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BASIC ASSESSMENT REPORT ON

**Proposed Housing Development on
Portion 237 of the Farm
Harteespoort 328 in Koedoespoort,
Gauteng Province**

GDARD Reference No.: 002/18-19/E0008

Report No :

18026-46-Rep-001-Harteespoort
DBAR-Rev0

Compiled on behalf of:

Housing Development Agency
Block A, River Office Park,
6-10 Riviera Road, Killarny
Johannesburg
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Submitted to :

Gauteng Department of Agriculture and Rural
Development
P.O. Box 8769
Johannesburg
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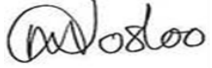
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Prepared	Project Manager	Tebogo Mapinga	09 November 2018	
Reviewed/Approved	Project Associate	Mathys Vosloo	09 November 2018	

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LIST OF ACROYNYS

Acronym	Description
BA	Basic Assessment
BAR	Basic Assessment Report
CA	Competent Authority
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GDARD	Gauteng Department of Agriculture and Rural Development
NEMA	National Environmental Management Act 107 of 1998 (as amended)
NEMWA	National Environmental Management Waste Management Act 59 of 2008
NWA	National Water Act 36 of 1998
OHS	Occupational Health and Safety Act 85 of 1993
PAIA	Promotion of Access to Information Act 2 of 2000
PPP	Public Participation Process
WUL	Water Use Licence

Executive Summary

The Housing Development Agency (HDA) is proposing to establish a housing development on Portion 237 of the Farm Hartebeestpoort 328 JR in Koedoespoort which falls within the jurisdiction of The City of Tshwane Metropolitan Municipality, Gauteng Province (refer to **Figure 1**).



Figure 1: Location of the proposed site

The proposed housing development is proposed on a property that is 18,7480 hectares in extent. It entails construction of the following infrastructure and facilities:

- High density residential units including
 - Fully subsidized units
 - Social housing
 - Bonded housing
 - Social and recreational facilities
- Commercial facilities including
 - Retail
 - Restaurants and coffee shops

-
- Urban manufacturing
 - Offices
 - Infrastructure support services such as:
 - Roads & Stormwater
 - Water & Sanitation

The site under consideration is identified as an inner-city project that is earmarked for the development of an integrated human settlement.

Description of the Study Area

The study area is located on Portion 237 of the Farm Hartebeestpoort 328 JR in Koedoespoort which falls within the jurisdiction of The City of Tshwane Metropolitan Municipality (refer to Table 1). Majority of the proposed site is vacant however, there are several businesses operating on and around the site, most of which are related to scrap yards and selling and repairing of motor vehicles, as well as residential use of the site. The southern side of the site is surrounded by the suburbs of Kilner Park and Silvertondale and is bordered by railway tracks emanating from the Koedoespoort Train Station. The site is also located 500m from the Lindopark Primary School. The surrounding suburbs of Rastlynne and Eastlynne and Eersterust can be found to the north and the north-east of the site respectively (refer to Figure 2).

Table 1: Description of the proposed site

	Description
Farm Name	Hartebeestpoort 328 JR
Farm Portion	Portion 237
SD Code	T0JR00000000032800078
Development Footprint	~ 18.75ha
Central Co-ordinates	25 42'56.25" S 28 17'20.11"E
Land Zoning	Urban Development Zone
Nearest Suburbs	Southern side of the site -Kilner Park and Silvertondale North- northeast of the Rastlynne and Eastlynne and Eersterust

The proposed development is situated within easy reach from major routes and close to other many amenities. The following support service or activities are proposed:

- Existing Buildings: the existing building on the boundary of the site will be demolished to accommodate the proposed infrastructure.
- **Roads:** Access to the site is proposed on Stormvoel Road via the existing access intersections on Stormvoel/Bloureier Rad and a new LILO intersection off Derdepoort Road just north of the existing Derdepoort/Mosaic Road intersection

- **Stormwater:**

- Wetland Area/Green Open Spaces: At this stage it is envisaged (obviously subject to the final ground levels and planning of the green open spaces) that the above areas will be landscaped in such a manner to be self-draining towards and into the south-north running concrete lined open channel, resulting in minimal pipework to drain the open spaces. It will be essential that the open plan areas accommodate at minimum a 1:20 year return period storm draining across them and with limited storm damage to the areas being crossed. Significant stormwater run-off emanates from well beyond the western boundary to the development, and current planning accommodates this run-off onto and through the open space areas. The extension of Jan Coetzee Road southwards into the development, and which also links the northern and southern parts of the development, necessitates the stormwater being catered for as it passes underneath this section of link road. The method of accommodating this run-off beneath the section of link road will be finalised in due course, but at this stage a pipe crossing has been provided for.
- Residential Areas: Drainage of the residential areas is by means of a stormwater pipe network, which includes manholes and inlet structures, as well as utilises the roadways in the case of larger storms. The following criteria applies to the network:
 - The underground pipe network on its own accommodates a storm of a 1:2 year return period;
 - The minimum pipe size is 450mm Ø, however 600mm Ø or larger is preferable, in particular when considering the need for ease of maintenance; and
 - The underground pipe network, combined with the roadways, accommodates a storm of a 1:20 year return period.

For this particular development it will be permitted to discharge the pipe network directly into the concrete lined open drain/stream. Attenuation will not be required, and this has been confirmed by the City of Tshwane. Depending on the network discharge points (emanating from the future survey), the capacity of the concrete lined open channel, will be further assessed, whilst also considering the additional discharge emanating from the proposed development. Stormwater pipes will generally be positioned directly beyond the edge of the roadway, underneath the walkway area. There are stormwater culverts passing stormwater beneath the railway tracks on southern boundary of the site between the concrete lined open drain and the southwest corner of the site. The run-off emanating from these culverts will be accommodated into the residential area stormwater pipe network, as it will not be possible to have this run-off bypass the residential area pipe network, and discharge directly into the concrete lined open drain/stream. These details will be finalised once a detail survey is available of the site.

- Sormwater/Stream Structure on Stormvoel Road: The culvert structure that conveys stormwater under Stormvoël Road is a box culvert with triple barrels of 3,6m wide and 1,5m high. This structure carries all the stormwater from the site, the stormwater entering the site from beyond the western boundary, the stormwater emanating from south of the railway lines and the stormwater being carried by the concrete lined open drain. Whilst the above culvert adequately accommodates the 1:50 year return period flood (as determined from the flood line study), the structure will be reassessed assuming post development conditions to ensure that the structure does not overtop with the 1:50 year flood. Should overtopping occur with a post development storm, the existing structure will need to be

upgraded to accommodate 1:100 year flood. Whilst finalizing these details are also subject to a detailed survey of the site, upgrading of this outlet structure is not envisaged, other than some possible maintenance.

- **Portable Water and Sanitation:** Due to the size of the development, the demand will be too high to rely solely on the municipality for provision of their water and sanitation demands. Alternative water sources were explored such as groundwater and rainwater harvesting, while alternative wastewater treatment include on-site modular WW treatment plants, and greywater recycling systems.
- **Electricity:** Electricity infrastructure will include internal residential electricity distribution to the residential units. It is expected that electricity to the site and for the proposed development will be provided by the City of Tshwane.
- **Solid Waste Management:** Solid waste management within the development site during construction and operational phases will conform to the principles of the National Waste Management Strategy and Waste Management Hierarchy. General waste remaining after avoidance, re-use and recycling have been completed will be stored temporarily (less than 90 days at any one time) on site before removed by a credible service provider. General waste volumes of not more than 15m³ per month will be generated within the development footprint and as such does not trigger the need for a Waste Management License. The site will be serviced by the City of Tshwane.

Listed Activities triggered by the development

The activities that are associated with the proposed project trigger activities listed in Government Notice No. R.327 and R324 (2014, as amended). As set out in Regulations 19 of the National Environmental Management Act (NEMA) Environmental Impact Assessment Regulations, 2014 (as amended, the proposed project is subjected to a Basic Assessment Process (Government Notice No. R.326). V3 has therefore appointed Zitholele Consulting (Pty) Ltd as the independent Environmental Impact Assessment Practitioner to undertake the Basic Assessment Process for the proposed project.

Table 2: Detailed description of the listed activity associated with the project

Indicate the number of the relevant Government Notice:	Activity No (s) (relevant notice): e.g. Listing notices 1, 2 or 3	Describe each listed activity as per the wording in the listing notices:
GN R327 08 Dec 2014	19 (i) (c) (Listing Notice 1)	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.
GN 327, 08 Dec 2014	Activity 27 (Listing Notice 1)	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for-. Exclusions not applicable.
GN 324,	Activity 12 (c)(ii)	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of

08 Dec 2014	(Listing Notice 3)	<p>indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>(c) Gauteng</p> <p>(ii) Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans.</p>
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Description of Proposed Project Components

i. Pre-Construction and Construction Process for proposed development

The construction of the proposed development will be undertaken in the following steps:

- Undertaking and completion of proposed development concept;
- Undertaking Environmental Authorisation application and environmental impact assessment process;
- Pre-Construction site work, such as geotechnical investigations;
- Undertaking of and compliance with pre-construction activities and conditions in terms of the Environmental Authorisation;
- Site preparation (Vegetation clearance);
- Demolishing of the existing building;
- Civil work and civil construction: Casting of new foundations and plinths for the proposed development;
- Construction of the residential and business units and associated infrastructures (roads, open spaces area);
- Construction and/or installation of water supply, sewer reticulation and storm water management infrastructure; and
- Testing and commissioning.

