

**DRAFT BASIC ASSESSMENT REPORT
FOR
THE PROPOSED RIDGE ROAD UPGRADE**

Prepared for

City of Ekurhuleni Metropolitan Municipality:
Roads and Storm Water Department



GDARD REF: 002/20-21/E0013

Prepared by



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DOCUMENT CONTROL**REPORT AUTHOR**

Report Title	The Proposed Ridge Road Upgrade
Report Version	Draft Basic Assessment Report (November 2020)
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Report Reviewer - 2	Ntsebo Mkhize (External Reviewer)

APPROVER

Report Approver	Snowy Makhudu (Tholoana Environmental Consulting)
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EXECUTIVE SUMMARY

Tholoana Environmental Consulting (TEC) has been appointed by Dikgato Engineering Consulting to act as Independent Environmental Assessment Practitioners (EAP) on behalf of the City of Ekurhuleni Metropolitan Municipality (CoEMM): Roads and Storm Water Department for the proposed Ridge Road upgrade in Bartlett, Boksburg within ward 17 of the CoEMM. The proposed Ridge Road upgrade activities starts from the interchange of Tajlaard Road and Yaldwyn Road, moving in an easterly direction on Yaldwyn Road which then becomes Ridge Road. The proposed upgrades will end at the intersection of Ridge Road and Atlas Road (M43). The proposed Ridge Road upgrade is 4 kilometres long. The key proposed activities for the project are as follows:

- The upgrading Ridge Road from a single carriageway to a dual carriageway;
- Upgrading of the following intersections with Ridge Road: Edwin Road, Elizabeth Road, Bonanza Road, Trichardt Road, Leith Road and Jan Smuts road; and
- Storm water management system upgrade.

The proposed project activities were identified by the Applicant (City of Ekurhuleni Metropolitan Municipality) in order to ensure that the route operates at an acceptable level of service for a 10 year horizon (from 2021 up to 2030), there are safe and convenient facilities for pedestrians and public transport systems and to ensure responsible management of stormwater.

The proposed activities are aimed to servicing the current and planned future expansions which includes the airport (Aerotropolis) around OR International Airport. The proposed activities are identified within the CoEMM: RSDF.

Based on the preliminary investigations undertaken for the proposed project activities, a number of issues related to the current conditions of the road storm water management systems were established. These include flat longitudinal grades, ponding of water at intersections and the absence of kerbs. The results of the investigations indicated the need for upgrading of the current storm water management systems of Ridge Road as its current capacity does not cater for the upgrades of the storm water management systems.

The outline of the proposed project activities and application of the relevant environmental legislative requirements triggered the following specialists' studies which are attached as Appendix G and briefly summarised below as follows:

- *Ecological Assessment (Flora and fauna)* Report compiled by Maanakana Projects:
According to the assessment part of the route falls within a sensitive areas (i.e. Critical Biodiversity Area (CBAs) and Ecological Support Areas (ESAs), whereas the larger portion falls within an existing built up area. Floral species such as graminoids, geophytic herbs, herbs, herbaceous climber, and shrubs were identified on part of the route, however these species do not require any permits for removal because the proposed development will not have an impact

on species identified. Based on the above, the Ecological Specialists recommendations are that the proposed project be undertaken provided the proposed mitigation measures are adhered to.

- *Wetland Assessment Report* written by Oasis Environmental specialists:

The wetland assessment identified several seep, valley bottom and flat wetland systems within the routes 500m regulated area. These wetland systems are characterised by hydric soils in the permanent zones (Katspruit soil-iron mottles), seasonal zone (sandy clay loam) and the temporary zone (manganese mottles). The terrestrial soil form was dominated by Hutton soil form, whereas the hydrophytic vegetation was constituted by reeds *Phragmites australis*, *Typha capensis* and *Juncus* spp. Alien invasive plants were also identified within the wetland area.

In terms of the wetland health, the assessment indicated that the wetland system falls within category E, which implies that it has been seriously modified and this is mainly due to erosion, infestation of alien invasive plants, littering (dumping), sewage pollution and the surrounding urban and industrial development.

Based on the current state of the wetland system, the assessment indicates that the impacts of the proposed activities in the wetland system will be very low. This means that a general authorisation must be obtained from the Department of Water and Sanitation (DWS) for Section 21 c and I of the National Water Act (NWA), 1998 (No.36 of 1998) water uses.

- *Phase 1: Archaeological Impact Assessment (AIA)* compiled by Millennium Heritage Group (Pty)

The results of the ground truthing of the entire route and its road reserves indicated that there are no heritage resources that occur within the proposed project area. While this is the case, it is possible that some significant features may be buried beneath the ground. Should buried heritage resources that represent, archaeological and historical material remains or burials be encountered during the process of road development work must in the affected area must immediately stop and the affected section of the cordoned off and the Provincial Heritage Resources Authority Gauteng notified. Works will only proceed upon the direction of PHRAG or South African Heritage Resources Agency (where the affected resource falls within their areas of responsibility) after investigations have been undertaken.

- *Phase 1: Paleontological Impact Assessment (PIA)* written by Heidi Fourie

The PIA was necessary to investigate the very high paleontological sensitivity of the surrounding Vryheid Formation within. which the study area falls, the results of the field investigation undertaken indicated that no fossils occur within the study area.

The following recommendations should be implemented should any paleontological objects uncovered during the construction phase of the project:

- The South African Heritage Resources Agency (SAHRA) should be notified;

- All construction activities must be stopped, a 30m *no-go* barrier constructed, and a Palaeontologist should be consulted to determine mitigation measures;
- A Section 37(2) agreement of the Occupational, Health and Safety Act 85 of 1993 should be signed with the relevant contractors to protect the environment (fossils) and adjacent areas as well as for safety and security.

- *Preliminary Stormwater Management Report* compiled by Dikgato Engineering Consultants
The storm water management report determined that the existing single carriageway is partially kerbed and experiences problems of ponding because of flat longitudinal slope for the larger extent of the road. In turn, the results are inconvenience and unsafe conditions to the road users and some of the lower laying adjacent properties that have experienced flooding during rainstorms. Recommendations on the storm water upgrade are provided within the report and is attached as Appendix G.

- *Centerline and Materials Investigation Report* written by Mabu Geotechnical Consulting
The investigation highlights the various soil profiles and materials for the proposed project route and is attached as Appendix G.

The recommendations including mitigation measures provided within the specialist investigations have been applied in this assessment and are further included in the EMPr attached as Appendix H. The investigations were conducted to ensure that the proposed activity occurs in a sustainable manner and does not cause adverse environmental degradation.

Alternatives

Alternative type can be include location/property activity, design, technology, energy, operational or other. While alternatives are desirable for any project, none were identified for the project as they are not applicable due to reasons such as the upgrade to an existing road and limitations due to the completed process for the appointment of contractors to set rates and not catering for the application of other alternatives beyond the preferred site.

The following key positive and negative impacts are associated with the proposed project activities:

- **Positive Impacts**
 - Both direct and indirect job opportunities will be available during the construction phase;
 - Skills transfer to unskilled labour will be undertaken during the construction phase.
 - Improved storm water management system will lead to the prevention of flooding that affects business owners, road users and residents.
 - Eased traffic congestion leading to reduced travel time and efficient economic activities; and

- Safe and convenient roads for road users.
- **Negative impacts**
 - Increased levels of erosion.
 - Infestation of invasive alien plant species;
 - Habitat will be fragmented
 - Further degradation of water resources identified within the route;
 - Increased traffic congestion during the construction phase.

The negative impacts identified for the proposed project can be mitigated on implementation of measures in the EMPr and recommendations within the specialist assessments. The onus is with the various stakeholders to ensure that the required interventions and suggested control measures are implemented.

Assessment Findings

The vicinity of the proposed Ridge Road project is characterised by built up areas. Most of vegetation is disturbed because of developments such as households, industries and shopping complexes. One wetland occurs within 500m of the proposed project site. Based on the assessments conducted, the proposed activities are supported, however recommendations and mitigations measures provided needs to be adhered to.

TRIGGERED LISTED ACTIVITIES

Based on the nature of the project and as per the requirements of the Environmental Impact Assessment Regulations 2014 (as amended), an environmental authorisation is required for below triggered Listed Activities prior to the implementation of the proposed activities. The application for Environmental Authorisation is lodged with the Gauteng Department of Agriculture and Rural Development (GDARD).

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:
GNR 327, 7 April 2017	Listing Notice 1, Activity 19.	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourses.

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:
		<p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <p>(a) will occur behind a development setback;</p> <p>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; [or]</p> <p>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies;</p> <p>(d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or</p> <p>(e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p>
GN. R324, 7 April 2017	Listing Notice 3, Activity 14.	<p>The Development of –</p> <p>ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs-</p> <p>c) In Gauteng</p> <p>iv. sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) Gauteng Conservation Plan or in bioregional plans;</p> <p>v. sites identified within threatened ecosystems listed in terms of the National</p>

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:
		Environmental Management Act: Biodiversity Act (Act No. 10 of 2004); vi. sensitive areas identified in an environmental management framework adopted by relevant environmental body.
GN. R324, 7 April 2017	Listing Notice 3, Activity 18 c.(iv)	The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. c. Gauteng iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans.

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ABBREVIATIONS

AIA	Archaeological Impact Assessment
BAR	Basic Assessment Report
CLO	Community Liaison Officer
CoEMM	City of Ekurhuleni Metropolitan Municipality
C-PLAN	Conservation Plan
CBA	Critical Biodiversity Area
DBAR	Draft Basic Assessment Report
DSW	Department of Water Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Ecological Support Areas
EMF	Environmental Management Framework
EMPr	Environmental Management Programme report
FBAR	Final Basic Assessment Report
GDARD	Gauteng Department of Agriculture and Rural Development
GHG	Greenhouse Gas
GSDF	Gauteng Spatial Development Framework
IDP	Integrated Development Planning
I&AP	Interested and Affected Party
NWA	National Water Act
PIA	Palaeontological Impact Assessment
PPP	Public Participation Process
Rd	Road
SAHRA	South African Heritage Agency
SUDS	Sustainable Urban Drainage Systems
TEC	Tholoana Environmental Consulting

GLOSSARY

Term	Definition
Contractor	the principal person or company undertaking the construction of the development appointed by the developer, including subcontractors appointed by the contractor.
Disposal	the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto land.
Engineer	a person representing the Developer on site and who is responsible for the technical and contractual implementation of the works to be undertaken. This is usually the engineer, but may be any other person, such as an architect or project manager, authorized by the Developer to fulfil this role.
Environment	the surroundings within which humans exist and that are made up of the land, water and atmosphere of the earth: micro-organisms, plant and animal life; any part or combination of the above and the inter- relationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being
Environmental Assessment Practitioner	Environmental Assessment Practitioner' (EAP) is a consultant who conducts an Impact Assessment process including looking at alternatives, consulting the public (public participation), assessing the impact of the proposed project on the receiving environment.
Environmental Systems	an area that have significant ecological and/or hydrological value, it is an integrated system of parkways natural land and connecting spaces that form the basis of broader open space system.
General Waste	waste that does not pose an immediate hazard or threat to health or to the environment and includes - domestic waste; building and demolition waste; business waste; and inert waste.

Term	Definition
Ground Water	subsurface water that fills voids between highly permeable ground strata comprised of sand, gravel, broken rocks, porous rocks, etc. and move under the influence of gravitation.
Hazardous Waste	any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical, or toxicological characteristics of that waste, have a detrimental impact on health and the environment.
Heritage Resources	any place or object of cultural significance, including all human-made phenomena and intangible products that are the result of the human mind. Natural, technological, or industrial features may also be part of heritage resources, as places that have made an outstanding contribution to the cultures, traditions and lifestyles of the people or groups of people of South Africa.
Impact	refers to a description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.
Incident	an undesired event which may result in a significant environmental impact but can be managed through an internal response.
Integrated Development Plan	a plan that integrate development and management of municipal areas as stipulated in the Municipal Systems Act, 2000.
Local economic development	a locally driven process, designed to identify, harness and utilise resources to stimulate the economy and create new job opportunities.
Mitigation	measures designed to avoid, reduce, or remedy adverse impacts.
Socio-economic opportunities	activities that improve the social and economic well- being of the urban poor, e.g. improved health care, education, recreation, job opportunities, earning power and housing.

Term	Definition
Spatial Development Framework	a frame work that seeks to guide overall spatial distribution of current and desirable land uses within a municipality in order to give effect to vision, goals and objection of the municipal IDP, as contemplated in spatial planning and land use management Act 16 of 2003.
Sustainable Development	a development that meets the needs of the present without compromising the ability of future generation to meet their own needs.
Waste	any substance, whether or not that substance can be reduced, re-used, recycled and recovered – that is surplus, unwanted, rejected, discarded, abandoned or disposed off; which the generator has no further use for the purposes of production; that must be treated or disposed off; or that is identified as a waste by the relevant Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but - a by-product is not considered waste; and any portion of waste, once re-used, recycled and recovered, ceases to be waste.
Waste Disposal Facility	any site or premise used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premises.
Water Pollution	<p>as defined in the National Water Act, 36 of 1998, water pollution refers to the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it – less fit for any beneficial purpose for which it may reasonably be expected to be used; or harmful or potentially harmful:</p> <ol style="list-style-type: none"> a. to the welfare, health or safety of human beings; b. to any aquatic or non-aquatic organisms; c. to the resource quality; or d. to property.

INTRODUCTION

Expertise of the Environmental Assessment Practitioner (EAP)

Dikgato Engineering Consultants has appointed Tholoana Environmental Consulting (TEC) to act as Independent Environmental Assessment Practitioners on behalf of the City of Ekurhuleni Metropolitan Municipality (CoEMM): Roads and Storm Water Department for the proposed Ridge Road upgrade in Bartlett, Ward 17, Boksburg within the CoEMM.

