw up a plan (during project planning) indicating the mapped positions of vegetation specimens to be conserved and which should be removed and replaced; - Demarcate specimens to be retained with danger tape and / or fencing as required. This barrier to be at least 2m from the stem of the specimen. - Implement fines for the damage or destruction of marked and protected specimens. It is the contractor's responsibility to ensure that these are retained. 	Medium	This will result in increased soil erosion and less organic matter for soil.
Migration of species due to activity levels on site.	High	All natural areas will be demarcated as sensitive environments, and only low-key development of pathways through suitable areas will be permitted. These natural areas will be maintained as conservation areas.	Medium	Natural ecosystem will be significantly affected.
Damage to and removal of plant habitats.	High	<ul style="list-style-type: none"> - Do not deface, paint or otherwise mark and / or damage natural features / vegetation on the site; - Only wood from trees felled as part of the construction contract may be sold / made available to personnel; Regulate and control movement over the site. Personnel, vehicles and equipment to move along designated routes. 	Medium	This will result in a reduction in natural habitats for fauna.

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:
		<ul style="list-style-type: none"> - Demarcate the perimeter of all construction sites. Prohibit construction activities and access by personnel beyond these barriers. - Demarcate areas of vegetation to be retained with danger tape and / or fencing as required. - Implement fines for the damage or destruction of marked and protected vegetation. It is the contractor's responsibility to ensure that these are retained. 		
Death / injury of resident wildlife (including common species of birds, small mammals, small reptiles, amphibians and insects) by construction personnel.	High	<ul style="list-style-type: none"> - The development will be planned with connectivity between pristine areas for fauna to move naturally and freely. - There should be no fences or walls between open spaces without passages for wild life. - All construction staff will be educated in terms of the unacceptability of poaching. A system of internal fines should be implemented by the contractor if a problem persists. 	Medium	
Land Use Character & Aesthetics				
Acoustic intrusion due to construction activity and equipment use.	High	Construction work must be limited to working hours with all construction vehicles equipped with silencers.	Medium	This will cause unnecessary discourse between the communities and the contractor
Aesthetic intrusion due to visible construction activities, stockpiles,	High	Site camps and laydown areas must be	Medium	This will cause unnecessary discourse

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:
rubble piles, untidy construction yards and equipment.		located in concealed parts of the site		between the communities and the contractor
Municipal services & traffic				
Damage and deterioration of roads due to construction vehicle use and materials spills.	High	Effective management of movement of construction vehicles, taking cognizance of peak traffic periods and only fairly clean vehicles should leave the site.	Medium	Throughout the duration of the project the roads will be gradually damaged if the same routes are consistently used. Loose stones can damage other vehicles. Loose soil can discolour the tarmac
Socioeconomic				
Creation of short term employment opportunities (positive impact)	Low	No Mitigation	High	No Risk
Rates income for the local municipality (positive impact)	Low	No Mitigation	High	No Risk
Improved social and educational offering for the locality (positive impact)	Low	No Mitigation	High	No Risk
Increase in opportunistic crime as a result of increased working and work-seeking population at the construction site.	Medium	Consultation between the contractor, ward councillor and the community security group to discourage any potential crime increase due to the activity.	Low	If crime escalates due to construction activities this can result in discourse between the community and the contractor.
Increase in alcohol abuse and sexually transmitted diseases	Medium	HIV awareness and training must be offered to all employees to help manage this impact	Low	There is a danger of increased infections particularly to vulnerable members of society

No Go Area

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
The current land use will persist, with much of it lying unused	High -	Fence off and identify other suitable land uses	Medium to Low	Issues of illegal dumping, illegal land occupation, and alien infestations problems may occur
	Low +	No Mitigation	Low+	Site remain greenfield and less disturbed
The social economic status will remain the same. However this cannot be seen as a positive impacts as the proposed development will provide jobs opportunities for the local community during the construction phase	High-	EMM identify another site for housing development	Low	Loss of jobs and housing problems i.e. informal settlements within EMM contribute to escalate
The inability of EMM to be able to provide its residents with adequate housing.	High-	EMM identify another site for housing development	Low	EMM will be failing to meet their mandate in terms of housing delivery

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

Appendix G1: Social Impact Assessment
Appendix G2: Heritage Impact Assessment
Appendix G3: Dolomite Stability Investigation
Appendix G4: Phase One Geotechnical Investigation
Appendix G5: Outline Services Report