The construction phase for the proposed project will take approximately 5 years.

ii. Operational Activities

During the operational and maintenance phase of the project, the applicant will ensure that operation and maintenance activities are carried out by suitable qualified individual as the activities are specialised. For the activities to be carried out during operational phase refer to project activities discussed above.

iii. Decommissioning Activities

Decommissioning of the proposed activities is neither envisioned nor feasible as this would result in loss of housing (shelter) and social impacts through fragmentation of communities.



Figure 2: Illustration of the proposed site in relation to the surrounding suburbs

Need and desirability

The special vision of the City is to lead integrated planning, maximizing on special efficiencies for optimal service delivery in order to achieve sustainability, competitiveness and resilience. In order to comply with the Gauteng Spatial Development Framework, the city need to insure continued urban growth, resource based economic development, the re-direction of urban growth- limit growth in non-viable areas, protection of rural areas and enhancement of tourism, and increase access to and mobility. To achieve some of the above mentioned requirements, the HDA is proposing the development of a liveable and sustainable human settlement for an affordable market on the proposed site. The site falls within the Municipality's current master plan as part of future development for Koedoespoort Station. The region is popular in terms of high category retail and office function and there is an important industrial region in close proximity to the site, which will allow easy access to transportation, retail facilities and industrial area. The site is therefore strategically located and well positioned for the development of a sustainable human settlement.

Details of Environmental Assessment Practitioner

Eskom appointed Zitholele Consulting (Pty) Ltd. to undertake the regulatory Environmental Authorisation (EA), and Water Use License Application (WULA) processes for the proposed Project. These processes are being undertaken independently as separate processes. This document deals with the Environmental Impact Assessment process for the proposed Project

Zitholele Consulting (Pty) Ltd. is an empowerment company formed to provide specialist consulting services primarily to the public sector in the fields of Water Engineering, Integrated Water Resource Management, Environmental and Waste Services, Communication (public participation and awareness creation) and Livelihoods and Economic Development. Zitholele Consulting (Pty) Ltd has no vested interest in the proposed project and hereby declares its independence as required in terms of the EIA Regulations. **Table 3** provides the Environmental Assessment Practitioner (EAP) details.

Table 3: Details of the Environmental Assessment Practitioner

Name and Surname	Tebogo Mapinga
Highest Qualification	Bsc (Zoology & Physiology)
Professional Registration	Pr.Sci.Nat. (115518)
Company Represented	Zitholele Consulting (Pty) Ltd.
Physical Address	Building 1, Maxwell Office Park, Magwa Crescent West, Waterfall City, Midrand
Postal Address	P O Box 6002, Halfway House, 1685
Contact Number	011 207 2060
Facsimile	086 674 6121
E-mail	tebogom@zitholele.co.za

Specialist Teams

Specialists were appointed to undertake the relevant assessments to identify assess impacts and propose appropriate mitigation and management measures for the identified impacts. The specialist assessments, that were commissioned include:

- Geotechnical Assessment – V3 Consulting Engineers
- Water Resource Assessment – The Biodiversity Company
- Traffic Impact Assessment – Merchelle’s Collective
- Terrestrial Ecological (Fauna and Flora) – Nemaï Consulting
- Social Impact Assessment – NGT ESHS Solutions
- Heritage Impact Assessment – JLB Consulting
- Paleontological Impact Assessment - Banzai Environmental (Pty) Ltd

Summary of Findings

Specialist assessments were conducted for the proposed Project and a summary of the findings have been included below:

Heritage Assessment:

Based on observations made during the site inspection, it can be concluded that no significant heritage resources were found on the site. The water canal that runs through the project area is not considered to be of heritage significance. Therefore the impact will be of a **LOW SIGNIFICANCE**.

Palaeontology Assessment:

The proposed footprint is completely underlain by the Silverton Formation (Pretoria Group, Transvaal Supergroup). This formation is known to contain stromatolites and probably also microfossils. According to the SAHRIS PalaeoMap this formation has a moderate palaeontological sensitivity. The scarcities of fossil heritage at the proposed Hartebeestpoort development indicate that the impact of the housing in palaeontological terms. Thus, the construction and operation of the facility may be authorised as the whole extent of the development footprint is not considered sensitive in terms of palaeontological resources. Therefore the impact will be of a **LOW SIGNIFICANCE**.

Terrestrial Ecology Assessment

During the field survey, no threatened plant species were observed on site, however only one species of conservation concern was noted, namely *Hypoxis hemerocallidea*, and this species has a conservation status of *Declining*. No fauna of conservation concern were recorded on site. The human presence and associated disturbances taking place usually have a detrimental impact on fauna species (especially mammals and snakes) in the area. The proposed development will cause disruption during the construction phase, but as long as mitigation measures are implemented, these disruptions should have minimal lasting effects on the ecosystems of the proposed development. From an ecological perspective, it was concluded that the proposed development be considered favourable provided that the sensitivity map be considered during the planning and construction phases of the proposed development activities

in order to aid in the conservation of ecology within the study area. Therefore the impact will be of a **MODERATE SIGNIFICANCE** before mitigation and **LOW SIGNIFICANCE** after mitigation.

Water Resource Assessment

According to the desktop information available, the aquatic systems are highly modified largely due to the significant water and habitat quality modification in the catchment. Two HGM types (natural depression and a channeled valley-bottom wetland) were identified within the 500m project assessment boundary. The wetland was determined to be in a largely modified (Class D) state. The HGM type had an overall intermediate level of services, with various services providing moderately high and high ecological services. The ecological importance and sensitivity as well as the

hydrological/functional importance for both HGM units has been scored moderate whereas the direct human benefits has been scored low. Therefore the impact will be of a **MODERATE SIGNIFICANCE before mitigation and a LOW SIGNIFICANCE** after mitigation.

Social Assessment

From a Social perspective, It is concluded that the significance of positive social benefits exceeds the significance of negative social impacts. The project will bring about new housing infrastructure in a region that is in need of housing. The construction of the proposed integrated housing development will also contribute to eradication of past political landscape spatial divides in human settlement patterns. It will also result to job opportunities and potential business opportunities for local contractors and suppliers should the 30% project value allocation to regional or local business be complied with in line with government local procurement objectives.

The only negative community impacts that will result from the project include noise pollution and traffic congestion during the construction phase of the project; however, these impacts are short lived with minimum residual impacts on traffic due to increase in number of people in the area during the operation phase of the project. Therefore the impact will be of a **LOW SIGNIFICANCE**.

Overall, the impact of the proposed activity is expected to be LOW as the study site is already heavily impacted by the surrounding activities and land use. The activities will further be mitigated to acceptable levels.

Recommendation

The EAP recommends that the proposed establishment of a housing development be authorised at the proposed location. All mitigation measures listed by the Heritage, Palaeontology, Aquatic and Terrestrial Ecology specialists in their specialist reports, and proposed in the Environmental Management Programme (EMPr) (refer to Appendix G) must be implemented.



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:	002/18-19/E0008					
Application Number:						
Date Received:						

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

N/A

Is a closure plan applicable for this application and has it been included in this report? **No**

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

The proposed project is for a housing development

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity? **No**

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

If no, state reasons for not attaching the list.

N/A

Have State Departments including the competent authority commented? **No**

If no, why?

An opportunity for all State Departments to comment will be during the 30 day public review period of this Basic Assessment Report.

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

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

The proposed housing development on Portion 237 of farm Hartebeestpoort 328 in Koedoespoort, Gauteng Province.

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

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

A General Authorisation to be issued by the Department of Water and Sanitation is required in terms of the National Water Act .

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

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

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

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:
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National & Provincial	27 November 1998
The Constitution of the Republic of South Africa (Act 106 of 1998)	The Judiciary	18 December 1996
Social Housing Act of No 16 of 2008	Department of Human Settlements (DHS)	5 November 2008
NEMA Environmental Impact Assessment (EIA) Regulations 2014, as amended in April 2017 (published in Government Notice No. R.326)	Gauteng Department of Agriculture and Rural Development (GDARD)	4 December 2014, amended on the 07 April 2018
National Water Act 36 of 1998 (NWA)	Department of Water and Sanitation (DWS)	20 August 1998
Water Service Act 108 of 1997	DWS	19 December 1997
National Environmental Management Waste Act 59 of 2008 (as amended) (NEMWA), National Norms and standards for the Storage of Waste (GNR.926 of 29 November 2013)	GDARD	10 March 2009 29 November 2013
National Environmental Management: Biodiversity Act 10 of 2004	GDARD	07 June 2004
National Heritage Resources Act 25 of 1999	The South African	28 April 1999

	Heritage Resources Agency (SAHRA)	
National Housing Code, 2009	Department of Human Settlements (DHS)	2009
Applicable by-laws of the City of Tshwane Metropolitan Municipality.	City of Tshwane Metropolitan Municipality	-
National Housing Code, 2009	Department of Human Settlements (DHS)	2009