TEC brings together a team of dedicated professional scientists, environmental managers and practitioners who have many years of combined experience in environmental services, including services not limited to roads, housing, shopping complexes, landfill site, storm water management systems, community health centre and bio-plant related environmental applications for authorisation. Tholoana Environmental Consulting appointed to undertake a Basic Assessment for proposed Ridge Road upgrade in Bartlett, Boksburg. We provide comprehensive Integrated Environmental Management (IEM) services to a broad range of clients throughout the African continent and other international countries.

TEC has no interest in the aforementioned project or any component that may emerge from the processes of the proposed activities.

- **Mr Bonginkosi Hlongwane (Report Author):**

Mr Bonginkosi Hlongwane holds a Bachelor of Arts Degree in Environmental Planning and Development obtained from University of Zululand in KwaZulu-Natal. He is also a full member of the International Association for Impact Assessment (South Africa) and is an Environmental Assessment Practitioner within TEC. He has worked at Nkungumathe Youth Development Forum as an Environmental Project Administrator. He is currently employed by TEC where he has been involved in the following projects: Ventersdorp Buy-Back centre, Section 24G application, Krugersdorp station Basic Assessment as a PPP assistant, Cradle View – Mixed Land Use Housing Development Munsieville, Blydeville Ext 4 – Mixed Land Use Development (S&EIR) and the Kelland Wetland Rehabilitation Project.

Bonginkosi's Curriculum Vitae is attached as *Appendix J*

Report Reviewers

- **Mr Vusmuzi Hlatshwayo**

Mr Vusmuzi Hlatshwayo has a National Diploma in Environmental Sciences obtained from Tshwane University of Technology in Pretoria. He is also a full member of the International Association for Impact Assessment (South Africa) and is an Environmental Assessment Practitioner within TEC. In addition, Mr Vusmuzi Hlatshwayo was involved in the following projects: Madiba Heights (mixed-use development), Msibi Bio-Plant (waste management application, and a BAR), and Refilwe Hostel Development (Environmental Management Programme Report), Krugersdorp Station Intermodal facility; Cradle View Mixed Land Use Development; Maluti A

Phofung Landfill site, Blydeville and Ventersdorp housing development, Kelland Wetland Rehabilitation project, Randfontein Community Health Centre and the Pam Brink Reservoir Feeder line.

Vusmuzi's Curriculum Vitae attached *Appendix K*

- **Mrs Ntsebo Mkhize (External Report Reviewer)**

Ntsebo Mkhize is an Environmental Assessment Practitioner (EAP) with over 7 years working experience. She is registered with the Environmental Assessment Practitioner Association of South Africa (EAPASA). Ntsebo is currently enrolled for a master's in environmental management Degree with the North West University. She holds a BSc (Honours) in Environmental Management (cum laude) from the University of South Africa. Prior to that, she completed a BSc (Honours) in Geography from the University of the Witwatersrand in 2010 and a BSc Landscape Architecture from the University of Pretoria in 2009. Her additional key qualifications are a Certificate in Environmental Law (with distinction) from the University of Pretoria in 2015 and a Certificate in ISO 9001:2008 Implementation and Facilitation (with distinction) from South African Certification and Auditing Services (SACAS).

Her project experience covers the following developments/sectors: aviation (e.g. Environmental Screening Reports for 29 Distance Measurement Equipment (DME) Sites within the Terminal Maneuvering Areas (TMAs) of the OR Tambo, King Shaka, Port Elizabeth, East London, George and Cape Town Airports); waste management (e.g. licensing of various waste disposal facilities in the Kwa-Zulu Natal Province); mixed-use developments (e.g. Water Use License Application for Stone River's Arch Mixed Use Development); electricity (e.g. Basic Assessments for the Battery Storage Systems for four substations in the Western Cape); bulk water supply schemes (Environmental Feasibility study for the Gariep Dam Water Supply Scheme); roads and stormwater (Basic Assessment for the Upgrading of internal roads in Mandela Village); biodiversity and watercourse protection projects (e.g. Zoning plans for the proclamation of two municipal Nature Reserves: Klipriviersberg and Kloofendal); and schools (e.g. landscape designs plan for Langeni Senior Primary School).

Ntsebo's curriculum Vitae is attached as *Appendix L*

Report Approver

- **Ms Snowy Makhudu**

Ms Snowy Makhudu holds a National Higher Diploma in Meteorology obtained from Tshwane University in Pretoria. She is a Managing Director of Tholoana Sustainable Development and Environmental Consultants. She is a member of Institute of Waste Management of Southern Africa (IWMSA); Board Chairperson for Environmental Assessment Practitioners Association of South Africa (EAPASA) and a full member of the International Association for Impact Assessment (South

Africa) (IAIAsa). She has been in Environmental sector for more than 20 years and in environmental consultancy for more than 9 years. In addition, Ms Snowy Makhudu has been involved at Senior and Executive Management level in Government and Private sector. She also worked with communities in a consulting capacity as a project director or advisor, including management of consultants' contracts and service level agreements. This includes development of State of Environmental Reports; Environmental Management Frameworks; Application for environmental Authorisation; Rectification of NEMA Section 24G; Environmental Compliance officers services; Strategic EIA's; IWMP's; Waste Minimisation Strategy – development and implementation; training of senior Management on Integrated Environmental Management including Integrated Waste Management funding and financial models, Clean Development Mechanism project; Social facilitation and community survey; Project in Extended Public Works Programme, whilst in Local and Provincial Government.

Ms Snowy Makhudu was involved in the following projects:

District Hospital, Ladybrand, Free State – Basic Assessment, IWMP and AQMP for West Rand District Municipality including its constituent Municipalities, several Initial Environmental Evaluations and EIA's for the Swaziland Electricity Board 400kv Integration Phase 2, Orient Hills Township/Mixed Land Use Development – Basic Assessment, Rectification of NEMA Section 24G for 9 BP Filling Stations, Diesel Tanks – Basic Assessment, Social Facilitation and community mobilisation for Indalo Yethu Eco-Towns, Training of Eco-Towns environmental Ambassadors on waste management including waste minimisation for Indalo Yethu, Youth Jobs in Waste – North West & Free State, Qwa-Qwa Phuthaditjhaba Landfill Site Waste License & EIA, Msibi Bio-Plant (Pyrolysis) – Environmental Authorisation Application including Atmospheric Emission License Ventersdorp and Blydeville Mixed Land Use Housing Development – EIA, Munsieville Mixed Land Use Development – Basic Assessment, Randfontein Community Health Centre – Environmental Scan & OHS, Kelland Wetland Rehabilitation – Basic Assessment.

Snowy's Curriculum Vitae is attached *Appendix M*.

PROJECT TEAM CONTACT DETAILS

- **EAP Details**

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- **The Project Engineer**

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- **The Competent Authority**

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- **The Local Authority**

Local Authority	City of Ekurhuleni Metropolitan Municipality: Environmental Resource and Waste Management Department
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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 Sustainable Utilisation of the Environment (SUE) Branch
Ground floor, Umnotho House, 56 Eloff Street, Johannesburg
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Administrative Unit telephone number: (011) 240 3377/3051
Department central telephone number: (011) 240 2500

(For official use only)

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

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

N/A

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

N/A

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

The proposed project activity entails the upgrading of Ridge Road and associated stormwater management infrastructure. Based on the nature of the proposed activity, closure activities and the associated closure plan is not applicable for the project.

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

Yes

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

Yes

If no, state reasons for not attaching the list.

N/A

Have State Departments including the competent authority commented?

N/A

If no, why?

The State department have not commented yet on the proposed Ridge Road upgrade because this report is the Draft Basic Assessment Report (DBAR). Any comments received on the DBAR will be incorporated into the Final BAR (FBAR).

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

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

Proposed Ridge Road Upgrade

Select the appropriate box

The application is for an upgrade of an existing development	<input checked="" type="checkbox"/>	The application is for a new development	<input type="checkbox"/>	Other, specify	<input type="checkbox"/>
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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

The proposed project area is heavily impacted by alien invasive plant species and surrounding areas such as a residential area, industries, shopping centres etc. According to the Risk Assessment completed by Oasis Environmental Specialists, the risk class of the road upgrade on the wetland systems was determined to be very 'low', due to the various the negative impacts that transformed the wetlands in the area. A General Authorisation must therefore be obtained from the Department of Water and Sanitation (DWS) in accordance with the Section 39 of the National Water Act, 1998 (Act No. 36 Of 1998) for Water Uses as defined in Section 21(c) or Section 21(i) of the National Water Act, 1998 (Act No. 36 of 1998).

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

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

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

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

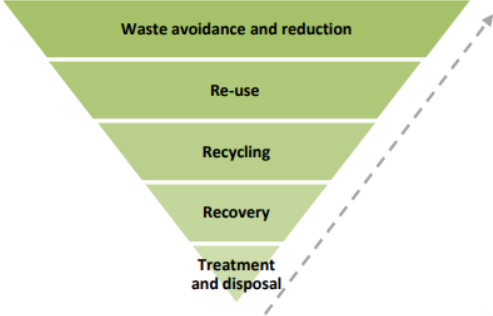
Table 1: Applicable legislation

Title of legislation, policy, or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National	27 November 1998
The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996, as amended).	National	18 December 1996
National Environmental Management: Waste Act, 2008 (Act 59 of 2008, as amended)	National	10 March 2009
National Heritage Resources, 1999 (Act No. 25 of 1999)	National	28 April 1999
National Water Act, 1989 (Act No. 36 of 1998, as amended)	National	26 August 1998
National Environmental Biodiversity, 2004 (Act No. 10 of 2004)	National	7 June 2004

Title of legislation, policy, or guideline:	Administering authority:	Promulgation Date:
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)	National	23 June 1993
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	National	24 February 2005
Hazardous Substances amendment Act, 1992 (Act No.53 of 1992 as amended)	National	4 April 1973
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000)	National	2 February 2000
Environmental Impact Assessment Regulations, 2014 (as amended)	National	7 April 2017
National Environmental Management: Biodiversity Act: Alien and Invasive Species Regulations R 598 of 2014	National	1 August 2014
National Environmental Management Act, 1998 (Act No 107 of 1998 as amended): Publication of Public Participation Guideline	National	10 October 2012
Gauteng Conservation Plan Version 3.3 (C-Plan 3.3)	Provincial	January 2011
Gauteng Provincial Environmental Management Framework (GPEMF)	Provincial	2 March 2018
City of Ekurhuleni Regional Spatial Development Framework Region E & F	Local	2015
City of Ekurhuleni Metropolitan Municipality Solid Waste by-laws.	Local	6 March 2002
City of Ekurhuleni Metropolitan Municipality By-Laws for the planting, pruning, removal, and treatment of street trees	Local	26 June 2002

Table 2: Compliance with relevant legislation

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy of guideline	Description of compliance
The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996, as amended).	Section 24 of the constitution stipulates that everyone has the right — to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that — prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy or guideline	Description of compliance
	<p>economic and social development.</p> <p>The applicant has the responsibility to ensure that project activities are undertaken in a manner that does not cause environmental degradation, whilst ensuring the principle of sustainable development is adhered to. This should be achieved through implementation and adherence to the EMPr at all phases of the proposed activities.</p>
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	Section 28 of the act applies to the activities to be undertaken by the Applicant. The Applicant has a duty to ensure that any activities that cause or may cause environmental degradation are assessed and measures for prevention, avoidance or minimization of such impacts from occurring are in place for all phases of the proposed development.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008 as amended)	<p>The Applicant should adhere to the following waste management hierarchy as presented in Figure 1 below.</p>  <p>Figure 1: Waste Management Hierarchy (Department of Environmental Affairs. 2011)</p> <p>waste management mitigation measures as provided within the EMPr should be adhered to achieve compliance with the requirements of this act.</p>
National Heritage Resources, 1999 (Act No. 25 of 1999)	The Applicant should ensure compliance to Section 38 of this Act, thus ensuring that the Heritage Resources Agency is notified and provides comments on the proposed activities. Based on the conducted Phase 1 Archaeological Impact Assessment no heritage resources have been identified on site.