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

<p>The following assumptions have been made in the undertaking of the Basic Assessment process:</p> <ul style="list-style-type: none"> • The development will be undertaken within the existing boundary of the Erf 18383, Erf 18382 and Erf 6519; • The necessary guidelines and standards for development on medium risk dolomite have been taken into account during the design of the development footprint; • Access will be obtained from Sam Sekoati Avenue <p>The limitations gaps experienced during the undertaking of the Basic Assessment process:</p> <ul style="list-style-type: none"> • Traffic Impact Assessment

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

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

Proposal

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
The decommissioning and closure phase is not anticipated as part of the proposed development as the need of shelter in South Africa is in demand due to the population growth	N/A	N/A	N/A	N/A

Alternative 1

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
The decommissioning and closure phase is not anticipated as part of the proposed development.	N/A	N/A	N/A	N/A

Alternative 2

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
The decommissioning and closure phase is not anticipated as part of the proposed development.	N/A	N/A N/A	N/A N/A/N/A	N/A N/A

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

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

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:

Proposal (Preferred Alternative)

Negative cumulative impacts (construction):

Construction activities and construction vehicles accessing the site will further compound existing traffic congestion and problems with accessibility within the area. This additional pressure on the roads will also accelerate the degradation and deterioration of the road infrastructure.

There will be a further increase in dust and emissions emanating from construction vehicles, which has a cumulative impact on the air quality of the region. Acoustic impact from the construction site will also contribute to the already noisy streets.

These are short term cumulative impacts, however, and will not persist once construction has been completed.

Positive cumulative impacts (construction):

The anticipated positive cumulative impacts will increase during the construction phase.

Negative cumulative impacts (operation):

The operational development will, by its very nature, attract permanent residents, tenants, shoppers, job seekers, etc. into the area. Where such concentrations of people exist, social problems, especially opportunistic crime, will increase.

Concentrations of people will also result in additional traffic within the region, and often traffic congestion, especially at peak hours.

This additional traffic brings with it additional emissions and cumulative impact on the region's air quality.

In addition, the production of solid waste from the development contributes to the ever-increasing loading on municipal landfill sites and water purification works. The increasing demand for potable water and electricity is also cumulative on a city-wide scale.

These are all ongoing cumulative impacts that will continue to increase as cities develop and grow.

Positive cumulative impacts (operation):

Once the development is operational, it will contribute to the outcomes of ongoing urban renewal within the region, and the municipality as a whole. This includes alleviation of housing shortage, the expansion of educational and social infrastructure and the improvement of the municipality's infrastructure.

Alternative 1

Negative cumulative impacts (construction):

The negative cumulative impacts for the construction phase are slightly less than as those anticipated for the Proposal.

Positive cumulative impacts (construction):

The anticipated positive cumulative impacts will increase slightly during the construction phase.

Negative cumulative impacts (operation):

The negative cumulative impacts for the operational phase are the same as those anticipated for the Proposal.

Positive cumulative impacts (operation):

The positive cumulative impacts for the operational phase are the same as those anticipated for the Proposal.

Alternative 2

Negative cumulative impacts (construction):

The negative cumulative impacts for the construction phase are slightly more than as those anticipated for the Alternative 1.

Positive cumulative impacts (construction):

The anticipated positive cumulative impacts will increase slightly during the construction phase.

Negative cumulative impacts (operation):

The negative cumulative impacts for the operational phase are the same as those anticipated for the Proposal.

Positive cumulative impacts (operation):

The positive cumulative impacts for the operational phase are the same as those anticipated for the Proposal.

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 (Ten storeys Rental and RDP units on remainder of Erf 18983 and Erf 6519)

Construction is by its very nature disruptive, and impacts pertaining thereto will remain of some significance, regardless of how closely the construction phase is managed. Fortunately the impacts resulting from construction are usually short-lived and site specific such that management of these once identified in the planning phase will most likely have a temporary effect on the wider environment.

After mitigation, the significance of these construction related impacts may be mitigated as follows:

- Hydrology (negligible to low)
- Soils (negligible)
- Air (negligible)
- Fauna & flora (negligible)
- Land use character & aesthetics (negligible)

- Municipal services & traffic (negligible)
- Socio-economics (negligible)

In terms of operation, few negative impacts of any significance remain after the consideration of mitigation:

- Hydrology (negligible)
- Soils (negligible)
- Air (negligible to low)
- Fauna & flora (negligible)
- Land use character & aesthetics (negligible to low)
- Municipal services & traffic (negligible to low)
- Socio-economics (negligible to low)

In addition, the significance of the anticipated positive impacts is considerable:

- Land use (medium to high)
- Socio-economics (medium to high)

In this respect, it is concluded that this development will have an overall, long term, positive effect on the immediate environment, and will add value to the area and the municipality as a whole. Neither the construction nor the operation of the development will compromise the integrity of the environment, or the lives and livelihood of neighbouring land owners and other local residents.