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

Legislation, policy or guideline	Description of compliance
National Environmental Management Act 107 of 1998 (NEMA) and subsequent amendments to the Act.	The NEMA (as amended) is regarded as South Africa's environmental framework legislation which provides for environmental management and gives effect to section 24 of the Constitution. The Basic Assessment and Public Participation processes were undertaken in strict compliance with the NEMA, as amended.
The Constitution of the Republic of South Africa (Act 106 of 1998)	Section 24 of the Constitution of the Republic of South Africa provides for a comprehensive environmental right. Therefore, stakeholders and Interested and Affected Parties may exercise their right through providing comment during the PP process and raising issues of concern that are likely to infringe upon their environmental right. The Basic Assessment process recognises this right and the EAP has recorded, considered and responded to any and all issues of concern raised by the I&APs.
The Constitution of the Republic of South Africa (Act 1996) Housing Act 1997 (Act 107 of 1997)	Section 26 of the Constitution of the Republic of South Africa highlights that everyone has a right to have access to adequate housing, and the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realization of this right.
Social Housing Act of No 16 of 2008	To give priority to the needs of low and medium income households in respect of social housing development.
NEMA Environmental Impact Assessment (EIA) Regulations 2014 as amended (published in Government Notice No. R.326)	The Basic Assessment Process for the proposed project has been carried out in accordance with the Regulations 19 and 20 of the NEMA EIA Regulations, 2014.
NEMA Listing Notice 1: List of activities and Competent Authorities identified in terms of Sections 24(2) and 24D (published in Government Notice No. R.326)	The proposed project activities trigger activities which are listed in Listing Notice 1. EA is therefore required before these activities may be implemented.
National Water Act 36 of 1998 (NWA)	The proposed project has considered the following: Section 19: prevention and remedying the effects of pollution; Section 20: control of emergency incidence; and Chapter 4: use of water and licensing. This Basic Assessment Process has considered such potential impacts and/or incidences.

Water Services Act 108 of 1997	The provision of water services for the proposed project will be required. This Basic Assessment Process has taken this into account.
National Environmental Management Waste Act 59 of 2008 (as amended) (NEMWA), National Norms and standards for the Storage of Waste (GNR.926 of 29 November 2013)	All requirements / provision concerning waste producing activities and the handling of waste, as provided in the NEMWA and the regulations thereunder must be conformed to. The quantity of general waste that will be temporarily be stored at the construction site is anticipated to be less than 100 m ³ . In the event that more than 100 m ³ of waste is stored at any one time, the developer must comply with the National Norms and standards for the Storage of Waste.
National Environmental Management: Biodiversity Act 10 of 2004	The National Environmental Management: Biodiversity Act 10 of 2004 is aimed at providing for the management and conservation of South Africa's biodiversity within the framework of the NEMA. All reasonable measures will be taken to ensure the conservation of the biodiversity within proposed project area.
National Heritage Resources Act 25 of 1999	Whilst studies undertaken in 2006 and 2016 reveals that, there are no significant heritage artifacts that would be impacted, however provisions in the NHRA relating to the protection and management of heritage resources applies to the proposed project.
Promotion of Access to Information Act 2 of 2000 (PAIA)	As per the NEMA EIA Regulations, 2014, as well as the principles/objectives of the PAIA, the Basic Assessment Report as well as all supporting documentation (e.g. specialist studies) will be made available to the public.
Occupational Health and Safety Act 85 of 1993	This is primarily intended to provide for the health and safety of persons at work and for the health and safety of persons in connection with the activities of persons at work. All work that is carried out for the implementation of the project activities as well as during each phase of the project lifecycle should be carried out in accordance with the provisions of the OHS Act.
Integrated Environmental Management Guideline Series (Guideline 5) Companion to the EIA Regulations 2010 published in Government Notice 805 (10 October 2012)	The aim of the guideline is to provide a detailed consideration of the practical implementation of the NEMA EIA Regulations. The guideline also provides guidance and clarity on the EA Process to be followed and interpretation of the listed activities. The guideline was used as a reference document to the applicability of the NEMA EIA Regulations, 2014 on the proposed project.
Integrated Environmental Management Guideline Series (Guideline 7) Public Participation in the EIA Process published in Government Notice 805 (10 October 2012)	The guideline is intended to provide information on the benefits of public participation, the minimum legal requirements for the Public Participation Process (PPP), the steps of the PPP, guidelines for planning a PPP and a description of the roles and responsibilities of the various role-players. The guideline was referred to, to facilitate an adequate understanding of the execution of the PPP.
Environmental Management Plans, Integrated Environmental Management, Information Series 12, Department of Environmental Affairs and Tourism	The guideline aims to provide a generic introductory information source on the purpose, objectives and content of Environmental Management Plans.

DWS Integrated Environmental Management Series: Environmental best practice Guidelines for Water Supply and Water Resource Infrastructure: Planning, Operation, Construction and Decommissioning.	This guideline is a generic environmental best practice manual for use during the planning, operation, construction and decommissioning phases of Water Supply and Water Resource Infrastructure.
Gauteng Provincial Environmental Management Framework (GPEMF)	The objective of the GPEMF is to guide sustainable land use management within the Gauteng Province.
Applicable by-laws of the City of Tshwane Metropolitan Municipality.	A by-law is considered as piece of legislation that is specific to the municipal area of jurisdiction. By-laws are intended to regulate the affairs and the services it provides within the municipal boundaries. A by-law is passed by the Council of a municipality.
National Housing Code, 2009	Provide guidelines with regard to financial, incremental, social and rental interventions and other housing related programmes.

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

Only the proposed site and layout and a no-go alternative were considered for the proposed project. The decision on the proposed site is mainly due to applicant's ownership to the specified property.

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	The study area is located on Portion 237 of the Farm Hartebeestpoort 328 JR in Koedoespoort which falls within the jurisdiction of The City of Tshwane Metropolitan Municipality (refer to Table 4). Majority of the proposed site is vacant however, there are several businesses operating on and around the site, most of which are related to scrap yards and selling and repairing of motor vehicles, as well as residential use of the site. The southern side of the site is surrounded by the suburbs of Kilner Park and Silvertondale and is bordered by railway tracks emanating from the Koedoespoort Train Station. The

		<p>site is also located 500m from the Lindopark Primary School. The surrounding suburbs of Rastlynnne and Eastlynnne and Eersterust can be found to the north and the north-east of the site respectively.</p> <p>Table 4: Description of the proposed site</p> <table border="1"> <thead> <tr> <th></th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Farm Name</td> <td>Hartebeestpoort 328 JR</td> </tr> <tr> <td>Farm Portion</td> <td>Portion 237</td> </tr> <tr> <td>SD Code</td> <td>T0JR00000000032800078</td> </tr> <tr> <td>Development Footprint</td> <td>~ 18.75ha</td> </tr> <tr> <td>Central Co-ordinates</td> <td>25° 42'56.25" S 28° 17'20.11"E</td> </tr> <tr> <td>Land Zoning</td> <td>Urban Development Zone</td> </tr> <tr> <td>Nearest Suburbs</td> <td>Southern side of the site - Kilner Park and Silvertondale North- northeast of the Rastlynnne and Eastlynnne and Eersterust</td> </tr> </tbody> </table>		Description	Farm Name	Hartebeestpoort 328 JR	Farm Portion	Portion 237	SD Code	T0JR00000000032800078	Development Footprint	~ 18.75ha	Central Co-ordinates	25° 42'56.25" S 28° 17'20.11"E	Land Zoning	Urban Development Zone	Nearest Suburbs	Southern side of the site - Kilner Park and Silvertondale North- northeast of the Rastlynnne and Eastlynnne and Eersterust
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Land Zoning	Urban Development Zone																	
Nearest Suburbs	Southern side of the site - Kilner Park and Silvertondale North- northeast of the Rastlynnne and Eastlynnne and Eersterust																	
2	Alternative 1																	
3	Alternative 2																	
	Etc.																	

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

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)	18.75ha
Alternatives:	
Alternative 1 (if any)	N/A
Alternative 2 (if any)	N/A
	Ha/ m ²

or, for linear activities:

	Length of the activity:
Proposed activity	N/A
Alternatives:	
Alternative 1 (if any)	N/A
Alternative 2 (if any)	N/A
	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	18.75ha
Alternatives:	
Alternative 1 (if any)	N/A
Alternative 2 (if any)	N/A
	Ha/m ²

5. SITE ACCESS

Proposal

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

YES	
-----	--

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

	m
--	---

Describe the type of access road planned:

Access to the site is proposed on Stomvoel Road via the existing access intersections on Stormvoel/Bloureier Rad and a new LILO intersection off Derdepoort Road just north of the existing Derdepoort/Mosaic Road intersection

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
m	

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
m	

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

0

Number of times

(only

complete when applicable)

6. LAYOUT OR ROUTE PLAN

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

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
 - A4 size for activities with development footprint of 10sqm to 5 hectares;
 - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
 - A2 size for activities with development footprint of >20 hectares to 50 hectares);
 - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
 - A0 = 1: 500
 - A1 = 1: 1000
 - A2 = 1: 2000
 - A3 = 1: 4000
 - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
 - Rivers and wetlands;
 - the 1:100 and 1:50 year flood line;
 - ridges;
 - cultural and historical features;

-
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
 - Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

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 **"insert No. of duplicates"** 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 **DisplayText cannot** time s (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 **DisplayText cannot** (complete only when appropriate for above)

Section B — Location/route Alternative No. **DisplayText cannot** (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

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

The study area is located on Portion 237 of the Farm Hartebeestpoort 328 JR in Koedoespoort which falls within the jurisdiction of The City of Tshwane Metropolitan Municipality. Majority of the proposed site is vacant however, there are several businesses operating on and around the site, most of which are related to scrap yards and selling and repairing of motor vehicles, as well as residential use of the site. The southern side of the site is surrounded by the suburbs of Kilner Park and Silvertondale and is bordered by railway tracks emanating from the Koedoespoort Train Station. The site is also located 500m from the Lindopark Primary School. The surrounding suburbs of Rastlynne and Eastlynne and Eersterust can be found to the north and the north-east of the site respectively. The site is situated approximately 10km east-north-east of the Pretoria CBD.