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy of guideline	Description of compliance
National Water Act, 1989 (Act No. 36 of 1998 as amended)	In line with this Act, the proposed project activities should ensure compliance to section 19, thus putting in place measures that prevent pollution and/degradation on water resources.
National Environmental Biodiversity, 2004 (Act No. 10 of 2004)	This Act requires that any red data and sensitive species within the site development should be conserved during the project implementation phases. Although no Threatened species were encountered during the field survey, recommendation in the EMPr and ecological assessment should be adhered to for the proposed project.
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)	All persons at work are entitled to a healthy and safe working environment while undertaking their respective activities. The Applicant has a responsibility to ensure that this requirement is adhered to.
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	Project activities should be undertaken in manner which does not cause air pollution, through implementation of mitigation measures as per the EMPr on air quality related impacts.
Hazardous Substances amendment Act, 1992 (Act No.53 of 1992 as amended)	To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products; to provide for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products; and to provide for matters connected therewith.
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000)	All documents relating to the project should be accessible to the Public. For the environmental impact assessment process all documents for review by the public should be made available.
Environmental Impact Assessment Regulations, 2014 (as amended)	An Environmental Authorisation should be acquired from GDARD for any Listed Activity triggered by the

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy or guideline	Description of compliance
	proposed project activities within the Listed Activities of the EIA regulations 2014 (as amended).
Environmental Impact Assessment Regulations, 2014 (as amended)	An Environmental Authorisation should be acquired from GDARD for any Listed Activity triggered by the proposed project activities within the Listed Activities of the EIA regulations 2014 (as amended).
National Environmental Management: Biodiversity Act: Alien and Invasive Species Regulations R 598 of 2014	Regulations should be complied with for the removal and controlling of alien and invasive species within the proposed project area.
National Environmental Management Act, 1998 (Act no.107 of 1998 as amended): Publication of Public Participation Guideline	This guideline is used for the Public Participation process undertaken as part of the Basic Assessment application process. The main objective is to ensure that the Public Participation requirements are complied with and the process is undertaken in a fair and reasonable manner.
Gauteng Conservation Plan Version 3.3 (C-Plan 3.3)	The C-Plan is used for this report as a tool in determining protected areas that may be affected by the proposed project activities. Furthermore, the C-Plan is used by GDARD as a supporting tool for decision-making process.
Gauteng Provincial Environmental Management Framework (GPEMF)	The GPEMF was used to determine the zoning and applicable management standard based on the site for the proposed project activities.
City of Ekurhuleni Regional Spatial Development Framework Region E & F	<p>The spatial development framework serves as a decision-making tool for cities to be able take opportunity on economic potentials within them and at the same time creating sustainable livelihoods for all. This is done cognisance of key challenges in relation to environmental degradation, service provision/delivery and provision of public transportation.</p> <p>The City of Ekurhuleni Regional Spatial Development Framework is applicable to the proposed project in determining the alignment of the planned land uses vs the proposed activities.</p>
City of Ekurhuleni Metropolitan Municipality Solid Waste by-laws.	These by-laws deal with the overall collection and removal of solid waste within the city, as a result due to the anticipated solid waste that will be generated

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy of guideline	Description of compliance
	during the construction of the proposed activities, adherence to these by-laws becomes a requirement.
City of Ekurhuleni Metropolitan Municipality By-Laws for the planting, pruning, removal, and treatment of street trees	These by-laws are applicable to the proposed activities due to the requirements in line with street planting requirements that needs to be adhered to.

3. ALTERNATIVES

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

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

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

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

Findings and recommendations from the following specialist reports were considered applied in the selection of the alternatives:

- *Preliminary design report compiled by Dikgato Epitome JV and Ralema Consulting;*
- *Ecological Assessment compiled by Maanakana Projects and consulting (Pty) Ltd;*
- *Wetland Assessment compiled by Oasis Environmental Specialists (Pty) Ltd;*
- *Centerline and Materials Investigation compiled by Mabu GeoConsultants (Pty) Ltd;*
- *Archaeological Impact Assessment compiled by Millenium Heritage Group (Pty) Ltd;*
- *Storm water Investigation Report compiled by KTN consulting engineers & Project managers;*
- *Paleontological Impact Assessment compiled by Heidi Fourie.*

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 project site is located in the east of the City of Ekurhuleni Metropolitan Municipality (CoEMM) within ward 17 and in Bartlett situated in Boksburg. The total estimated length of the route proposed for upgrading is estimated to 4 km. Due to the flooding of Ridge Road in the rainy season in turn affecting road users, business owners, residents, etc. The upgrade of the road was deemed necessary. Ridge Road will be upgraded from a single carriageway to a dual carriage way with a road reserve of 30m and will include the upgrade of storm water management systems as the CoEMM has deemed the existing stormwater drainage infrastructure inadequate. Upgrading of the following intersections with Ridge Road will also be undertaken, Edwin Road, Elizabeth Road, Bonanza Road, Trichardt Road, Leith Road and Jan smuts Road. Figure 2 presents the site locality map.

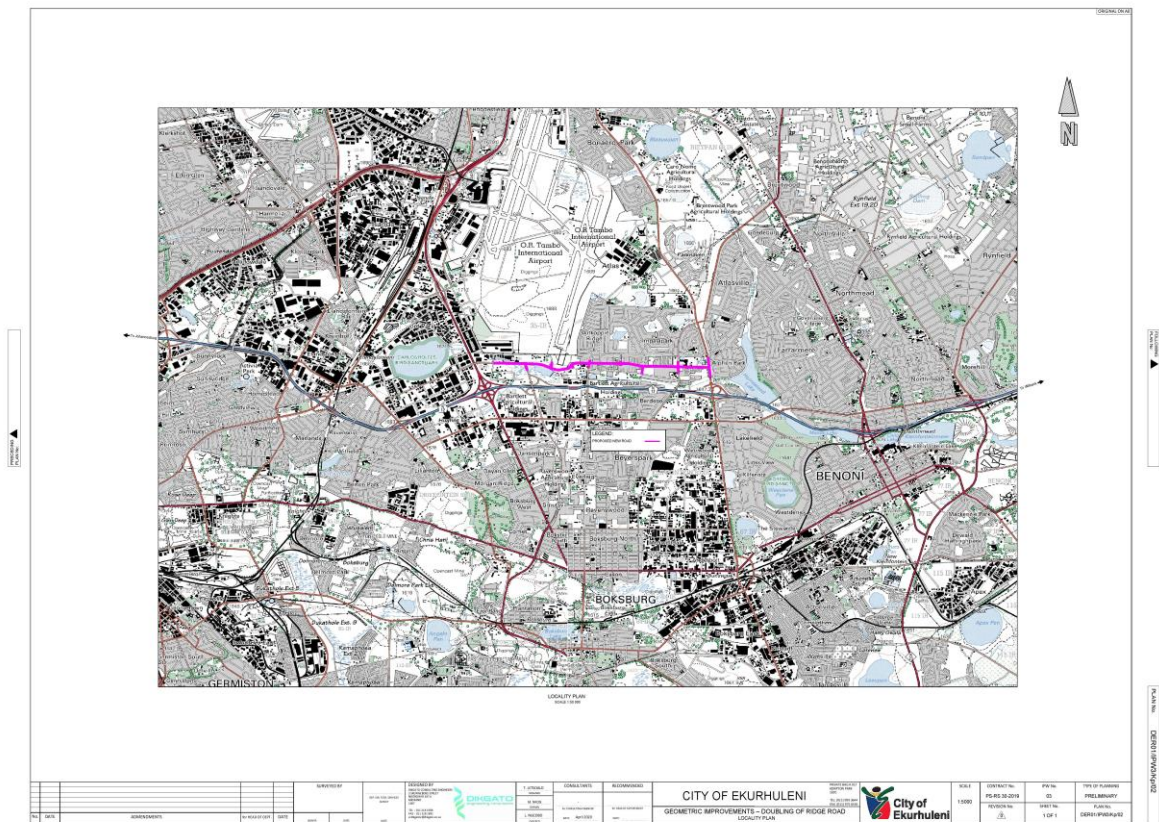


Figure 2: Locality Map

The current road characteristics are as follows:

- The road reserve varies between 23m to 30m;
- The route is currently a single carriageway with one lane per direction;
- There are five signalised intersections (robots) and full accesses;

No.	Alternative type, either alternative: site on property, properties, activity, design, technology, energy, operational or other (provide details of "other")	Description
1	Proposal	

- Pedestrian walkway are absent;
- Lay-by (bus and taxi stops) are absent; and
- Road kerbs on older sections of the road are absent

Further details regarding the proposed upgrades are as follows:

- The route will have two lanes per direction (each lane will be approximately 3.5m) and eight signalised intersections with signalised pedestrian crossing facilities.
- There will be *left in – left out* accesses to minor developments and five partial accesses.
- A midblock break (1) in the median to cater for u-turn manoeuvres.
- Protected right turn phases at signalised intersections to cater for u-turn manoeuvres.
- Pedestrian walkway (2m wide) on both sides and lay-by facilities at the major intersections.

Please refer to figure 3 shows the start of the upgrade from Tajaard Road and Yaldwyn interchange and figure 4 shows the end pot of the upgrade at the intersection of Ridge Road.

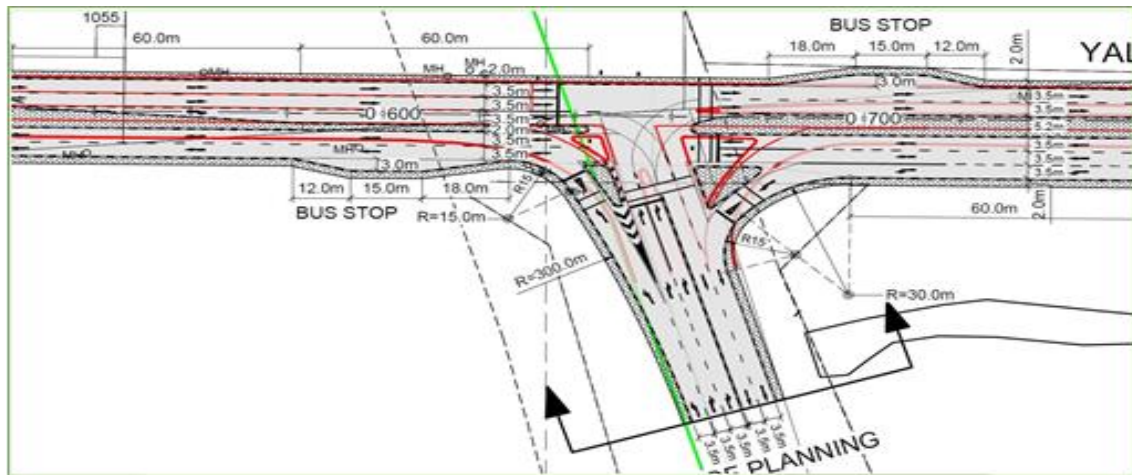


Figure 3: Tajaard Road and Yaldwyn Road

No.	Alternative type, either alternative: site on property, properties, activity, design, technology, energy, operational or other (provide details of "other")	Description
1	Proposal	

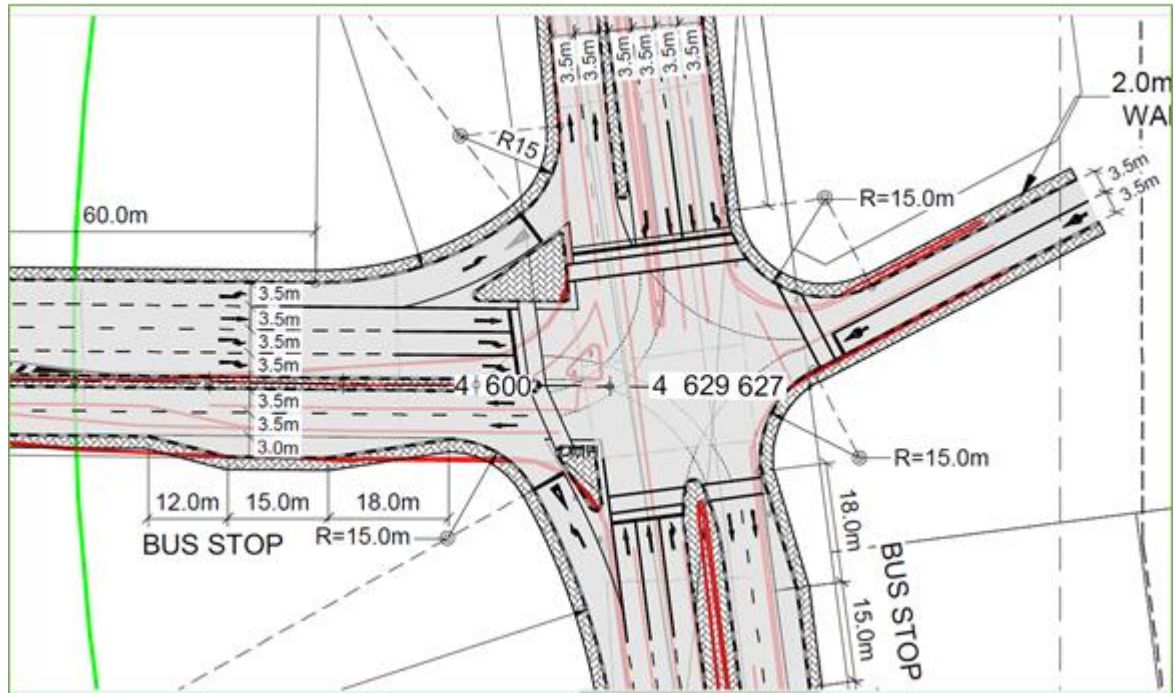


Figure 4: Ridge Road and Atlas Road

In addition to the above project details, the current storm water system will be upgraded. This will entail the removal of infrastructure in a poor condition and replacement of this with new infrastructure where necessary. The proposed system will comprise underground storm water pipes with a diameter of 600mm and concrete channel systems. The full set of drawings depicting existing storm water system and the proposed upgrades is in the storm water management report attached under Appendix G.

A phased approach for construction is proposed for the project activities mainly due to budget constraints. Three phases are proposed for the project and each are outlined below. The current BAR covers activities required for all three phases of the project.