Bearing in mind that all the significant impacts can be mitigated and managed, it is recommended that the development as detailed in **Proposal (the construction of Ten storeys Rental and RDP units on remainder of Erf 18983 and Erf 6519)** be accepted and a positive Environmental Authorisation be issued. It must be noted that the proposed development make full use of the permissible development heights (10 storeys) according to development control measures thus allowing for more housing units to be constructed.

Alternative 1 (Ten storeys Rental and RDP units on remainder of Erf 18983)

Similar to the Proposal, the significance of all anticipated construction related impacts may be mitigated to a negligible or low level.

Similarly, the negative impacts anticipated during the operational phase may all be mitigated to a negligible or low significance. A variation from the Proposal results in a slightly elevated negative socio-economic impact: Alternative 1 proposes the development of less housing units than the proposal due to the development of only municipal land. The positive impacts anticipated during the operation of Alternative 1 remain high to very high.

This alternative contains less development components as the proposal, but the latter takes into consideration that the development is being proposed only on land belonging to the municipality.

In this respect, it is concluded that although this alternative will have an overall, long term, positive effect on the immediate environment, the region and the municipality as a whole, it exhibits a reduced design and planning response when compared to the Proposal.

Although this alternative has the smallest development footprint and further maximises full use of the land as per the proposal, this alternative only caters for fewer housing units when compared to the proposal. Considering this alternative will not fully address the housing needs as required by Ekurhuleni in line with the delivery of housing mandate. Significant impacts can be mitigated and managed, it is however not fully recommended that this alternative be authorised.

Alternative 2 (Three storeys Rental and RDP units on remainder of Erf 18983)

Again, similar to the preceding options considered (Proposal and Alternative 1), the significance of all anticipated construction related impacts may be mitigated to a negligible or low level. Similarly, the negative impacts anticipated during the operational phase may all be mitigated to a negligible or low significance. In this respect, it is concluded that although this alternative will have an overall, long term, positive effect on the immediate environment, the region and the municipality as a whole. This alternative represents a more complicated path to development due to the concern regarding private land ownership. It is thus a recommendation of this Basic Assessment that this alternative not be considered for Authorisation.

A variation (number of housing units as per design) with regard to the design layout option, for this alternative when compared to the other alternatives (Proposal and Alternative 1) results in a slightly elevated negative socio-economic impact. Alternative 2 proposes less housing units than the proposal while making use of the most land including private owned land, that has been earmarked for other developments by a Private developer. Considering this issue will require EMM to engage the landowners with regard to the availability and purchasing of land. Such processes may take time to finalise thereby delay the provision of housing as per the proposal. The positive impacts anticipated during the operation of Alternative 2 remain high to very high. This alternative contains all the same development components as Alternative 1, but the latter is in fact a more refined version in terms of development scale and design layout.

No-go (compulsory)

Although this alternative forgoes all the potential negative impacts related to the construction phase, it also forgoes the potential long term positive effects that the proposed development of the site would have. These include improvements to the built environment, land use and urban ecology as well as local socio-economic upliftment. On the other hand, considering a “no go” option may encourage illegal dumping, illegal land occupation, and alien infestations problems. The “no go” option also implies that the site remain greenfield and less disturbed. No-go alternative would not only imply the continued disuse of this valuable property, but also the gradual and steady deterioration of its environment.

It is therefore concluded that the No-go alternative cannot be considered as there is a clear need for adequate housing in the area due to the growth in demands of housing needs compounded by rapid urbanisation and migration patterns in the Gauteng province. The “do nothing alternative” will limit the potential for other growth and development projects in the area. The “No go” option is thus not recommended.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal: (Ten storeys Rental and RDP units on remainder of Erf 18983 and Erf 6519)

The proposed development will have an overall, long term, positive effect on the immediate environment, the region, and the city as a whole. The proposed housing development will serve as a catalyst for socio-economic upliftment in an area earmarked for urban renewal. The proposed residential land uses, as well as the educational and social offering presents a diverse mix that aligns with Ekurhuleni Metropolitan Municipality’s policy on densification. For the resident communities, the development means long term business and employment opportunities, accommodation options, shopping and public open space.