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):
25° 42' 56.25" ° S	28° 17' 20.11" ° 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	0	J	R	0	0	0	0	0	0	0	0	0	0	3	2	8	0	0	0	7	8	
ALT. 1																							
ALT. 2																							
etc.																							

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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

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)	YES
Dolomite, sinkhole or doline areas	NO
Seasonally wet soils (often close to water bodies)	YES
Unstable rocky slopes or steep slopes with loose soil	NO
Dispersive soils (soils that dissolve in water)	NO
Soils with high clay content (clay fraction more than 40%)	NO
Any other unstable soil or geological feature	NO
An area sensitive to erosion	NO

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

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

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

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

7. GROUNDCOVER

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

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

Natural veld - good condition	Natural veld with scattered	Natural veld with heavy alien	Veld dominated by	Landscaped (vegetation)
-------------------------------	------------------------------------	-------------------------------	-------------------	-------------------------

% =	aliens % = 60	infestation % =	alien species % =	% =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % = 30	Bare soil % = 10

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

If YES, specify and explain:

According to the findings of the Terrestrial Assessment conducted, only one plant species of conservation concern was observed within the proposed site, namely *Hypoxis hemerocallidea* (star flower/ African Potato). The *Hypoxis hemerocallidea* is a red data species which is also listed as declining. The *Hypoxis hemerocallidea* occurs in open grassland and woodland and is widespread in south Africa in the eastern summer rainfall provinces (Eastern Cape, Free State, KZN, Mpumalanga, Gauteng and Limpopo. Refer to **Appendix I-1**.

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

NO

If YES, specify and explain:

N/A

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

YES

If YES, specify and explain:

According to the findings of the Terrestrial Assessment conducted, the proposed site falls within the vulnerable Marikana Thornveld terrestrial threatened ecosystem. The Gauteng Conservation Plan 3.3 indicated that the proposed site falls within a Critical Biodiversity Area. Refer to **Appendix I-1**.

According to the Water Resources Assessment conducted, two (2) HGM types were identified within the 500m project assessment boundary, namely a natural depression and a channelled valley-bottom wetland. The wetland was determined to be in a largely modified (Class D) state. The HGM type had an overall intermediate level of service. The ecological importance and sensitivity as well as the hydrological/functional importance for both HGM units has been scored moderate whereas the direct human benefits has been scored low. Refer to **Appendix I-2**.

Was a specialist consulted to assist with completing this section

YES

If yes complete specialist details

Name of the specialist:

Avhafarei Phamphe

Qualification(s) of the specialist:

Postal address:

P.O.Box 1673, Sunninghill

Postal code:

2157

Telephone:

(011) 781 1730

Cell:

E-mail:

AvhafareiP@nemai.co.za

Fax:

(011) 781 1731

Are any further specialist studies recommended by the specialist?

NO

If YES, specify:

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

YES

NO

If YES list the specialist reports attached below

Signature of specialist:



Date: 16/10/2018

Was a specialist consulted to assist with completing this section

YES

If yes complete specialist details

Name of the specialist:

Ivan Baker

Qualification(s) of the specialist:

Postal address:

420 Vale Ave. Ferndale

Postal code:

2194

Telephone:

Cell: 081 319 1225

E-mail:

info@thebiodiversitycompany.com

Fax:

Are any further specialist studies recommended by the specialist?

NO

If YES,

specify:

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

YES

NO

If YES list the specialist reports attached below

Signature of specialist:



Date:

10/0/2018

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

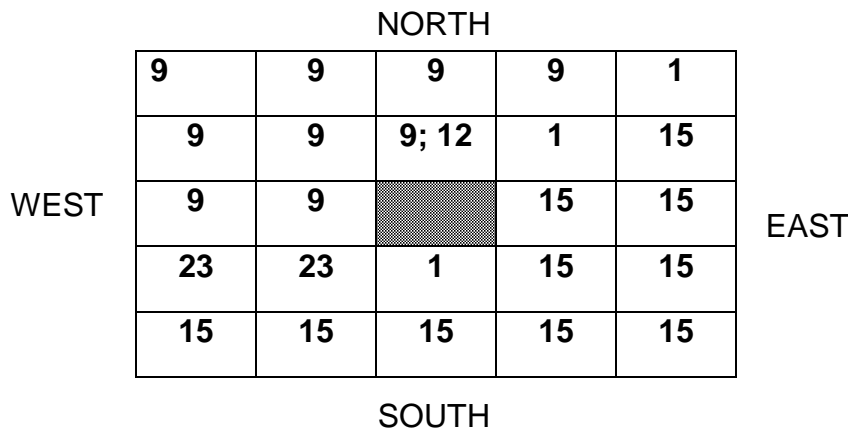
8. LAND USE CHARACTER OF SURROUNDING AREA

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

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



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
If yes indicate the type of reports below

YES

Appendix G1: Social Impact Assessment
Appendix G2: Palaeontological Assessment

Appendix I Contains studies that were previously conducted
Appendix I-1: Terrestrial Ecological Assessment
Appendix I-2: Water Resource Assessment
Appendix I-3: Heritage Specialist Assessment/Opinion
Appendix I-4: Geotechnical Assessment
Appendix I-5: Traffic Report
Appendix I-6: Road and Stormwater Report
Appendix I-7: Floodline Report
Appendix I-8: Electrical Services Status Quo letter

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 project site falls within the jurisdiction of the City of Tshwane Metropolitan Municipality. In total the city of Tshwane has a population of about 2 921 488 based on Census 2011 data. As a primarily industrial area, Koedoespoort has a small population consisting of 342 individuals and 102 households who are permanent residents of the area. The areas surrounding the site have the following population sizes based on Census 2011 data (Statistics South Africa , 2011). Typical of industrial areas, Koedoespoort and Silvertondale have low populations (Table 5).

Table 5- Population sizes of suburbs surrounding and adjacent to the site

Suburb	Population	Households
Eersterust	29676	7715
Silvertondale	20	8
Lindo Park	2447	793
Jan Niemand Park	4310	1155

Population Density

As can be seen in the table below, areas surrounding the industrial centres of Koedoespoort and Silvertondale have an extremely high population density compared to the municipality (Table 6). The high population densities in Eersterust, Lindo Park and Jan Niemand Park underscore the need for housing development within the municipality.

Table 6 -Population density of the site, the broader municipality and suburbs surrounding and adjacent to the site

Suburb	Population Density
Tshwane	463.89 people per km ²
Koedoespoort	65.99 people per km ²
Eersterust	4908.35 people per km ²
Silvertondale	23.43 people per km ²
Lindo Park	4994.17 people per km ²
Jan Niemand Park	3220.81 people per km ²

Population Growth Rate

The total population in Tshwane was 2.8 million in 2011 and has since increased to over 3.1 million in 2015. For the period 2011–2015, Tshwane's population grew by 332 302 (City of Tshwane , 2017).

Socio-Economic Profile

Education Levels

Being South Africa's Capital City with the largest concentration of higher education institutions in the country, Tshwane boasts the highest percentage of persons (20 years or older) with post-matric qualifications (approximately 23% in 2015). This is in comparison with the national average (approximately 12%), Gauteng (approximately 18%), Johannesburg (approximately 19%) and Ekurhuleni (approximately 15%). The percentage of persons (20 years or older) with no schooling or with some primary schooling was estimated at 10 % in 2015, at 215 677 persons. Region 6, the development area, also has a relatively highly educated population with over 20% of the residents having a matric and some sort of post-school qualification.

Employment Levels

While Gauteng is South Africa's main economic hub, massive migration into the province is leading to high levels of unemployment experienced in Gauteng. For the second quarter of 2017, Gauteng recorded an unemployment rate of 29.9% and an expanded unemployment rate of 32.9% (Statistics South Africa) (Figure 21). Tshwane fared marginally better than the province average with an official unemployment rate of 22.2% and an expanded rate of 30,5% in 2017

Economic Profile

The City of Tshwane is the second-biggest in Gauteng in terms of gross value added by region, with an estimated GVA-R (constant prices) of R246 billion in 2015. The City of Tshwane contributed 25 % to the provincial economy and 9% of South Africa's economic output in 2015. Furthermore, the economic output of Tshwane has expanded at an annual average of 4% per annum over the last five years, outstripping the national GDP growth average over the 2011 – 2015 periods.