- **Phase 1:** This phase requires immediate implementation and the activities include installation of a traffic signal (robot) at Ridge Road / Jan Smuts Avenue and Ridge Road / Bonanza Road intersections, with a short (60m) left turn slip lane which will be constructed on Jan Smuts Avenue.
- **Phase 2:** The implementation of this phase could be from year 2022 to year 2024 and entails upgrading the following intersections:
 - Ridge Road / Leith Road;
 - Ridge Road / Elizabeth Road;
 - Ridge Road / Jan Smuts Avenue;

No.	Alternative type, either alternative: site on property, properties, activity, design, technology, energy, operational or other (provide details of "other")	Description
1	<p>Proposal</p> <ul style="list-style-type: none"> ○ Ridge Road / Bonanza Road; ○ Ridge Road / Rondebult Road; and ○ Ridge Road / Atlas Road. <ul style="list-style-type: none"> ● Phase 3: The implementation of this phase could be for the year 2025 to the year 2030 and entails upgrading the following links: <ul style="list-style-type: none"> ○ Link between Tichardts Road and Elizabeth Road; ○ Link between Rondebult Road and Trichardts Road; and ○ Link between Elizabeth Road and Atlas Road. <p>The proposed project remains the preferred option as it occurs within an existing route with an aim of addressing the current challenges of water ponding on the road. This affects adjacent residents, business owners, industries, etc. This project will also include installation of new storm water infrastructure. Furthermore, detailed analysis has been carried out in identifying the key challenges and proposing the project activities as outlined.</p>	
2	Alternative 1	N/A
3	Alternative 2	N/A
	Etc.	N/A

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

<p>Alternative types can include location/property activity, design, technology, energy, operational or other. While alternatives are desirable for any project, none were identified for the project as they are not applicable due to the following reasons:</p> <ul style="list-style-type: none"> ● Location/property alternatives – These are not applicable as the project is an upgrade of an existing development. ● Technology alternatives – These are not applicable as the project is part of a Municipal programme on which contractors with specific rates have already been appointed. The use of alternative technology will affect these rates and is an undesirable scenario for the CoEMM as the developer. Furthermore, the appointed contractors may not be familiar with new technologies. ● Energy alternative: Similar to the technology alternatives above, any use of energy in the upgrade has already been included in the contractors costing. ● Operational alternative: These are not applicable as the operational phase of the road will focus as any other road that has been upgraded with both positive and

negative impacts.

- Other: No other alternatives were identified

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:

Proposed activity (**Total environmental (landscaping, parking, etc.) and the building footprint**)

N/A

Alternatives:

Alternative 1 (if any)

N/A

Alternative 2 (if any)

N/A

Ha/ m²

or, for linear activities:

Length of the activity:

Proposed activity

4 km

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

The length of the route proposed for upgrading is approximately 4 km and will have a road reserve of 30m.

Alternatives:

Alternative 1 (if any)

N/A

Alternative 2 (if any)

N/A

Ha/m²

5. SITE ACCESS

Proposal

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

YES

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

N/A

Describe the type of access road planned:

The proposed project will be carried out on an existing road and therefore, no new access is required.

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?

N/A

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

N/A

Describe the type of access road planned:

N/A

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

Alternative 2

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

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

N/A	
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Describe the type of access road planned:

N/A

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

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

Section A 6-8 has been duplicated

0

Number of times

(only complete when applicable)

6. LAYOUT OR ROUTE PLAN

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

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

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

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;

- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

7. SITE PHOTOGRAPHS

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

8. FACILITY ILLUSTRATION

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

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

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

Instructions for completion of Section B for linear activities

- 1) For linear activities (pipelines etc.) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
- 2) Indicate on a plan(s) the different environments identified
- 3) Complete Section B for each of the above areas identified
- 4) Attach to this form in a chronological order.
- 5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route times

Instructions for completion of Section B for location/route alternatives

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

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

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

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

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

Section B - Section of Route

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

0	(complete only when appropriate for above)
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1. PROPERTY DESCRIPTION

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

PTN 0 (RE) ERF 100, BARTLETT AGRICULTURAL HOLDINGS, EXT 2
 PTN 0 (RE) ERF 98, BARTLETT AGRICULTURAL HOLDINGS, EXT 2
 PTN 409 (RE) FARM 83, KLIPFONTEIN
 PTN 455 (RE) FARM 83, KLIPFONTEIN

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):
N/A	N/A

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):
26°10'04.23"S	28°15'17.24"E
26°10'06.62"S	28°16'14.29"E
26°10'06.78"S	28°16'45.12"E

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

Addendum of route alternatives attached

N/A

The 21 digit Surveyor General code of each cadastral land parcel:

PROPOSAL	T	0	I	R	0	0	3	8	0	0	0	0	0	0	0	0	0	0	0	0
	T	0	I	R	0	0	3	8	0	0	0	0	0	0	0	9	8	0	0	0
	T	0	I	R	0	0	0	0	0	0	0	0	0	0	8	3	0	0	4	0

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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

4. LOCATION IN LANDSCAPE

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

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain X	Undulating plain/low hills	River front
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5. GROUND, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

Shallow water table (less than 1.5m deep)	NO
Dolomite, sinkhole or doline areas	NO
Seasonally wet soils (often close to water bodies)	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

• Topography and Geology

According to the Centerline and Materials report compiled by MABU Geotechnical Consultants, Ridge Road displays a variable surface morphology because of the fluctuations within the geological terrain. The underlying lithologies have varying vulnerabilities to weathering, with the occurrence of more resistant lithologies resulting in the formation of high-lying topographic features and less resistant lithologies forming the low-lying topographic features. The northern to north western portions and south western portions of Ridge Road display a high-lying topographic terrain. The central portions of Ridge Road are bisected by a low-lying terrain deemed to be a minor valley structure. This valley structure broadens out towards the eastern portions. Due to the orientation and location of the various geomorphological features, the natural slopes are converge upon the minor valley within the central portions. Furthermore, Ridge Road is located on the side slope of the northern high lying terrain, directly north of the identified minor valley structure. Consequently, due to its orientation, the natural slopes extend from the high-lying terrain in the North and North West.

(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):	N/A	Longitude (E):	N/A
----------------------	-----	-----------------------	-----

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):	N/A	Longitude (E):	N/A
----------------------	-----	-----------------------	-----

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):
N/A	N/A

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 % = 5	Natural veld with scattered aliens % = 15	Natural veld with heavy alien infestation % = 1	Veld dominated by alien species % = 1	Landscaped (vegetation) % = 12
Sport field % = 0	Cultivated land % = 1	Paved surface (hard landscaping) % = 15	Building or other structure % = 40	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.

According to the Ecological Assessment compiled by Maanakana Projects and Consulting (Pty) Ltd and which is attached as Appendix G. The proposed study area is located in a built up area with gently to moderately undulating landscapes on the Highveld plateau which support short to medium-high, dense, tufted grassland dominated almost entirely by variety of grasses and accompanied by some trees. The conservation status of the site is endangered target 24%.

The Ecological Assessment indicates that, there is only a handful of patches which are statutorily conserved (Waldrift, Krugersdorp, Leeuwkuil, Suikerbosrand, Rolfe’s Pan Nature Reserves) or privately conserved (Johanna Jacobs, Tweefontein, Gert Jacobs, Nikolaas and Avalon Nature Reserves, Heidelberg Natural Heritage Site).

The study area supports the grassland dominated almost entirely by *Hyparrhenia spp* Paspalum notatum and accompanied by a variety of other grasses. The vegetation is classified under vegetation types of Soweto Highveld Grassland (Gm 8).

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

	NO
--	----

If YES, specify and explain:

N/A

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?

	NO
--	----

If YES, specify and explain:

N/A

Was a specialist consulted to assist with completing this section

YES	
-----	--

If yes complete specialist details

Name of the specialist:

Dr Milambo Freddy Tshiala

Qualification(s) of the specialist:

(BSc Hons. Agriculture, MSc & PhD Environment and Society)
(EAPASA and SACNASP Registered)

Postal address:

1262 Embankment Road, Lougardia Building, Centurion-Highveld

Postal code:

0157

Telephone:

N/A

Cell:

083 669 1702

E-mail:

maanakanaprojects@gmail.com

Fax:

N/A

Are any further specialist studies recommended by the specialist?

	NO
--	----

If YES, specify:

N/A

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

	NO
--	----

If YES list the specialist reports attached below

N/A

Signature of specialist:

Date:

--

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


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	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport	23. Train station or shunting yard	24. Railway line	25. Major road (4 lanes or more)

26. Sewage treatment plant	27. Landfill or waste treatment site	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam	34. Small Holdings	
Other land uses (describe):				

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

NORTH					
	15;16	14	12	14	8;9
	2	9	8;9	9;12	8;9
WEST	14;15	16		8;9	8;9
	2	9;13	19	19;20	9;17
	2	2;13	19;20	9;17	9;17
SOUTH					
	EAST				

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

	NO
--	----

N/A

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.

Noting that the site is located within Ward 17 of the CoEMM, all information presented in this section was obtained from the Wazimap CoEMM Ward 17 data originating from Census 2011 and Municipal Elections 2016.

The socio-economic context presented in this section of the report is regarding demographics; employment; annual household income; educational levels; and service delivery. Each of these will be briefly discussed.

- **Demographics**

- Population

The estimated population size of the Ward 17 is 15 341.

- Population group

The population groups within the Ward 17 are as reflected in the **Figure 5** below and indicate that 45% of the population comprises Black African and Whites. The remaining 10% of the population is made up of Indians and Asians at 6%, Coloured (3% and other (2%).

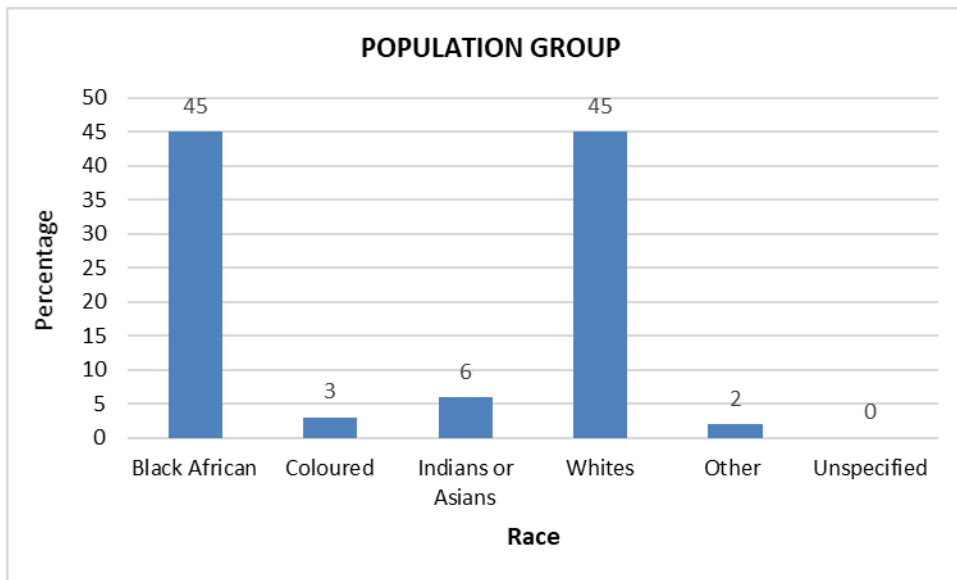


Figure 5: Ward 17 population group

- Population by language spoken at home

In terms of languages, the most spoken language spoken at home within Ward 17 is English, which is spoken by 36% of the residents. This is followed by Afrikaans (28%), then isiZulu (8%), Sepedi (5%), and Sesotho (3%). In addition to these Other languages (8%) are spoken in Ward 17. Refer to **Figure 6**.

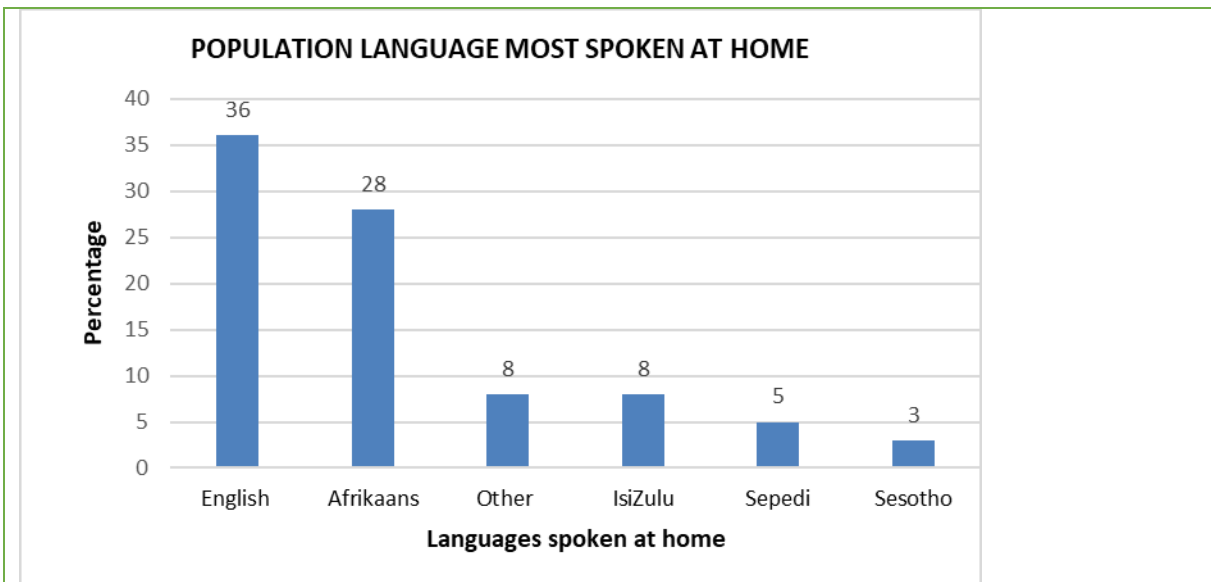


Figure 6: Population by language spoken at home

- **Employment**

In Ward 17, the number of people that employed is 70%. It is 22% of people that are not economically active. There is 7% of population that is discouraged work seeker and 1% of population that is unemployed. See **figure 7** below.