For the local authority, the development offers an increase in revenue through the introduction of additional rate payers. For the inhabitants of Vosloorus, the development represents an opportunity to improve and to create a desirable destination within which to live and play. From an environmental perspective, this valuable but currently derelict open space may be transformed into a useable and functioning part of the community.

The risks associated with the site are related to the dolomite bedrock that makes up part of the site. Dolomite Stability Investigation (*Appendix G3*) has identified this issue which will primarily be addressed by reducing the housing footprint and utilizing this land as park and recreational

areas. The impact from the dolomitic rock was considered during the planning. Concerns related to potential impact on services such as the overhead powerlines belonging to Eskom where no building will be located and only internal roads can be developed in these areas have been considered during the Basic Assessment and have been incorporated in the site layout plans. In order to manage these risks GA Environment have developed a site constraints layout (*Appendix A5*) from which the developer has taken into consideration before developing the appropriate alternatives.

Alternative 1 and Alternative 2:

It must be noted that due to the high degree of similarities between the alternatives assessed the impacts that may arise from the proposed development (preferred) and Alternative 1 are not significantly different from one another. The impacts are likely to be similar but will differ slightly due to the different scales of development and design layouts. Alternative 2 consider private land which may pose land acquisition problems as the property owner has expressed an intent for future plans on this property. Issues of acquisition of land ownerships may unnecessary delay the project further.

It is the opinion of GA Environment that although Alternative 1 and 2 also address the provision of housing units to a certain level, it does fully necessarily address the required development concept are well thought out and should address the development concept, The Proposal has more positive impacts and as such is strongly recommended.

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 proposal primarily satisfies the requirements of the development concept which is to deliver high density housing whilst providing open spaces and associated amenities for the public in Ward 45. The proposal offers optimal use of developable land whilst making use of undevelopable land as green spaces. This not only makes the development environmentally acceptable it also takes into account the need for open spaces for communities staying around this area. This alternative, will provide much needed improved housing to a growing population in Ekurhuleni Metropolitan Municipality and in Gauteng at large.

7. SPATIAL DEVELOPMENT TOOLS

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

The developer, The Human Settlements Department of Ekurhuleni utilized the Ekurhuleni Integrated Development Plan and the Ekurhuleni Spatial Development Plan in developing the development proposal. The Ekurhuleni Metropolitan Municipality (EMM) identified five “township complexes” for focused nodal development and regeneration.

Urban Development Framework Plans and Business plans have been completed for the 5 complexes. EMM is in the process of aligning the plans with the new precinct plans guidelines issued by National Treasury’s Neighbourhoods Development Partnership (NDP) Unit to facilitate formal approval of the plans and funding allocation.

The Vosloorus node, like other former township areas created in the pre-democratic South Africa, lack housing diversity; that is, there is a lack of wide range of housing typologies, which limits the housing option available to local residents. On the one hand, little use is made of higher-density housing options, such as walk-up, and on the other hand, the hostels (which is a higher-

density housing option) are not accessible for a wide range of households that are in need for higher-density housing. The potential of a node to cater for the development of higher-density housing option is therefore of critical importance. The node can become accessible area where higher-density housing option is developed that would cater for a range of household profile.

The Vosloorus Node has a distinct character and function within the Kattlehong-Tokoza-Vosloorus Complex. The Vosloorus Node is an intensively developed node, comprising a taxi rank, community facilities, shopping centres, a light industrial area, two hostel complexes and a planned commuter railway station. There is a proposed rail extension and rail station within the node, once constructed; the Vosloorus Station will be accessible to large sections of the Vosloorus community, including the proposed development which is located within a 2km distance of the station node.

Project One has been identified as the first catalytic project to be implemented as part of the Vosloorus nodal development. The project entails development of high density residential, with a component of retail at ground floor to address the local economic development needs and housing backlog in the area.

8. RECOMMENDATION OF THE PRACTITIONER

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

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

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:

The Planning Phase:

- a. All recommendation outlined in the Phase One Heritage Impact Assessment must be implemented before construction commences.
- b. The function of ensuring compliance with the EMPr must be delegated to a person with knowledge of environmental and construction matters (i.e. an Environmental Control Officer (ECO). This ECO should be appointed for the full duration of construction period, as well as during the rehabilitation / landscape implementation phase, to ensure environmental compliance and optimal environmental outcomes.
 - a. Site specific workplans addressing environmental and personnel safety must be drawn up for each work area before commencing with construction. Workplans to specify Required Equipment, Required Staffing, Practices for Safe Handling of Contaminated Material, Required Protective Equipment, Required Permits for Transport and Disposal, Required Emission Controls, Required Monitoring and Required reporting and Feedback. Refer also *the Appendix H Draft EMPr*.
 - b. Final planning must be done in accordance with Ekurhuleni bylaws. All necessary registration, permits and licenses must be acquired as necessary.
 - c. All required service agreements with Ekurhuleni must be negotiated and concluded to the satisfaction of the developer and the municipality. This includes potable water, electricity, sewage, communications and solid waste.
 - d. Draw up a Construction Operations Plan indicating how the construction site will operate in terms of access, activities, phasing, etc (during project planning).
 - e. Develop and maintain a forum for communicating with local residents for information sharing, complaints and problem solving throughout the project lifecycle.

The Construction Phase:

- f. A contractor with proven skills, capacity and experience must be appointed to carry out the work.
- g. All appointed contractors must ensure that the EMPr and any accompanying documentation are adhered to, and that all instructions are carried out.
- h. The developer will ensure the following:
 - The construction activities and relevant rehabilitation of disturbed areas should be monitored against the approved environmental management plan, environmental authorisation and all other relevant environmental legislation
 - The EMPr for this application is made a binding document for the contractors and managers on site. (See Appendix H for the EMPr.)
 - Disturbance of natural vegetation should be kept to a minimum, where disturbance is unavoidable, disturbed areas should be rehabilitated as quickly as possible
 - Unnecessary disturbance of surrounding natural vegetation must be avoided when clearing for the proposed development. The disturbance must be contained to the footprint of the development.
 - Removal of invasive alien vegetation must be removed from site on a regular basis by physical or mechanical means
 - If concentration of archeological heritage material and human remains or fossils are uncovered during construction phase all work in that area must cease immediately and be reported to the South African Heritage Agency (SAHRA) so that systematic and professional investigation/excavation can be undertaken.
 - Where possible the developer should make it a requirement for contractors to implement a “locals first policy” for construction jobs specifically the semi-skilled and low skilled job categories.
 - All mitigation measures detailed within the EMPr (Appendix H) must be implemented.
 - All disturbed areas must be rehabilitated with indigenous vegetation after construction to prevent spread of alien invasive species.
 - The Construction camp must be located on areas that are already disturbed.
 - Although the natural grassland is transformed, the construction activities must not extend beyond the development site foot print.
 - Public safety be considered during planning and construction
- i. The function of ensuring compliance with the EMPr must be delegated to a person with knowledge of environmental and construction matters (i.e. an Environmental Control Officer (ECO). This ECO should be appointed for the full duration of construction period, as well as during the rehabilitation / landscape implementation phase, to ensure environmental compliance and optimal environmental outcomes.

The Operational Phase:

- j. An Operational Management Plan and a Resident’s Manual must be drawn up, which will address all environmental operational aspects of the development. The Operational Management Plan will include, but will not be limited to the operational aspects discussed in the EMPr attached as Appendix H to the BAR.
- k. Property Owners and tenants will be required to sign an agreement binding them to the requirements of the Residents Manual.

A regulatory control body (e.g. Property Owners Association / Professional Building Manager) must be delegated with the authority / responsibility to monitor, manage and maintain the development according to the Operational Management Plan.

Recommended Alternative:

Based on the issues highlighted in this Basic assessment Report, it is the recommendation of the practitioner that the development as detailed in the Proposal (construction of ten storeys Rental and RDP units on remainder of Erf 18983 and Erf 6519) be accepted and a positive Environmental Authorisation be issued.

9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT

(as per notice 792 of 2012, or the updated version of this guideline)

During the public participation process undertaken for the IDP of the EMM, the provision of housing was identified as one of the key priorities for the Vosloorus area. The presence of large informal settlements and backyard shacks is symptomatic of the fact that the rate of housing provision in the region is inadequate at present.

Within the EMM the current housing backlog is estimated at 144 000 units. Development in this regard is hampered by the availability of land. Land that is available is mostly on dolomite.

The proposed development would assist in addressing the future housing needs in the area, especially based on the profile of the large number of poor and unemployed communities surrounding the site. The majority of prospective buyers or lessees could also be drawn from the surrounding areas, as individuals falling within the higher to middle income sectors in the nearby townships would most probably be able to afford housing within the Vosloorus Node Project One development.

The project would assist with the diversification of available housing opportunities which could maximise the benefits for the local poor communities.

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

10 years

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: APPENDIXES

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

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

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

Appendix 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.