In terms of sectorial composition, Tshwane has a large government sector (community services) due to its status as one of South Africa's Capital Cities. The sector's estimated contribution to Tshwane's GVA in 2015 is at 33.4% , up from 32.8% in 2011. This is consistent with the fact that Tshwane is the national government's administrative capital. Furthermore, other major contributors to Tshwane's GVA in 2015 are as follow;

- Finance sector (contributed approximately 24.7% in 2015, slightly down from 25.6% in 2011);
- Trade sector (contributed approximately 12.1% in 2015, slightly up from 12.0% in 2011);
- Transport sector (contributed approximately 12.0% in 2015, slightly up from 11.7% in 2011); and
- Manufacturing sector (contributed approximately 9.3% in 2015, slightly down from 9.4% in 2011).

Refer to the Social Impact Assessment Report in Appendix G-1.

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
 (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?
 If YES, explain:

	NO
--	----

N/A

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:

The Heritage Impact assessment indicated that there is no evidence of heritage resources within the proposed site. The study did however indicate that according to the South African Fossil Sensitivity Map, the proposed site falls within an area of high fossil sensitivity. It was recommended that a desk top Palaeontological Assessment must be undertaken before construction the commencements of construction activities. Refer to **Appendix I-3**.

Based on the recommendation from the Heritage specialist, a desktop Paleontological Assessment was conducted. The study confirmed that the proposed site is completely underlain by the Silverton Formation (Pretoria Group, Transvaal Supergroup). This formation is known to contain stromatolites and probably also microfossils. According to the SAHRIS PalaeoMap this formation has a moderate palaeontological sensitivity. The scarcity of fossil heritage at the proposed Hartebeestpoort development indicates that the impact of the housing development will be of a low significance in palaeontological terms.

It was therefore concluded that the construction and operation of the Hartebeestpoort housing development and associated infrastructure is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area. Refer to **Appendix G-2**.

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

	NO
	NO

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

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

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

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

1. LOCAL AUTHORITY PARTICIPATION

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

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

YES

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

YES

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

Process is currently in 30 day BAR public review period. Awaiting comments from Interested and Affected Parties (I&Aps).

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

N/A

2. CONSULTATION WITH OTHER STAKEHOLDERS

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

Has any comment been received from stakeholders?

NO

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

N/A

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

Process is currently in 30 day BAR public review period. Awaiting comments from stakeholders.

3. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

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

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

4. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of site notice

Appendix 2 – Written notices issued as required in terms of the regulations

Appendix 3 – Proof of newspaper advertisements

Appendix 4 – Communications to and from interested and affected parties

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report

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

Appendix 9 – Copy of the register of I&APs

SECTION D: RESOURCE USE AND PROCESS DETAILS

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

Instructions for completion of Section D for alternatives

- 1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
- 4) Each 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
(only when appropriate)

"insert No. of duplicates"

times

(complete)

Section D Alternative No-

"insert alternative number"

(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	<input checked="" type="checkbox"/>
	~15m ³

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

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

Solid waste generated during the construction phase will be disposed of at a registered landfill site. Agreement with Local Municipality to dispose this construction solid waste will be reached by the appointed contractor before construction activities commence.

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

Solid waste generated during the construction phase will be disposed of at a registered landfill site. Agreement with Local Municipality to dispose this construction solid waste will be reached by the appointed contractor before construction activities commence.

Will the activity produce solid waste during its operational phase?

YES	<input checked="" type="checkbox"/>
	15 m ³

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

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

Waste generated by the development during the operation phase will be collected by the City of Tshwane Metropolitan Municipalities service provider and disposed of at one of the municipalities waste disposal facilities.

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? NO

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?
 The waste will either be re-used or recycled where possible. Where waste cannot be re-used or recycled, it will be separated into the different waste types and placed in appropriately marked waste containers. The waste containers will be transported to the nearest licensed waste disposal facility.

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

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? NO
 If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility? NO
 If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:
 The waste materials generated during the operational phase of the proposed development will be sorted on-site to facilitate waste reuse and/or recycling. The waste bins/containers will be clearly marked on-site with the type of wastes to be disposed off in particular waste bins/containers.

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? NO
 If yes, what estimated quantity will be produced per month? m³
 If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)? NO

Will the activity produce any effluent that will be treated and/or disposed of on site? NO
 If yes, what estimated quantity will be produced per month? m³

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

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

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

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	YES	
If yes, what estimated quantity will be produced per month?	Undetermined at this stage 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)?		NO
Will the activity produce any effluent that will be treated and/or disposed of on site?		NO
If yes describe how it will be treated and disposed off.		
N/A		

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?		NO
If yes, is it controlled by any legislation of any sphere of government?		NO
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.		
If no, describe the emissions in terms of type and concentration:		

Only general nuisance elements such as dust and exhaust emissions will be relevant for this Project. These general nuisances are managed through standard mitigation and management measures as stipulated in the Environmental Management Programme.

Construction Phase: Dust and exhaust emissions from construction vehicles will be generated. However, watering will be used to suppress dust.

Operational Phase: The main source of air pollution will include exhaust emissions from vehicles and the emissions from the tank vent pipes. The cumulative tankage capacity at the site for the permanent immobile storage tanks are smaller than 500 cubic meters, therefore subcategory 2.2 of NEM:AQA, for the storage and handling of petroleum products, does not apply.

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
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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	
--	------------	--

If yes, list the permits required

The proposed Project is located within 500m of a wetland, therefore a WUL or a GA will be required to be issued by the Department of Water and Sanitation.

If yes, have you applied for the water use permit(s)?		NO
If yes, have you received approval(s)? (attached in appropriate appendix)		NO

3. POWER SUPPLY

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

The power will be supplied from the existing grid network in the area. The municipality will be responsible for the necessary power supply infrastructure to provide power to the development site required.

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

The power will be supplied from the existing grid network in the area. The municipality will be

responsible for the necessary power supply infrastructure to provide power to the development site required.

4. ENERGY EFFICIENCY

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

Where possible, energy will be saved using the following measures:

Power Supply

The conservation of energy and the utilisation of renewable and sustainable energy technologies are encouraged. This included solar panels that generate and store electricity in suitable battery packs, solar panel geysers, solar water heaters, backed up with gas, as well as gas appliances, where applicable and feasible. The storage of gas must conform to the stipulations laid out in the OHSA.

Lighting

All lights used for non-security purposes should be energy efficient for example compact fluorescent lights (CFL's). Outside lights will have to be downward shining (eyelid type), low wattage and should not be positioned higher than 1m above the ground surface. Fluorescent lamps give five times the light and last up to 10 times as long as ordinary bulbs.

Water heaters/Geysers

Solar water heaters conserve energy and can be backed up with gas or electric geysers. Installing a geyser blanket on geysers and hot water storage tanks will reduce the amount of heat lost by the geyser to cold air outside and thus conserves energy. Hot water pipes should also be insulated to prevent heat loss.

Air Conditioners

Energy efficient heaters and air conditioners should be used.

Rain water harvesting

Where feasible, tanks should be included in the development to harvest rain water for potable and non-potable re-use.

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

The use of energy sources such as solar and gas will be encouraged. Sustainable design principles to be implemented will also contribute to reducing energy demand.

SECTION E: IMPACT ASSESSMENT

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

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

No issues have been raised to date.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)

(A full response must be provided in the Comments and Response Report that must be attached to this report):

No issues have been raised to date.

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

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

IMPACT ASSESSMENT METHODOLOGY

The impacts will be ranked according to the methodology described below. Where possible, mitigation measures will be provided to manage impacts. In order to ensure uniformity, a standard impact assessment methodology will be utilised so that a wide range of impacts can be compared with each other. The impact assessment methodology makes provision for the assessment of impacts against the following criteria, as discussed below.

Nature of the impact

Each impact should be described in terms of the features and qualities of the impact. A detailed description of the impact will allow for contextualisation of the assessment.

Extent of the impact

Extent intends to assess the footprint of the impact. The larger the footprint, the higher the impact rating will be. The table below provides the descriptors and criteria for assessment.

Table 7: Criteria for the assessment of the extent of the impact.

Extent Descriptor	Definition	Rating
Site	Impact footprint remains within the boundary of the site.	1
Local	Impact footprint extends beyond the boundary of the site to the adjacent surrounding areas.	2
Regional	Impact footprint includes the greater surrounds and may include an entire municipal or provincial jurisdiction.	3
National	The scale of the impact is applicable to the Republic of South Africa.	4
Global	The impact has global implications	5

Duration of the impact

The duration of the impact is the period of time that the impact will manifest on the receiving environment. Importantly, the concept of reversibility is reflected in the duration rating. The longer the impact endures, the less likely it is to be reversible. See **Table 8** for the criteria for rating duration of impacts.

Table 8: Criteria for the rating of the duration of an impact.

Duration Descriptor	Definition	Rating
Construction / Decommissioning phase only	The impact endures for only as long as the construction or the decommissioning period of the project activity. This implies that the impact is fully reversible.	1
Short term	The impact continues to manifest for a period of between 3 and 5 years beyond construction or decommissioning. The impact is still reversible.	2
Medium term	The impact continues between 6 and 15 years beyond the construction or decommissioning phase. The impact is still reversible with relevant and applicable mitigation and management actions.	3
Long term	The impact continues for a period in excess of 15 years beyond construction or decommissioning. The impact is only reversible with considerable effort in implementation of rigorous mitigation actions.	4
Permanent	The impact will continue indefinitely and is not reversible.	5

Potential intensity of the impact

The concept of the potential intensity of an impact is the acknowledgement at the outset of the project of the potential significance of the impact on the receiving environment. For example, SO₂ emissions have the potential to result in significant adverse human health effects, and this potential intensity must be accommodated within the significance rating. The importance of the potential intensity must be emphasised within the rating methodology to indicate that, for an adverse impact to human health, even a limited extent and duration will still yield a significant impact.