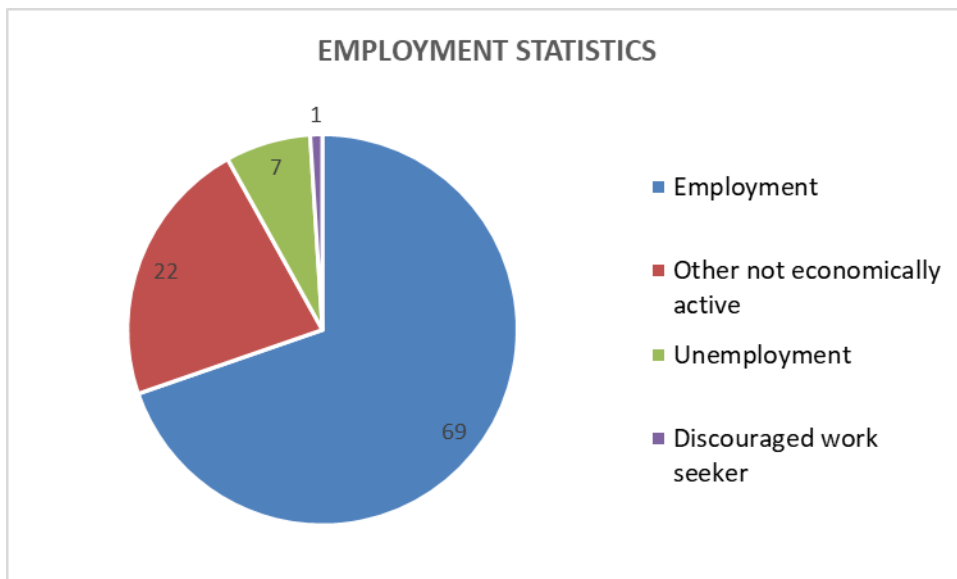


Figure 7: Ward 17 Employment statistics

- **Annual household income**

The annual household incomes of Ward 17 are outlined in **Figure 8** below.

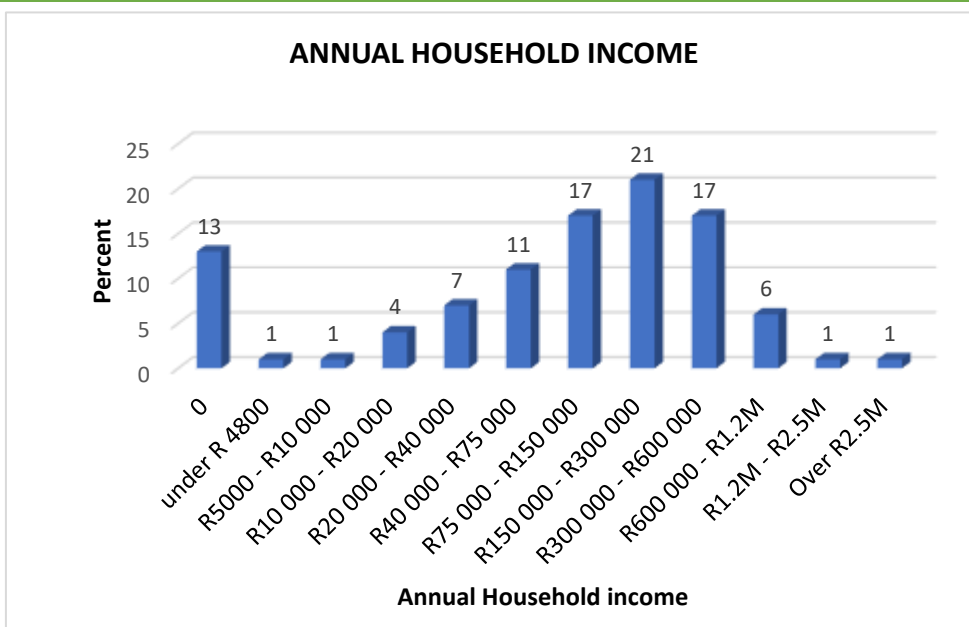


Figure 8: Annual household income

- Educational levels**

In terms of educational levels which are presented in **Figure 9** the highest percentage of the population (54%) have matriculated. The second highest educational level is 20% which represents part of the population that have some secondary education. Other educational levels of the Ward 17 residents are 12% for persons holding an undergraduate degree, 5% for postgraduates, 4% for N/A, 2% have some primary school education and 1% have primary education and further 1% have other education.

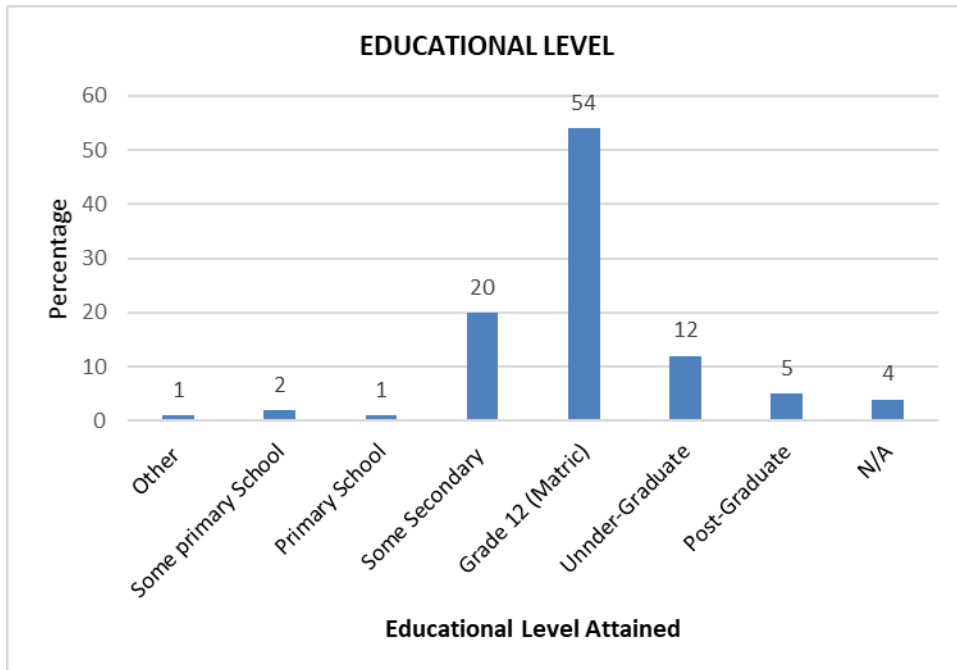


Figure 9: Educational level

Service Delivery

- Population access to water

As depicted in the **Figure 10** below, 93% of the population within the Ward 17 have access to tap water. 3% access water through other means, 1% obtain water through a borehole water and information regarding water access is N/A for 1% of the population.

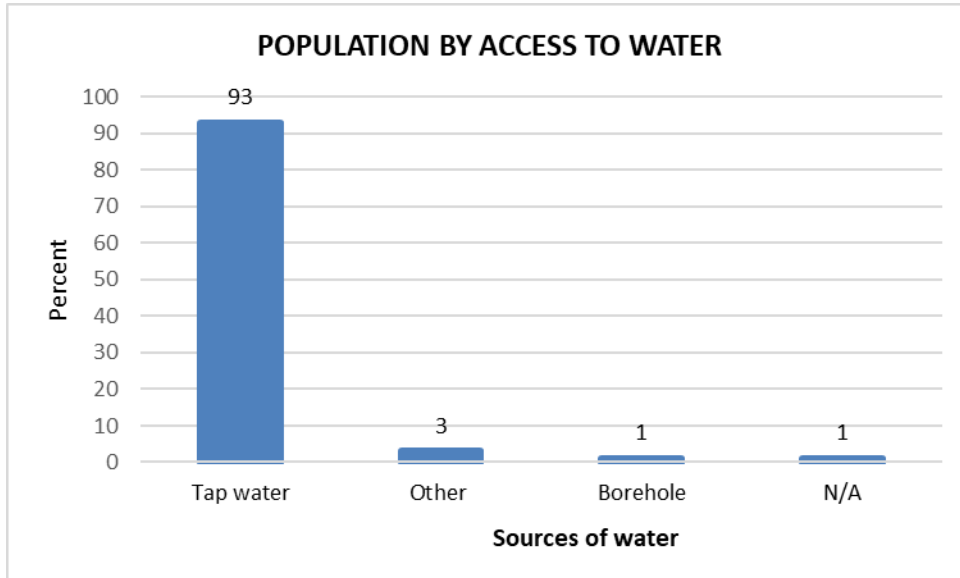


Figure 10: Population access to water

- Waste removal

Figure 11 indicates that the waste of 93% of the population is collected by CoEMM regularly. For 1% of the population however, CoEMM collects the waste irregularly. Further to this, another 1% of the population have their own dump, 2% use other means and the waste removal means of a further 2% the population is unspecified.

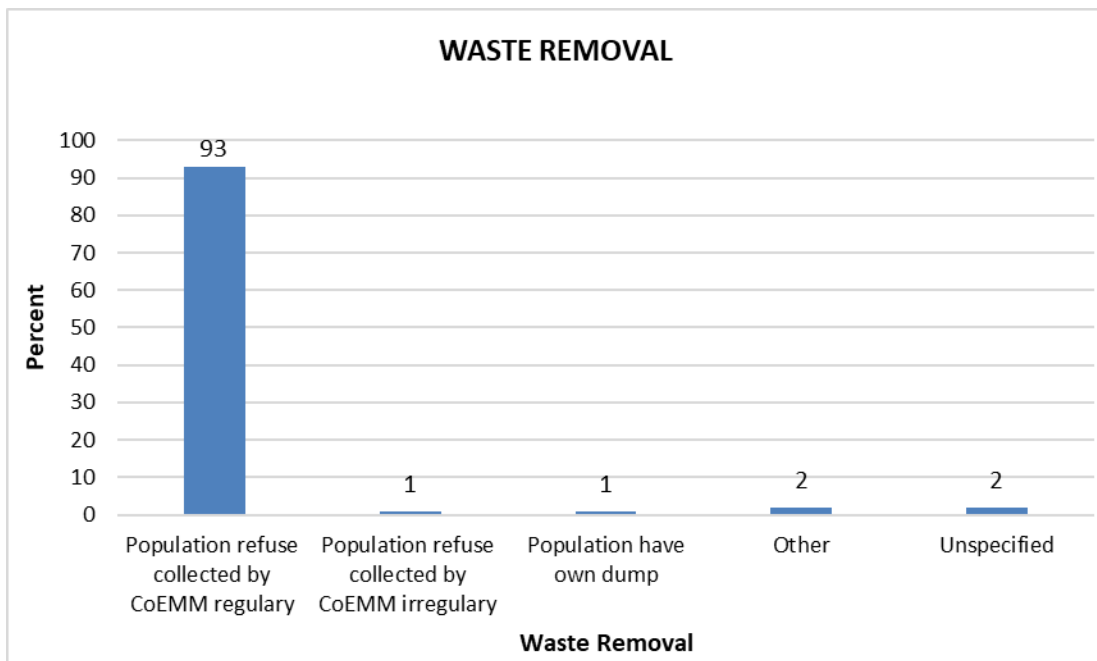


Figure 11: Waste removal

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?

	NO
--	----

If YES, explain:

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 results of an AIA undertaken by Millenium Heritage Group (Pty) indicated that no archaeological materials or heritage remains occur on site. While this is the case, should buried archaeological materials be encountered during construction, activities in the affected area/s should be immediately suspended and only proceed upon the direction of PHRAG or South African Heritage Resources Agency (where the affected resource falls within their areas of responsibility) after all necessary investigations have been undertaken.

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

	NO
	NO

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

SECTION C: PUBLIC PARTICIPATION

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

2. LOCAL AUTHORITY PARTICIPATION

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

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

YES

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

NO

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

N/A

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

Comments on this draft report are awaited from Interested and Affected Parties.

3. CONSULTATION WITH OTHER STAKEHOLDERS

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

Has any comment been received from stakeholders?

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

This report is subjected to the 30 day review period as part of the Public Participation Process (PPP). It is anticipated that comments will be received during this period and will be incorporated into the final Basic Assessment Report.

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

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

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

- **Aims of the Public Participation Process**

The Public Participation Process (PPP) is carried out in terms of Chapter 6 of the National Environmental Management (NEMA) (Act No. 107 of 1998) Environmental Impact Assessment regulations 2014 (as amended). Furthermore, the process is outlined in the public participation guideline (10 October 2012).

The PPP is a legal process that ensures public and stakeholder participation during the stages of acquiring the decision on the Environmental Authorisation from the Competent Authority which in the case of this project is the Gauteng Department of Agriculture and Rural Development. This process is designed to enable all I&APs to voice their opinions and/ or concerns in relation to proposed project activities.

- **The Role of Registered Interested and Affected Parties**

Interested and Affected Parties (I&APs) contribute to the decision-making process taken to either grant or refuse environmental authorisation. Additionally, this enables the EAP to evaluate all aspects of the proposed project with the objective of ensuring that adverse impacts are avoided/minimized and the positive impacts are enhanced. I&APs include all interested stakeholders, members of the public, technical specialists, and the various relevant organs of state who issue decisions in line with applications but exclude the competent authority who issues the decision on the application.

- **The Role of the Environmental Assessment Practitioner (EAP) in PPP**

- The EAP is appointed by the Applicant to act independent on the environmental assessment process pursuant a record of decision from the competent authority. Specifically, in relation to the Public Participation Process (PPP), the EAP is responsible for the following:
 - Ensuring that the PPP is carried out in a fair unbiased manner. This includes fair commenting period allocation to I&APs;
 - Ensuring that all reasonable alternatives in communication or participation of I&APs are implemented i.e. language;
 - Arranging and carrying out and PPP activities that inform I&APs of project planned interventions/developments;
 - Opening and maintaining the I&AP register;
 - Recording all issues/comments raised by I&APs and responses thereof; and
 - Ensuring that all correspondents, decisions and/or amendments thereof in terms of proposals are communicated to registered I&APs and outlining applicable processes such as the. appeal process.