Within potential intensity, the concept of irreplaceable loss is taken into account. Irreplaceable loss may relate to losses of entire faunal or floral species at an extent greater than regional, or the permanent loss of significant environmental resources. Potential intensity provides a measure for comparing significance across different specialist assessments. This is possible by aligning specialist ratings with the potential intensity rating provided here. This allows for better integration of specialist studies into the environmental impact assessment. See **Table 9** and **Table 10** below.

Table 9: Criteria for impact rating of potential intensity of a negative impact.

Potential Intensity Descriptor	Definition of negative impact	Rating
High	Significant impact to human health linked to mortality/loss of a species/endemic habitat.	16
Moderate-High	Significant impact to faunal or floral populations/loss of livelihoods/individual economic loss.	8
Moderate	Reduction in environmental quality/loss of habitat/loss of heritage/loss of welfare amenity	4
Moderate-Low	Nuisance impact	2
Low	Negative change with no associated consequences.	1

Table 10: Criteria for the impact rating of potential intensity of a positive impact.

Potential Intensity Descriptor	Definition of positive impact	Rating
Moderate-High	Net improvement in human welfare	8

Moderate	Improved environmental quality/improved individual livelihoods.	4
Moderate-Low	Economic development	2
Low	Positive change with no other consequences.	1

It must be noted that there is no HIGH rating for positive impacts under potential intensity, as it must be understood that no positive spinoff of an activity can possibly raise a similar significance rating to a negative impact that affects human health or causes the irreplaceable loss of a species.

Likelihood of the impact

This is the likelihood of the impact potential intensity manifesting. This is not the likelihood of the activity occurring. If an impact is unlikely to manifest then the likelihood rating will reduce the overall significance. **Table 11** provides the rating methodology for likelihood.

The rating for likelihood is provided in fractions in order to provide an indication of percentage probability, although it is noted that mathematical connotation cannot be implied to numbers utilised for ratings.

Table 11: Criteria for the rating of the likelihood of the impact occurring

Likelihood Descriptor	Definition	Rating
Improbable	The possibility of the impact occurring is negligible and only under exceptional circumstances.	0.1
Unlikely	The possibility of the impact occurring is low with a less than 10% chance of occurring. The impact has not occurred before.	0.2
Probable	The impact has a 10% to 40% chance of occurring. Only likely to happen once in every 3 years or more.	0.5
Highly Probable	It is most likely that the impact will occur and there is a 41% to 75% chance of occurrence.	0.75
Definite	More than a 75% chance of occurrence. The impact will occur regularly.	1

Cumulative Impacts

Cumulative impact are reflected in the in the potential intensity of the rating system. In order to assess any impact on the environment, cumulative impacts must be considered in order to determine an accurate significance. Impacts cannot be assessed in isolation. An integrated approach requires that cumulative impacts be included in the assessment of individual impacts.

The nature of the impact should be described in such a way as to detail the potential cumulative impact of the activity.

Significance Assessment

The significance assessment assigns numbers to rate impacts in order to provide a more quantitative description of impacts for purposes of decision making. Significance is an expression of the risk of damage to the environment, should the proposed activity be authorised.

To allow for impacts to be described in a quantitative manner in addition to the qualitative description given above, a rating scale of between 1 and 5 was used for each of the assessment criteria. Thus the total value of the impact is described as the function of significance, which takes cognisance of extent, duration, potential intensity and likelihood.

Impact Significance = (extent + duration + potential intensity) x likelihood

Table 12 provides the resulting significance rating of the impact as defined by the equation as above.

Table 12: Significance rating formulas.

Score	Rating	Implications for Decision-making
< 3	Low	Project can be authorised with low risk of environmental degradation
3 - 9	Moderate	Project can be authorised but with conditions and routine inspections. Mitigation measures must be implemented.
10 - 20	High	Project can be authorised but with strict conditions and high levels of compliance and enforcement. Monitoring and mitigation are essential.
21 - 26	Fatally Flawed	Project cannot be authorised

An example of how this rating scale is applied is shown below in **Table 13**.

Table 13: Example of Rating Scale

Activity	Nature of Impact	Impact type	Extent	Duration	Potential Likelihood	Rating	Mitigation	Interpretation	
SO2 emissions	<u>Direct Impact:</u>	Existing	3	4	16	1	23 - FLAW	With mitigation (FGD) the residual air quality impact will be reduced due to a lower probability of SO2 emission from the Power Station.	Ambient air quality is high impact for the area.
	SO2 emissions on air quality within an area of high priority air pollution.	Cumulative	2	4	16	0, 2	4 - MOD	With mitigation (FGD) the residual air quality impact will be reduced due to a lower probability of SO2 emission from the Power Station.	Air quality will remain high impact with the power station coming on-line
		Residual	5	4	16	0, 5	13 - HIGH		With mitigation (FGD) the residual air quality impact will be reduced due to a lower probability of SO2 emission from the Power Station.

Notation of Impacts

In order to make the report easier to read the following notation format is used to highlight the various components of the assessment:

- Extent- *in italics*
- Duration – in underline

- Potential intensity – IN CAPITALS
- Likelihood - in **bold**

Please note that the impact rating system may change slightly to accommodate ease of use. However, the basic principle of the rating system will remain the same.

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

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
PRE-CONSTRUCTION				
Appointment of construction contractor	4 – Moderate Positive	Ensure that unskilled labour required for the construction and installation of equipment are predominately South Africans from the surrounding communities.	4 – Moderate Positive	<ul style="list-style-type: none"> No improvement on the unemployment conditions in the area and livelihood of the surrounding communities.
Poor communication about the project creates high expectations about the potential of job opportunities.	3 – Low (-)	Caution with communication so as not to create the expectation of massive job creation	2- Low (-)	<ul style="list-style-type: none"> Poor communication could lead to disappointment amongst community members, Labour and social unrest. While the project will create employment opportunities – the scale of the project means that not everyone will get employed
Poor communication about eligibility for subsidized and social housing creates high expectations.	3 – Low (-)	Clear communication about the eligibility criteria for social and subsidised housing. Clear communication on how allocations will be made.	2 – Low (-)	<ul style="list-style-type: none"> This could lead to a flood of ineligible applications, disputes and disappointments during housing allocation
CONSTRUCTION PHASE				
➤ ECOLOGY				
Loss of plant species of conservation concern	4- Moderate	<ul style="list-style-type: none"> It is recommended that prior to construction, the <i>Hypoxis hemerocallidea</i> plant species recorded must be searched and rescued and then following construction activities, they can be re-established at the site. Given that the species of conservation importance were observed, it is important that a walk-down survey be conducted for plant species of conservation importance and threatened species which may occur on the project area and are addressed through a search and rescue plan. 	3- Low	<ul style="list-style-type: none"> Loss of species of conservation concern occurring in the area.

Destruction of indigenous flora	4- Moderate	<ul style="list-style-type: none"> • Indigenous plants naturally growing on the development site, but that would be otherwise destroyed during clearing for development purposes should be incorporated into landscaped areas. • Vegetation clearing should be kept to a minimum, and this should only occur where it is absolutely necessary and the use of a brush-cutter is highly preferable to the use of earth-moving equipment. • Rehabilitate all disturbed areas as soon as the construction is completed within the proposed development area. • Ensure that all personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and on-going minimisation of environmental harm and this can be achieved through provision of appropriate awareness to all personnel. 	3- Low	<ul style="list-style-type: none"> • Loss of natural habitats for the biodiversity occurring in the area.
Loss of animals on site	4 - Moderate	<ul style="list-style-type: none"> • Training of construction workers to recognise threatened animal species will reduce the probability of fauna being harmed unnecessarily. • During site preparation special care must be taken during the clearing of the works area in order to minimise damage or disturbance of roosting and nesting sites. • The contractor must ensure that no faunal species are disturbed, trapped, hunted or killed during the construction phase. • Vehicles must adhere to a speed limit, 30-40 km/h is recommended for light vehicles and a lower speed for heavy vehicles. • All construction and maintenance vehicles must stick to properly demarcated and prepared roads. Off-road driving should be strictly prohibited. • No fires should be allowed at the site. • No dogs or other pets should be allowed at the site. 	3 - Low	<ul style="list-style-type: none"> • Loss of animals with in the proposed area.
Loss of habitat and habitat fragmentation	4 - Moderate	<ul style="list-style-type: none"> • The most significant way to mitigate the loss of habitat is to limit the footprint within the natural 	3 - Low	<ul style="list-style-type: none"> • Loss of natural habitats for the biodiversity occurring in the area.

		<p>habitat areas remaining.</p> <ul style="list-style-type: none"> No structures should be built outside the area demarcated for the development. Although it is unavoidable that the proposed development will need to traverse areas of potential sensitivity, the housing development should be constructed in such cases so as to avoid further impact to these areas. 		
Soil contamination, vegetation loss and vegetation disturbance due to fuel and chemicals	4 - Moderate	<ul style="list-style-type: none"> Appropriate measures should be implemented in order to prevent potential soil pollution through fuel and oil leaks and spills and then compliance monitored by an appropriate person. Make sure construction vehicles are maintained and serviced to prevent oil and fuel leaks. Emergency on-site maintenance should be done over appropriate drip trays and all oil or fuel must be disposed of according to waste regulations. Drip-trays must be placed under vehicles and equipment when not in use. Implement suitable erosion control measures. 	3 - Low	<ul style="list-style-type: none"> Pollution of water resources and land. Loss of natural habitats for the biodiversity occurring in the area.
Potential Impact Vegetation and habitat disturbance due to the accidental introduction of alien species	4 - Moderate	<ul style="list-style-type: none"> The Contractor implements suitable methods during the construction phase to limit the introduction and spread of alien invasive plant species. Promote awareness of all personnel. The establishment of pioneer species should be considered with the natural cycle of rehabilitation of disturbed areas, which assists with erosion control, dust and establishment of more permanent species. This can be controlled during construction phase and thereafter more stringent measures should be implemented during the rehabilitation and post rehabilitation. Larger exotic species that are not included in the Category 1b list of invasive species could also be allowed to remain for aesthetic purposes. 	3 - Low	<ul style="list-style-type: none"> Loss of natural habitats for the biodiversity occurring in the area.
Vegetation and habitat disturbance due to	4 - Moderate	<ul style="list-style-type: none"> The Contractor should employ personnel on site responsible for preventing and controlling of litter. 	3 - Low	<ul style="list-style-type: none"> Loss of natural habitats for the biodiversity occurring in the area.

pollution and littering during construction phase		<ul style="list-style-type: none"> Promote good housekeeping with daily clean-ups on site. During construction, refresher training can be conducted to construction workers with regards to littering, ad hoc veld fires, and dumping. No fires are allowed on site. 		
Loss of habitat of the Marikana thornveld and CBA region	4 - Moderate	<ul style="list-style-type: none"> Vehicles and construction workers should under no circumstances be allowed outside the site boundaries to prevent impact on the surrounding vegetation. Where possible, natural vegetation must not be cleared and encouraged to grow. All stockpiles, construction vehicles, equipment and machinery should be situated away from the natural vegetation. Disturbance of vegetation must be limited only to areas of construction. Prevent contamination of natural grasslands by any pollution. Areas cleared of vegetation must be re-vegetated prior to contractor leaving the site 	3 - Low	<ul style="list-style-type: none"> Loss of natural habitats for the biodiversity occurring in the area.
Damage to plant life outside of the proposed development site	4 - Moderate	<ul style="list-style-type: none"> Construction activities should be restricted to the development footprint area and then the compliance in terms of footprint can be monitored by Environmental Control Officer (ECO). Areas which could be deemed as no go should be clearly marked. 	3 - Low	<ul style="list-style-type: none"> Loss of natural habitats for the biodiversity occurring in the area.
Disturbance to animals	4 - Moderate	<ul style="list-style-type: none"> Animals residing within the designated area shall not be unnecessarily disturbed. During construction, refresher training can be conducted to construction workers with regards to littering and poaching. The Contractor and his/her employees shall not bring any domestic animals onto site. Toolbox talks should be provided to contractors regarding disturbance to animals. Particular emphasis should be placed on talks regarding 	3 - Low	<ul style="list-style-type: none"> Displacement of animals.

		snakes.		
Animal passage out of construction site	4 - Moderate	<ul style="list-style-type: none"> Allow for safe animal passage through and specifically out of the construction site. 	3 - Low	<ul style="list-style-type: none"> Loss of animals with in the proposed area.
The proposed construction activities may affect biodiversity through the encroachment of exotic vegetation following soil disturbance, in addition the maintenance of the area would disturb naturalised species within the area	4 - Moderate	<ul style="list-style-type: none"> Newly cleared soils will have to be re-vegetated and stabilised as soon as construction has been completed and there should be an on-going monitoring program to control and/or eradicate newly emerging invasives. 	3 - Low	<ul style="list-style-type: none"> The encroachment of exotic vegetation following soil disturbance.
> WATER RESOURCES				
Impeding the flow of water and altering the surface flow dynamics.	4 - Moderate	<ul style="list-style-type: none"> A minimum buffer zone of 30 m is recommended for the SDP. The SDP must avoid all wetland areas and the prescribed 30 m buffer zone. The status and functioning of the recommended buffer area can be improved through a dedicated vegetation strategy and a landscape management plan, which should include soft engineering approaches. An integrated alien plant control program (as per the AIS Regulations) should be developed for the buffer and other open spaces within the property, including delineated water resources. Make use of preventative construction techniques (source controls), such as to limit the amount of impervious material near watercourses as far as possible, and to demarcate setbacks from the watercourse in the form of a buffer zone with a natural vegetation cover. Consider green engineering measures such as 	3- Low	<ul style="list-style-type: none"> Altering the surface flow dynamics.
Erosion of watercourse	4 - Moderate		3- Low	<ul style="list-style-type: none"> Erosion of the watercourse
Sedimentation of the water resources	3 - Low		2- Low	<ul style="list-style-type: none"> Increase in the sedimentation of the water course
Water quality impairment	4 - Moderate		3- Low	<ul style="list-style-type: none"> Decrease the quality of water

		<p>water polishing or naturally vegetated attenuation ponds to improve water quality. Other structural control measures include grass swales, infiltration trenches and basins, wet ponds, and constructed wetlands.</p> <ul style="list-style-type: none"> Discharged storm water must be released in a controlled manner with a diffuse flow pattern and be accompanied by energy dissipating interventions to prevent erosion. 		
> SOCIAL				
Increased employment opportunities and economic growth	11- High (+)	<ul style="list-style-type: none"> Leverage this through procurement policies that favour local suppliers and businesses. 	11- High (+)	<ul style="list-style-type: none"> Infrastructure development drives economic growth and has a huge multiplier effect. Infrastructure development not only generates employment directly through construction and operations but also creates an industrial base around the development for goods and services to supply the construction workers and activities. These industries would get more entrepreneurs and employ more labour. These workers would purchase more goods from the markets, creating a virtuous cycle.
Creation of temporary skilled and unskilled job opportunities directly on the project	11- High (+)	<ul style="list-style-type: none"> Leverage this through recruitment policies that favour local labour 	11- High (+)	<ul style="list-style-type: none"> Creating temporary skilled and unskilled job opportunities.
Termination of temporary employment	11 High (-)	<ul style="list-style-type: none"> N/A 	11 High (-)	<ul style="list-style-type: none"> Loss of temporary employment.
Increase in the quality of social, subsidised and bonded housing for the region.	14- High (+)	<ul style="list-style-type: none"> N/A 	14- High (+)	<ul style="list-style-type: none"> This will reduce the number of informal settlements, reduce population density in neighbouring suburbs and increase the standard of living for the communities.
> HERITAGE				

Destruction of Heritage Resources	3 - Low	<ul style="list-style-type: none"> For any chance finds of heritage resources, all work must cease in the area affected and the Contractor must immediately inform the Project Manager. A registered heritage specialist / palaeontologist must be called to site for inspection. The PHRA-G must be informed about any finds. Permits must be obtained from the PHRA-G if heritage resources are to be removed, destroyed or altered. Any mitigation measures recommended by the desktop palaeontological assessment must be adhered to. Any heritage resources found close to the construction site must be protected by a 7m buffer in which no construction can take place. The buffer material (danger tape, fencing, etc.) must be highly visible to construction crews. Under no circumstances may any heritage material be destroyed or removed from site unless under direction of a heritage specialist. Should any remains be found on site that is potentially human remains, the South African Police Service (SAPS) should also be contacted. Members of the SAPS may not remove remains until the necessary permits have been obtained. 	2 - Low	<ul style="list-style-type: none"> Loss of heritage resources
➤ PALAEOLOGY				
Destruction the palaeontological resources	1 - Low	<ul style="list-style-type: none"> In the event that fossil remains are uncovered during any phase of construction, either on the surface or unearthed by new excavations and vegetation clearance, the ECO in charge of these developments ought to be alerted immediately. These discoveries ought to be protected (if possible in situ) and the ECO must report to SAHRA so that appropriate mitigation (e.g. recording, collection) can be carry out by a 	1 - Low	<ul style="list-style-type: none"> Loss of palaeontological resources.

		<p>professional palaeontologist.</p> <ul style="list-style-type: none"> • Preceding any collection of fossil material, the specialist would need to apply for a collection permit from SAHRA. Fossil material must be curated in an accredited collection (museum or university collection), while all fieldwork and reports should meet the minimum standards for palaeontological impact studies proposed by SAHRA. 		
OPERATION PHASE				
> ECOLOGY				
Disturbance of faunal species	4 - Moderate	<ul style="list-style-type: none"> • The disturbance of fauna should be minimized. • Animals residing within the designated area shall not be unnecessarily disturbed. 	3 - Low	Displacement of animals.
> WATER RESOURCES				
Altering the surface flow dynamics.	4 - Moderate	<ul style="list-style-type: none"> • Make use of preventative construction techniques (source controls), such as to limit the amount of impervious material near watercourses as far as possible, and to demarcate setbacks from the watercourse in the form of a buffer zone with a natural vegetation cover. • Consider green engineering measures such as water polishing or naturally vegetated attenuation ponds to improve water quality. Other structural control measures include grass swales, infiltration trenches and basins, wet ponds, and constructed wetlands. • Discharged storm water must be released in a controlled manner with a diffuse flow pattern and be accompanied by energy dissipating interventions to prevent erosion. 	3 - Low	Decrease in the quality of water and alteration of the drainage pattern.
> SOCIAL				
Reduction in the negative impacts of urban Sprawl such as Traffic fatalities, traffic jams and air pollution as communities	14 – High (+)	<ul style="list-style-type: none"> • N/A 	14 – High (+)	This will result in a safe environment which will provide affordable homes which are close to a manufacturing and industrial hub which has plenty of job opportunities

are afforded access to housing close to a manufacturing and industrial hub which has plenty of job opportunities				
Disputes over housing allocation for subsidised and social housing.	4 - Moderate (-)	<ul style="list-style-type: none"> • Clear and transparent communication about the allocation of housing 	3- Low (-)	Issues may arise over housing allocation.