- **Overview of the Public Participation Process**

All public participation inclusive of I&AP notification and registration will be undertaken according to the below activities:

- Hardcopies of DBARs will be available on electronics versions by request, and a link form 'We transfer' or a similar system will be provided by email.
- A Newspaper advert will be placed in the *Boksburg Advertiser* as the local newspaper read in the proposed project vicinity;
- Site notices/notice will be placed along Ridge road, El Ridge shopping centre notice board and at all Ridge road intersections; Background Information Documents (BID) knock and drops will be undertaken in the residential areas, businesses and other facilities along

The following key stakeholders have been identified and communication with them will be undertaken:

- Telkom (as some of their infrastructure may be impacted by the proposed development); and
- Eskom (similar to Telkom above, some of their infrastructure may be impacted by the proposed development);
- The following applicable authorities will be consulted and provided with copies of the DBAR:
 - *Gauteng Department of Agriculture and Rural Development (GDARD)*
 - *Gauteng Provincial Heritage Resource Agency*
 - *Department of Water and Sanitation;*
 - *City of Ekurhuleni Metropolitan Municipality: Environmental Resource and Waste Management Department as well as the Ward councillor.*

The review period for the DBAR for a period of 30 days and all issues raised as well as responses provided by the EAP will be compiled into the FBAR for submission to the GDARD as the CA.

5. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of site notice

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

Appendix 3 – Proof of newspaper advertisements

Appendix 4 – Communications to and from interested and affected parties

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

Appendix 6 - Comments and Responses Report

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

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

Appendix 9 – Copy of the register of I&APs

SECTION D: RESOURCE USE AND PROCESS DETAILS

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

Instructions for completion of Section D for alternatives

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

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

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

1. WASTE, EFFLUENT AND EMISSION MANAGEMENT

Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?
If yes, what estimated quantity will be produced per month?

YES	
Waste will be load into trucks and take to a spoil area or to a borrow pit for rehabilitative purposes. Two trucks will be made available to take waste to spoilt areas or to rehabilitated spoilt areas. None of waste will be kept on site.	

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

A designated area on site will be allocated for the temporary storage of solid construction waste. Tipper trucks will be used for the removal of waste during the construction of phase of the Ridge Road upgrade. Excavated material will be used as fill material where suitable. The waste from the site will be disposed off at Impala Park Mini disposal landfill site.

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

The construction solid waste will be disposed at Impala Park Mini disposal landfill site.

Will the activity produce solid waste during its operational phase?
If yes, what estimated quantity will be produced per month?

	NO

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

N/A

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)?

N/A

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 options explored that could be adopted during the construction phase are as follows:

- Colour coded or labelled waste bins should be provided on site to encourage waste separation; and
- Recyclables should be collected at the construction camp site and within working areas and stored in colour coded or clearly labelled 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?

	N/A m ³
--	--------------------

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

	NO
--	----

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

Yes	NO
-----	----

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

	N/A m ³
--	--------------------

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: N/A

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

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?

	NO
--	----

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

	N/A m 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?

	N/A
--	-----

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

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

The anticipated emissions are normal emissions from construction machinery, vehicles, and any other equipment i.e. generators should they be used.
--

2. WATER USE

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

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

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

the volume that will be extracted per month:

N/A

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

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

YES	
-----	--

If yes, list the permits required

NWA (Act No 36 of 1998) Section 21 Water Uses: <ul style="list-style-type: none"> • 21 (c)– impeding or diverting the flow of water in a watercourse; and • 21 (i) - altering the bed, banks, course, or characteristics of a watercourse.
--

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

YES	
-----	--

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

	NO
--	----

3. POWER SUPPLY

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

Municipality

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

Diesel powered generator

4. ENERGY EFFICIENCY

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

N/A

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

N/A

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.

Since this is a draft report subjected to the 30-day public participation process to receive comments from Interested and Affected Parties. One of the issues raised by one of the residents of Ridge Road is severe flooding of their driveway, garden and home during storms. These and other issues will be incorporated in the final report.

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

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

This report is a draft report subjected to the 30-day review period. The responses to I&AP's will be incorporated into the final report. The proposed Ridge Road upgrade aims to improve storm water management systems to alleviate flooding and double road lanes from single lane to double lanes. These and other responses will be incorporated into the Final BAR.

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

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

The significance rating method applied for assessing impacts associated with the proposed project activities is outlined below.

In order to calculate the significance of the impact, each category is assigned a point. The points are then computed into the equation below and each potential impact is then assigned a significance rating (S). The calculation for the significance rating is $S=(E+D+M) * P$. The aspects that comprise this calculation will be discussed under Tables 3, 4, 5, 6, 7. It is also important to note that each impact can either be rated as positive (beneficial) or negative (detrimental).

Significance of the Impact (S):**Table 3: Significance(S) ratings**

RATING	DESCRIPTIONS
(<30) Low	The impact will not have a direct influence on the decision to develop in the area
(30-60) Medium	The impact can influence the decision to develop in the area unless it is effectively mitigated
(>60) High	The impact should have an influence on the decision process to develop in the area

- **Method for determining Significance**

- **Extent of the Impact (E)**

This refers to the area that the activity will have an impact on (i.e. geographical area). The ratings and descriptions associated with the extent of the impact are as per Table 4 below.

Table 4: and description for the extent of the impact

RATING	DESCRIPTION
1	Site – impact extends to site only
2	Local – impact extends as far as the boundary of site and immediate surroundings
3	Regional
4	Provincial
5	National

- **Duration of the Impact (D)**

This refers to the length of time that the impact will last. Refer Table 5 for the ratings and descriptions associated with the duration of the impact.

Table 5: rating and description for the duration of the impact

RATING	DESCRIPTION
1	Immediate – less than one year
2	Short term – between one year & five years
3	Medium Term – between five years & 15 years
4	Long term – impact ceases after operational life span of the project
5	Permanent

- **Severity/Magnitude of the Impact (M)**

This refers to the degree at which the impact will occur. Refer to Table 6 for the ratings and descriptions associated with the severity/magnitude of the impact.

Table 6: Rating and description for the severity/magnitude of the impact

RATING	DESCRIPTION
10	Very High – an irreversible and permanent change that cannot be mitigated
8	High – impacts that could be mitigated, however this mitigation would be costly
6	Medium – medium term impacts that could be mitigated
4	Low – short term impacts with very easy mitigation
0	No effect – the proposed development would have no impact

- **Probability of the Impact (P)**

This refers to the likelihood that the impact will occur. Refer to Table 7 for the ratings and description associated with the probability of the impact.

Table 7: rating and description for the probability of the impact

RATING	DESCRIPTION
0	None – impact will not occur
1	Improbable – probability very low due to design or experience
2	Low – unlikely to occur
3	Medium – distinct probability that the impact will occur
4	High – most likely to occur
5	Definite

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

Table 8: Impact assessment construction phase: 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
<ul style="list-style-type: none"> • Loss of flora and fauna <p>Impact caused by the following activities such as:</p> <ul style="list-style-type: none"> ○ Site establishment; ○ Vegetation clearance for road construction/upgrade; ○ Removal of topsoil; ○ Excavations and soil compaction; ○ Construction site camp; ○ Movement of construction equipment (machinery; ○ Uncontrolled spillages of hydrocarbons or distribution of other pollutants; and ○ Sealing of surface area 	<p>Negative</p>	<ul style="list-style-type: none"> • Any relocation of plants should be supervised by the ECO. • Environmental awareness training should be undertaken prior to undertaking the proposed activities, topics should cover the importance of biodiversity, identified alien species on site and potentially harmful species such as snakes. Contact details for local snake handlers should be available on site. • The clearing of vegetation should be limited to the construction working areas. • The project footprint should be clearly demarcated. • Open fires within the vegetated areas should be prohibited. • Topsoil, where available, should be conserved, for re-landscaping all disturbed areas. Re-vegetation should make use of indigenous plants only. • A temporary fence or demarcation must be erected around the construction area 	<p>Extent</p>	<p>3</p>	<p>Medium</p>
			<p>Duration</p>	<p>1</p>	
			<p>Magnitude</p>	<p>6</p>	
			<p>Probability x</p>	<p>5</p>	
			<p>Outcome</p>	<p>50</p>	
			<p>Significance</p>	<p>Medium</p>	

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:		Risk of the impact and mitigation not being implemented
		<p>(i.e. the servitude, construction camps, areas where material is stored and the actual footprint of the development); shade cloth fencing can be used</p> <ul style="list-style-type: none"> • Vehicular and pedestrian access into natural areas beyond the demarcated boundary of the construction area should be prohibited. • The collection of flora without permission from the local authority should be prohibited. • Activities during rainy days should halt and resume at least 2 days afterwards. • A vegetation rehabilitation plan should be implemented. Recommendations in the Ecological assessment should be adhered to. 			
<ul style="list-style-type: none"> • Surface water and ground water pollution <p>Impacts caused by activities such as:</p>	<p>Negative</p>	<ul style="list-style-type: none"> • Delineated riparian and instream habitats outside of the construction zone are considered sensitive “No-Go” areas and access/activities are to be strictly prohibited in these areas. 	<p>Extent</p>	<p>2</p>	<p>Low</p>
			<p>Duration</p>	<p>2</p>	
			<p>Magnitude</p>	<p>4</p>	
			<p>Probability x</p>	<p>3</p>	
			<p>Outcome</p>	<p>24</p>	
			<p>Significance</p>	<p>Low</p>	

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
<ul style="list-style-type: none"> ○ Possible chemical spillages; and ○ Runoff from cement mixing areas. 		<ul style="list-style-type: none"> • The construction working servitude width should be restricted to 15 m. • Waste generated on site should be discarded at temporary designated areas, skip bins can used, for disposal at a licensed landfill site. • The washing of construction equipment near watercourses is prohibited. • No substance (i.e. cement, oil or bitumen) should be released to watercourses. Mixing of cement should take place on impervious surfaces and the areas for mixing should be controlled beamed areas. Catch nets must be installed to minimise cement and other debris (pollutants) from entering the Channelled Valley Bottom Wetland during the construction phase. • The construction camp or materials storage area should not be located within 50m from any watercourses. • Any spillages (i.e. fuels, oils) and other potentially harmful chemicals should be cleaned up immediately, contaminants properly drained and disposed of using proper solid/hazardous waste facilities. Any contaminated soil must be removed, and the affected area rehabilitated 		

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented										
		<p>immediately.</p> <ul style="list-style-type: none"> • Portable toilets must be placed on impervious level surfaces that are lipped to prevent spillage. They must be at least 50 m away from any watercourses. • Cut-off trenches must be constructed to prevent any harmful substances from entering any watercourses. • Litter traps should be installed at all storm water outlets. • Training programs must provide information on material handling and spill prevention and response. • No fuels and any hazardous materials handling must take place in approximately 100 meters from any watercourses. • Storm water and any runoff generated by the road must be discharged into sustainable energy dissipation structures prior to being discharged back into the natural water courses. This must be designed and implemented by a qualified civil engineer. 												
<ul style="list-style-type: none"> • Sedimentation, soil erosion and associated watercourse flow alterations. <p>Impacts caused by activities such</p>		<ul style="list-style-type: none"> • Measures to dissipate flow velocity below structures should be considered and designed during pre-construction (i.e. retention ponds or areas with rock riprap 	<table border="1"> <tr> <td>Extent</td> <td>2</td> </tr> <tr> <td>Duration</td> <td>2</td> </tr> <tr> <td>Magnitude</td> <td>6</td> </tr> <tr> <td>Probability x</td> <td>3</td> </tr> <tr> <td>Outcome</td> <td>30</td> </tr> </table>	Extent	2	Duration	2	Magnitude	6	Probability x	3	Outcome	30	<p>Medium</p>
Extent	2													
Duration	2													
Magnitude	6													
Probability x	3													
Outcome	30													

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
as: <ul style="list-style-type: none"> • Site clearing; and • Poor management of the soil stockpiles 		grassed. Long term attenuation measures, attenuation/infiltration trenches, swales along roadways/pavements). <ul style="list-style-type: none"> • Stockpiling of materials should not occur adjacent to the river or within the alluvial floodplain. • Measures to control erosion should be in place at areas sensitive to erosion (i.e. Edges of slopes, exposed soil etc.) Measures such the use of sandbags, hessian sheets, silt fences, retention or replacement of vegetation and geotextiles such as soil cells can be applied • Do not allow surface water or storm water to be concentrated, or to flow down cut or fill slopes without erosion protection measures being in place. • Vehicular digging of the banks of the channels should be done only in areas where it is necessary. • Construction activities should take place preferably during the dry season. • Mining of soil/sand from the riverbanks is prohibited. • Increases in the turbidity of the channel must be monitored and controlled. 	Significance	Low	

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
		<p>Suggested control measures: Passing water through sediment traps or sediment curtains or using aqua barriers to control water movement.</p> <ul style="list-style-type: none"> • Disturbed areas of any watercourses as a result of road construction must be rehabilitated as soon as construction in an area is complete or near complete and not left until the end of the project to be rehabilitated (progressive rehabilitation). • Vegetation should be removed in phases and where necessary. The entire construction area must not be stripped of vegetation prior to commencing construction activities. • Monitoring of water resources must be carried out 1 month prior to construction activity commencing and monthly during construction. • Exposed soils should be rehabilitated as soon as practically possible to limit the risk of erosion. Methods can include, stabilizing, re-shaping, and rehabilitating disturbed areas with indigenous wetland and riparian vegetation. Rehabilitation must be implemented by a suitable replanting and re-vegetation programme, 		