Alternative 1 (REPEAT THIS TABLE FOR EACH ALTERNATIVE)

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

No-Go

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

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

Due to the nature of the proposed development, decommissioning phase is not envisioned. As a result, impact assessments for the decommissioning activities are not considered in this assessment.

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

N/A

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:

No cumulative impacts are envisaged on the environment. The land has substantially degraded. Proposed development on the proposed site will improve the environmental status of the site as the site will be appropriately managed.

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

No Site Alternatives were identified as the proposed site is owned by the applicant. The site is degraded due to current activities on and surrounding the site. Specialist assessments were conducted for the proposed Project and a summary of the findings have been included below:

Heritage Assessment:

Based on observations made during the site inspection, it can be concluded that no significant heritage resources were found on the site. The water canal that runs through the project area is not considered to be of heritage significance. Therefore the impact will be of a **LOW SIGNIFICANCE**.

Palaeontology Assessment:

The proposed footprint is completely underlain by the Silverton Formation (Pretoria Group, Transvaal Supergroup). This formation is known to contain stromatolites and probably also microfossils. According to the SAHRIS PalaeoMap this formation has a moderate palaeontological sensitivity. The scarcities of fossil heritage at the proposed Hartebeestpoort development indicate that the impact of the housing in palaeontological terms. Thus, the construction and operation of the facility may be authorised as the whole extent of the development footprint is not considered sensitive in terms of palaeontological resources. Therefore the impact will be of a **LOW SIGNIFICANCE**.

Terrestrial Ecology Assessment

During the field survey, no threatened plant species were observed on site, however only one species of conservation concern was noted, namely *Hypoxis hemerocallidea*, and this species

has a conservation status of *Declining*. No fauna of conservation concern were recorded on site. The human presence and associated disturbances taking place usually have a detrimental impact on fauna species (especially mammals and snakes) in the area. The proposed development will cause disruption during the construction phase, but as long as mitigation measures are implemented, these disruptions should have minimal lasting effects on the ecosystems of the proposed development. From an ecological perspective, it was concluded that the proposed development be considered favourable provided that the sensitivity map be considered during the planning and construction phases of the proposed development activities in order to aid in the conservation of ecology within the study area. Therefore the impact will be of a **MODERATE SIGNIFICANCE** before mitigation and **LOW SIGNIFICANCE** after mitigation.

Water Resource Assessment

According to the desktop information available, the aquatic systems are highly modified largely due to the significant water and habitat quality modification in the catchment. Two HGM types (natural depression and a channeled valley-bottom wetland) were identified within the 500m project assessment boundary. The wetland was determined to be in a largely modified (Class D) state. The HGM type had an overall intermediate level of services, with various services providing moderately high and high ecological services. The ecological importance and sensitivity as well as the hydrological/functional importance for both HGM units has been scored moderate whereas the direct human benefits has been scored low. Therefore the impact will be of a **MODERATE SIGNIFICANCE** before mitigation and a **LOW SIGNIFICANCE** after mitigation.

Social Assessment

From a Social perspective, It is concluded that the significance of positive social benefits exceeds the significance of negative social impacts. The project will bring about new housing infrastructure in a region that is in need of housing. The construction of the proposed integrated housing development will also contribute to eradication of past political landscape spatial divides in human settlement patterns. It will also result to job opportunities and potential business opportunities for local contractors and suppliers should the 30% project value allocation to regional or local business be complied with in line with government local procurement objectives. The only negative community impacts that will result from the project include noise pollution and traffic congestion during the construction phase of the project; however, these impacts are short lived with minimum residual impacts on traffic due to increase in number of people in the area during the operation phase of the project. Therefore the impact will be of a **LOW SIGNIFICANCE**.

Overall, the impact of the proposed activity is expected to be LOW as the study site is already heavily impacted by the surrounding activities and land use. The activities will further be mitigated to acceptable levels.

Alternative 1

N/A

Alternative 2

N/A

No-go (compulsory)

The 'No-Go' alternative refers to not implementing any of the proposed project activities described in this report. The option of not proceeding with the proposed project will result in the continuation of the status quo and denied opportunity to contribute to the LED, local infrastructure development as well as changes to the local communities in terms of employment (both temporary and permanent). All impacts on the receiving environment that likely to result during the Construction and Operational Phases of the proposed project will not transpire.

In terms of the environmental impacts, the current environmental status quo will remain the same and even degrade further. Impacts associated with the No-Go alternative are thus rated as **MODERATE**.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The impacts have been identified and assessed during the BA process. Based on the impact assessment, impacts will be predominantly limited to the site and study area. The impacts will mostly occur during the construction phase, which will be approximately 3 years. All of the impacts identified during the construction phase can be mitigated to acceptable limits and the majority of the impacts showed a **MODERATE** significance before and Aa LOW significance after mitigation measures are implemented. Establishment of the proposed housing development and the associated infrastructures is therefore not likely to significantly impact on the already degraded land.

For alternative:

N/A

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

The Housing Development Agency (HDA) is proposing to establish a housing development on Portion 237 of the Farm Hartebeestpoort 328 JR in Koedoespoort which falls within the jurisdiction of The City of Tshwane Metropolitan Municipality, Gauteng Province. The proposed development is approximately 18.75ha in extent. The site under consideration is identified as an inner-city project that is earmarked for the development of an integrated human settlement.

Majority of the proposed site is vacant however, there are several businesses operating on and around the site, most of which are related to scrap yards and selling and repairing of motor vehicles, as well as residential use of the site. The southern side of the site is surrounded by the suburbs of Kilner Park and Silvertondale and is bordered by railway tracks emanating from the Koedoespoort Train Station. The site is also located 500m from the Lindopark Primary School. The surrounding suburbs of Rastlynne and Eastlynne and Eersterust can be found to the north

and the north-east of the site respectively.

Based on the outcome of the Specialist studies conducted it can be concluded that the proposed development will not result in any significant impact on the heritage or Paleontological features. Although no threatened plant species were observed on site, it must be noted that only one species of conservation concern was noted, namely *Hypoxis hemerocallidea*, and this species has a conservation status of *Declining*. The human presence and associated disturbances taking place usually have a detrimental impact on fauna species (especially mammals and snakes) in the area. The construction of the proposed Project will result in impacts from an ecological perspective. It must however be noted that the impacts can be managed to an acceptable level with the implementation of mitigation measures proposed.

The aquatic systems are highly modified largely due to the significant water and habitat quality modification in the catchment. Two wetland types (natural depression and a channeled valley-bottom wetland) were identified within the 500m project assessment boundary. The wetlands were determined to be in a largely modified (Class D) state. The construction of the proposed Project will result in impacts from the aquatic systems identified; however, the impacts can be managed to an acceptable level with the implementation of mitigation measures proposed.

Considering the need for low-cost housing, job opportunities, local business opportunities and commercial outlets in the area, the proposed Project is considered a feasible development for the proposed site.

7. SPATIAL DEVELOPMENT TOOLS

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

- Appointment of town and regional planner;
- Consultation with and obtaining approvals of the development from the city council (municipality); and
- Use of GIS tool for mapping (using data from GDARD such as EMF, GAPA and GIDSv10, and other data), refer to attached maps in **Appendix A**.

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

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

N/A

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

The EAP recommends that the proposed establishment of a housing development be

authorised at the proposed location. All mitigation measures listed by the Heritage, Palaeontology, Aquatic and Terrestrial Ecology specialists in their specialist reports, and proposed in the Environmental Management Programme (EMPr) (refer to Appendix G) must be implemented.

9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT (AS PER NOTICE 792 OF 2012, OR THE UPDATED VERSION OF THIS GUIDELINE)

The special vision of the City is to lead integrated planning, maximizing on special efficiencies for optimal service delivery in order to achieve sustainability, competitiveness and resilience. In order to comply with the Gauteng Spatial Development Framework, the city need to insure continued urban growth, resource based economic development, the re-direction of urban growth- limit growth in non-viable areas, protection of rural areas and enhancement of tourism, and increase access to and mobility. To achieve some of the above mentioned requirements, the HDA is proposing the development of a liveable and sustainable human settlement for an affordable market on the proposed site. The site falls within the Municipality's current master plan as part of future development for Koedoespoort Station. The region is popular in terms of high category retail and office function and there is an important industrial region in close proximity to the site, which will allow easy access to transportation, retail facilities and industrial area. The site is therefore strategically located and well positioned for the development of a sustainable human settlement.

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

The environmental authorisation is required from February 2018. Due to the nature of the activity, there is no definite period as to when the activity will be concluded.

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.