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												
		sandbags, silt fencing, etc. <ul style="list-style-type: none"> Bank erosion must be monitored at regular intervals during the construction. Sustainable Urban Drainage Systems (SUDS): All storm water runoff from the site must be supplemented by an appropriate road drainage system that must include open, grass-lined channels/swales rather than simply relying on piped systems or concrete V-drains. 															
<ul style="list-style-type: none"> Noise nuisance Impact caused by activities such as: <ul style="list-style-type: none"> Bulk earthworks and excavations; Operation of construction machinery; and Movement of construction equipment. 	Negative	<ul style="list-style-type: none"> Construction noise should not exceed 85DB. Employees working on areas where noise may exceed the set level should be provided with ear protection equipment. Construction activities must be limited to working hours (from 7am to 5p.m) during the week, not including public holidays. A noise complaints register must be kept on site. Through the CLO, the nearby residents should be notified when construction activities may cause undesirable noise levels. 	<table border="1"> <tr> <td>Extent</td> <td>1</td> </tr> <tr> <td>Duration</td> <td>2</td> </tr> <tr> <td>Magnitude</td> <td>4</td> </tr> <tr> <td>Probability X</td> <td>2</td> </tr> <tr> <td>Outcome</td> <td>14</td> </tr> <tr> <td>Significance</td> <td>Low</td> </tr> </table>		Extent	1	Duration	2	Magnitude	4	Probability X	2	Outcome	14	Significance	Low	Low
Extent	1																
Duration	2																
Magnitude	4																
Probability X	2																
Outcome	14																
Significance	Low																
<ul style="list-style-type: none"> Air quality 	Negative	<ul style="list-style-type: none"> Speed limits should be implemented on working areas to limit the generation of 	<table border="1"> <tr> <td>Extent</td> <td>2</td> </tr> <tr> <td>Duration</td> <td>2</td> </tr> <tr> <td>Magnitude</td> <td>6</td> </tr> </table>		Extent	2	Duration	2	Magnitude	6	Medium						
Extent	2																
Duration	2																
Magnitude	6																

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:		Risk of the impact and mitigation not being implemented				
<p>Impact caused by the activities such as:</p> <ul style="list-style-type: none"> ○ Construction vehicles emissions; ○ Construction activities including movement of construction vehicles at high speed ○ Uncontrolled fires. 		<p>dust by construction vehicles.</p> <ul style="list-style-type: none"> • Fire are prohibited in working areas to avoid generation of smoke. • Dust complaints register should be on site. The contractor should ensure that any complaints are recorded, with reasonable measures taken in addressing complaints. • Dust suppression measures should be implemented. Spraying water tank can be used; however, the water should be sprayed in a way it does not cause any runoff. • During windy conditions, construction vehicles carrying materials for construction should covered. 	<table border="1"> <tr> <td>Probability (X)</td> <td>3</td> </tr> </table>	Probability (X)	3	<table border="1"> <tr> <td>Outcome</td> <td>30</td> </tr> </table>	Outcome	30	
Probability (X)	3								
Outcome	30								
		<table border="1"> <tr> <td>Significance</td> <td>Low</td> </tr> </table>	Significance	Low					
Significance	Low								
<ul style="list-style-type: none"> • Generation of waste <p>Impact caused by activities such as:</p> <ul style="list-style-type: none"> ○ Site clearance; ○ Removal of old infrastructure; and ○ Waste from materials left over or damaged during the construction phase ○ Construction site ○ Construction camp 	<p>Negative</p>	<ul style="list-style-type: none"> • Construction waste, for instance unused concrete must be disposed of at a licensed Waste disposal facility/Landfill site. • Construction waste should be discarded at designated receptacles on site. • Litter bins and waste skips should be used for temporary discarding waste from site, however collection of waste to the landfill site should be undertaken on an agreed schedule or as a when required. The receptacles should be 	<table border="1"> <tr> <td>Extent</td> <td>2</td> </tr> </table>	Extent	2	<table border="1"> <tr> <td>Duration</td> <td>2</td> </tr> </table>	Duration	2	<p>Medium</p>
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Magnitude	4								
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Probability X	2								
		<table border="1"> <tr> <td>Outcome</td> <td>16</td> </tr> </table>	Outcome	16					
Outcome	16								
		<table border="1"> <tr> <td>Significance</td> <td>Low</td> </tr> </table>	Significance	Low					
Significance	Low								

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented												
		<p>clearly marked with the type of waste.</p> <ul style="list-style-type: none"> Waste should be separated on site (hazardous and non-hazardous). Chemical spills should be contained and discarded to a licensed landfill site. 														
<ul style="list-style-type: none"> Temporary visual impact <p>Impact caused by activities such as:</p> <ul style="list-style-type: none"> Bulk earthworks and excavation; Location and establishment of construction; Use of night time lighting 	Negative	<ul style="list-style-type: none"> Bulk earthworks and excavations should be done in a phased manner, thus as per the proposed construction phasing schedule. The location of the construction camp should not be located near sensitive receptors. The construction site should be kept neat and tidy. 	<table border="1"> <tr><td>Extent</td><td>2</td></tr> <tr><td>Duration</td><td>2</td></tr> <tr><td>Magnitude</td><td>6</td></tr> <tr><td>Probability X</td><td>4</td></tr> <tr><td>Outcome</td><td>40</td></tr> <tr><td>Significance</td><td>Medium</td></tr> </table>	Extent	2	Duration	2	Magnitude	6	Probability X	4	Outcome	40	Significance	Medium	High
Extent	2															
Duration	2															
Magnitude	6															
Probability X	4															
Outcome	40															
Significance	Medium															
<ul style="list-style-type: none"> Impact on heritage resources <p>Impact caused by activities such as:</p> <ul style="list-style-type: none"> Construction activities (earthworks). 	Negative	<ul style="list-style-type: none"> Should any heritage resources be encountered on site during construction, all activities should stop, and the Competent Authority be alerted for further investigations, which should inform the method of work thereof. 	<table border="1"> <tr><td>Extent</td><td>3</td></tr> <tr><td>Duration</td><td>4</td></tr> <tr><td>Magnitude</td><td>4</td></tr> <tr><td>Probability x</td><td>2</td></tr> <tr><td>Outcome</td><td>22</td></tr> <tr><td>Significance</td><td>Low</td></tr> </table>	Extent	3	Duration	4	Magnitude	4	Probability x	2	Outcome	22	Significance	Low	Low
Extent	3															
Duration	4															
Magnitude	4															
Probability x	2															
Outcome	22															
Significance	Low															
<ul style="list-style-type: none"> Traffic Impacts and accidents <p>Impact caused by activities such as</p> <ul style="list-style-type: none"> Construction activities (movement of construction 	Negative	<ul style="list-style-type: none"> All access routes to the site should be maintained and adherence to speed limits enforced. Clear warning signs must be erected in instances where traffic disruption or diversion along access roads will occur. During construction safe points for 	<table border="1"> <tr><td>Extent</td><td>2</td></tr> <tr><td>Duration</td><td>2</td></tr> <tr><td>Magnitude</td><td>6</td></tr> <tr><td>Probability x</td><td>4</td></tr> <tr><td>Outcome</td><td>40</td></tr> <tr><td>Significance</td><td>Medium</td></tr> </table>	Extent	2	Duration	2	Magnitude	6	Probability x	4	Outcome	40	Significance	Medium	High
Extent	2															
Duration	2															
Magnitude	6															
Probability x	4															
Outcome	40															
Significance	Medium															

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:		Risk of the impact and mitigation not being implemented												
vehicles in and out of site area; <ul style="list-style-type: none"> ○ Stop and go's; and ○ Construction vehicles driving at high speed on site and on local roads. 		pedestrian and vehicular crossing at designated points must be erected and controlled. <ul style="list-style-type: none"> • For road/lane blockages, permission and approval should be acquired by notification to the relevant authorities. • Proper and adequate lanes to allow for ingress/egress to be provided. • Caution to be taken to ensure construction vehicles are not parked in such a way as block through/passing traffic. 															
<ul style="list-style-type: none"> • Temporary employment Impact caused by activities such as: <ul style="list-style-type: none"> ○ Local labour will be employed during to construction activities. ○ Skills development of local labour ○ Training of local labour 	Positive	<ul style="list-style-type: none"> • The contractor shall ensure that local labour is used where possible to improve the local economy of the area. • Skills transfer programme should be in place and implemented for unskilled labour. 	<table border="1"> <tr> <td>Extent</td> <td>2</td> </tr> <tr> <td>Duration</td> <td>2</td> </tr> <tr> <td>Magnitude</td> <td>8</td> </tr> <tr> <td>Probability x</td> <td>4</td> </tr> <tr> <td>Outcome</td> <td>48</td> </tr> <tr> <td>Significance</td> <td>Medium</td> </tr> </table>		Extent	2	Duration	2	Magnitude	8	Probability x	4	Outcome	48	Significance	Medium	Medium
Extent	2																
Duration	2																
Magnitude	8																
Probability x	4																
Outcome	48																
Significance	Medium																
<ul style="list-style-type: none"> • Health and Safety Impact caused by None-adherence to safety measures during	Negative	<ul style="list-style-type: none"> • Signs on site must be erected where hazards may be encountered and in areas that require PPE where applicable. • Trenches which have been excavated 	<table border="1"> <tr> <td>Extent</td> <td>1</td> </tr> <tr> <td>Duration</td> <td>2</td> </tr> <tr> <td>Magnitude</td> <td>4</td> </tr> <tr> <td>Probability</td> <td>3</td> </tr> <tr> <td>Outcome</td> <td>14</td> </tr> </table>		Extent	1	Duration	2	Magnitude	4	Probability	3	Outcome	14	High		
Extent	1																
Duration	2																
Magnitude	4																
Probability	3																
Outcome	14																

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed Mitigation:	Significance rating of impacts after mitigation:		Risk of the impact and mitigation not being implemented
<p>construction activities which may result in accidents occurring i.e. during clearance of alien vegetation on site and upgrade construction Ridge road</p>		<p>must be condoned off to prevent injury to people who are not aware of their existence.</p> <ul style="list-style-type: none"> • Emergency contact information should be provided and displayed at the contractor's office and site entrance. • The use of PPE should always be enforced on site. This includes visitors. • Measures to restrict unauthorised persons from entering the construction site should be in place. • Appropriate medical equipment must always be placed on onsite and made accessible. • An HIV/AIDS policy should be placed and implemented by the contractor. • 24 Hour security must be provided at the construction site. • Appropriate signage board/s must be placed on site informing the public on construction activities taking place on site. 	Significance	Low	

Table 9: Impact assessment operational phase: 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
General Maintenance Requirements. <ul style="list-style-type: none"> Increase of the establishment of alien invasive species. 	Negative	<ul style="list-style-type: none"> On rehabilitation of the non-paved road reserve, all stockpiled materials must be entirely removed, and the area landscaped to merge into the surroundings. Areas that will not be sealed should be rehabilitated and revegetate as soon as practically possible. The road reserve should be free of alien invasive species. Herbicides should be carefully applied. Spraying of herbicides within or near to any watercourses is strictly forbidden. Exotic trees should be removed from the road reserve The herbaceous layer should be mowed regularly, recommended height <30cm 	Extent	1	Medium
			Duration	2	
			Magnitude	6	
			Probability (X)	2	
			Outcome	18	
			Significance	Low	
<ul style="list-style-type: none"> Storm water management 	Positive	<ul style="list-style-type: none"> Culverts and storm water drains should be monitored for blockages and other possible obstacles. Installation of sidewalks left and right in the road Installation of internal storm water systems presumably to accommodate unattenuated flow of water away from surround developments. Installation of kerb inlet to stop severe water ponding. To provide safe and convenient facilities for pedestrians and public transport systems and to ensure responsible management of stormwater from Ridge Road. 	Extent	1	Medium
			Duration	2	
			Magnitude	6	
			Probability (X)	3	
			Outcome	27	
			Significance	Low	
<ul style="list-style-type: none"> Pollution on water 	Negative	<ul style="list-style-type: none"> Clean up of large-scale hydrocarbons spillages because of accidents should be executed rapidly. 	Extent	1	Low
			Duration	2	
			Magnitude	6	

resources.		<ul style="list-style-type: none"> On-going water quality monitoring measures should be implemented. 	Probability (X)	2	
			Outcome	18	
			Significance	Low	
<p>Traffic impacts</p> <ul style="list-style-type: none"> Ease of traffic congestion. Improved access to social and economic facilities and services. Improved road connectivity to contribute to local development. Reduced road accidents Installation of new street light Installation of new storm water management systems 	Positive	<ul style="list-style-type: none"> Proper road maintenance to improve access between regional and rural communities and enhancing socio-economic growth and development. Storm water drains needs to be maintained 	Extent	1	
			Duration	2	
			Magnitude	6	
			Probability	3	
			Outcome	27	
			Significance	Low	

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
N/A				

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	
Unavailability of temporal employment	Negative	No mitigation is required	Extent	2	High
			Duration	2	
			Magnitude	6	
			Probability x	2	
			Outcome	20	
			Significance	Low	
No disturbance to flora and fauna	Positive	The non-implementation of the project implementation of the proposed project will not result in any loss of flora and fauna	Extent	1	Low
			Duration	5	
			Magnitude	1	
			Probability x	4	
			Outcome	28	
			Significance	Low	
Increased/Traffic disturbance. - Improve road infrastructure - Ease traffic congestion	Negative	The implementation of Ridge road project will improve road infrastructure to: <ul style="list-style-type: none"> Improve economic activities. The implementation of this project will also ease traffic congestion in the area. Installation of kerbs. 	Extent	2	Medium
			Duration	2	
			Magnitude	6	
			Probability x	4	
			Outcome	40	
			Significance	Medium	
Pollution of water resources	Negative	<ul style="list-style-type: none"> Washing of working tools will be prohibited near any watercourse 	Extent	2	Low
			Duration	2	
			Magnitude	8	
			Probability X	2	
			Outcome	24	
			Significance	Low	

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

All specialist reports are attached under Appendix G

- ❖ **Wetland Assessment Report** compiled by Oasis Environmental Specialists.
- ❖ **Ecological Assessment (Flora and Fauna)** compiled by Ecological Consulting: Maanakana Projects.
- ❖ **Centerline and Materials Investigation** compiled by Mabu Geotechnical Consultancy.
- ❖ **Phase 1: Archaeological Impact Assessment** compiled by Millenium Heritage Group (Pty) Ltd.
- ❖ **Phase 1: Paleontological Impact Assessment Report** compiled by Heidi Fourie.
- ❖ **Stormwater Investigation Report** compiled by KNT Consulting Engineering & Project Management (Pty) Ltd.
- ❖ **Preliminary Stormwater Management Report compiled** by Dikgato Engineering Consultants (Pty) Ltd.

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

- Information received from the Client and provided to Tholoana Environmental Consulting and their specialist consultants is correct and valid;
- In this assessment it assumed that a Geotechnical investigation will further be undertaken prior to implementing the proposed activities should the activity be authorized.
- The EAP does not accept any responsibility if additional information comes to light at a late stage of the Basic Assessment process subsequent to the submission of the final Basic Assessment Report to GDARD;
- The scope of this investigation is limited to assessing the potential environmental impacts associated with the proposed Ridge Road Upgrade.
Mitigation measures as provided in the EMPr shall be implemented during the construction of the proposed development.

3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE

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

Proposal

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
No decommissioning or closure activities are anticipated for the proposed project activities.				

Alternative 1

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

Alternative 2

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

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

N/A

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:

Assuming that that the proposed project is granted an environmental authorisation and based on the nature of identified impacts associated with the proposed activities, the following cumulative impacts have been determined:

- Increased levels of erosion. This impact is however deemed to be low on the basis that the mitigation measures during construction and post construction are implemented.
- Improved transport systems that will ease traffic congestions related to the planned future eartropolis
- Positive socio-economic contribution for both the locals, road users and businesses affected by the proposed activities.
- Infestation of invasive alien plant species. These have been identified within the study area. The cumulative impacts will however be of low significance on implementation of the proposed mitigation measures. These include continued monitoring and maintenance activities to be undertaken during operation of the road.
- Increased loss or fragmentation of natural habitats increasing the impact of existing surrounding anthropogenic activities.

It should be mentioned that with the implementation of the mitigation measures contained in

this report and the attached EMPr as well as the recommendations within the specialist reports compiled, these impacts can be avoided or minimised. The onus is therefore with the various stakeholders to ensure that the required interventions and suggested control measures are implemented.

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

The overall project activities associated with the proposed project includes the doubling of the Ridge Road upgrade of intersections within the study area limit, installation of stormwater management system.

Based on the assessment carried out, the identified biophysical impacts in relation to the proposed activities are discussed as follows:

- **Loss of indigenous flora and fauna**

Ridge Road is already disturbed by developments such as residential buildings, industries, shopping centre. The upgrade of Ridge Road will not have any potential impacts on vegetation and the significance of this road development will be very low as limited vegetation occurs on the sides of the road. The duration of the impact will be during construction phase in which the limited vegetation will be disturbed.

- **Impacts on wetlands identified along the study area**

From the National Freshwater Ecosystem Priority Areas (NFFPA) database, several seep valley bottom and flat wetland systems were identified within the road's 500m regulated area. Wetland areas were classified as a hydrogeomorphic (HGM) units. During the Aquatic and Wetland Scientist site visit, one wetland system (channelled valley bottom wetland) was identified within the 500m regulated area of the proposed Ridge Road upgrade. Channelled valley bottom wetlands are characterised by their location on valley floors and the presence of a channel flowing through the wetland. Water generally moves through the wetland as diffuse surface flow although occasionally as short-lived concentrated flows during flood events. The

Ecological Services of the wetland and EIS has been recorded as moderately low. Although no red-data species were identified during the site investigation, the majority of valley bottom systems provide habitat for a number of floral and faunal species. The presence of open water and vegetation provides a suitable area for breeding, feeding, and protection for some faunal and floral species. Any development activity in a natural system will have an impact on the surrounding environment, usually in a negative way.

Soil erosion will result in the deposition of sediment into the watercourse; posing a risk to watercourses geomorphological/functional integrity. Subsequent impacts that are likely to result are: a loss of instream flow including aquatic refugia and flow dependent taxa; sedimentation of the watercourse that will be destructive to many faunal species affecting their habitat; breeding and feeding cycles. Minimisation of the spatial footprint of the project must be implemented, with special reference to avoiding erosion, silting and sedimentation next to and within the aquatic system during construction. This impact will however be of temporary duration and have a moderate probability of occurrence with implemented mitigation measures and ultimately moderate impact

- **Groundwater impacts**

The proposed development will pose risks on groundwater during the construction phase if mitigation measures are not set in place and adhered to. During the construction phase of the upgrade of Ridge Road, a high water table is likely to occur through effluent runoff. The impacts on stormwater will be also limited to the rainy season. This impact will be short term as it will be limited to during construction phase. Mitigation measures will be adhered to ensure that waste water does not affect groundwater.

- **Increased traffic due to proposed road upgrade**

There will be increased traffic delays during the construction phase of the Ridge Road upgrade. The traffic impact will therefore be for a short duration. Clear signage boards must be erected on site to indicate the undertaking of roadworks.

- **Generation of waste**

The generation of waste is anticipated to occur during the construction phase and will therefore be of a short duration. All waste generated during construction will be transported to the licenced Impala Mini Park landfill site.

- **Disruptions of electricity supply**

Electricity supply disruptions which may result in safety risks, due to possible shifting of Eskom power lines.

The following positive impacts are anticipated for the project:

- Ease of congestion and improved transport system due to the proposed upgrades during the operational phase
- Ease flooding on the road during rainy seasons
- Installation of kerbs

Alternative 1

N/A

Alternative 2

N/A

NO-GO (COMPULSORY)

The doubling of Ridge Road is aimed to improve traffic flow in the area. Ridge road is an existing single carriageway which is partially kerbed and is experiencing problems with regards to ponding due to an almost flat of longitudinal slope for the larger extent of the road. This causes inconvenience and unsafe conditions to the road users such as pedestrians and car drivers such as trucks, taxis, mini bus, mini taxis. Some of the lower laying adjacent properties have experienced flooding during rainstorms. Due to the current low levels of service of the traffic conditions and the stormwater ponding during rainstorms.

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The table below provides the summary of impacts in relation to the proposed Ridge Road upgrade project:

Table 10: Construction phase impact summary

Construction Phase			
Impact	Nature of Impact	Significance Before Mitigation	Significance After Mitigation
Loss of indigenous flora and fauna.	Negative	Medium	Low
Loss of soil due to run-off or contamination.	Negative	Medium	Low
Increase in alien invasive plants.	Negative	Medium	Low
Surface and groundwater pollution.	Negative	High	Medium
Air pollution.	Negative	Low	Low
Noise pollution.	Negative	Low	Low
Visual disturbances to for nearby receptors.	Negative	Medium	Low
Generation of waste.	Negative	Medium	Low
Health and Safety risks	Negative	Medium	Low
Temporary Job Opportunities	Positive	Low	Medium
Increased traffic volumes	Negative	High	medium

Table 10: Operational impact summary

Impact	Nature of Impact	Significance Before Mitigation	Significance After Mitigation
Improved road infrastructure	Positive	Low	High
Reduced traffic congestion during peak hour	Positive	Low	High
Alien invasive plants	Negative	High	Low
Reduce flooding	Positive	High	Low

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.

Based on the significance of impacts for the proposal, the potential negative impacts are associated with the construction phase, whereas the positive impacts are associated with the post-construction and operation phase. The successful implementation of the proposed interventions will in turn yield the following positive results as indicated above:

- Improved road infrastructure;
- Reduce traffic congestion during peak hours; and
- Increased road runoff during rainfall.

7. SPATIAL DEVELOPMENT TOOLS

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

The following spatial development tools have been applied for this development:

- **Gauteng Environmental Management Framework**

The entire study area falls within the Gauteng Environmental Management Framework (GEMF). This aims to make readily available environmental information to the environmental management and development role players within the Gauteng Province. According to the National Screening Tool Report generated for the project on the 3rd of June 2020, the study area falls within Zone 1 and Zone 5.

A brief discussion of each of these is as follows:

- *Zone 1: Urban Development Zone*

In terms of urban development of infrastructure within this zone, in line with the proposed activities, for the Gauteng province to be able to realise its potential of developments related to secondary and primary form part of high priority levels. Furthermore, principles of sustainable streets, green infrastructure such as (bioswales, street trees, permeable paving) should be used to reduce environmental impacts associated with the road infrastructure.

- *Zone 5: Industrial and large commercial focus zone*

Based on the available information for Zone 5 and in terms of land use, roads are categorised under being conditionally compatible with the intentions of this phone and this is based on impacts that result from construction activities in relation to road development, which could result in the degradation of areas determined as sensitive within the urban development zones.

According to the ecological assessment report compiled for the project by Maanakana Projects and Consulting (Pty) Ltd, it was established that sensitive areas (e.g. conservation

priority areas; CBA's) will be impacted, the proposed activities. The mitigation measures to address this impact are provided in the Ecological Assessment as attached appendix G and the EMPr attached as Appendix H respectively.

In addition to the identified zones as per the screening tool, the area in terms of air quality, the area is classified under the Highveld Priority Area zone, which implies that the Air Quality Management Plan (2011) applies.

- **Gauteng Conservation Plan**

The Gauteng Conservation Plan (C-Plan) forms part of the Gauteng Information Data Series version 3.3) and it provides the status of land-based information layers such as any occurrence of water resources, primary grasslands or caves etc. The purpose of the C-Plan is to act as a decision supporting tool for Environmental assessments and provide information on the protected areas within the Gauteng province. The project study area is located parallel to Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs). Refer to **Figure 12**. A brief discussion about each of these areas is below

- *“Critical Biodiversity Areas (CBAs)”*

Areas that are required to meet biodiversity targets for species, ecosystems or ecological processes. These need to be kept in a natural or near-natural state, with no further loss of habitat or species. CBA Important Areas: Areas selected to meet biodiversity pattern and/or biodiversity process targets. Alternative sites might be available to meet biodiversity targets. These areas can furthermore support suitable habitat for red and orange listed faunal and floral species”

- *“Ecological Support Areas (ESAs)”*

These are areas that are not essential for meeting biodiversity representation targets/thresholds, but which play an important role in supporting the ecological functioning of critical biodiversity”.

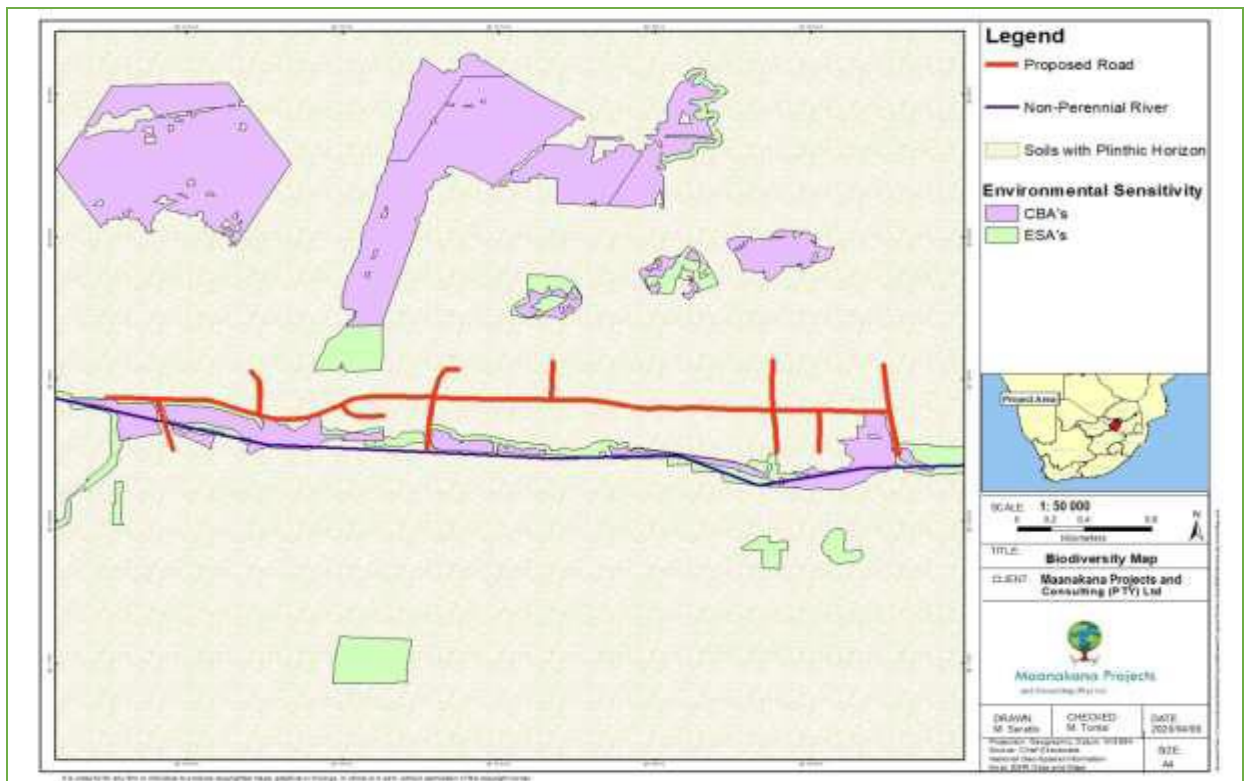


Figure 12: Sensitive Map

- **Gauteng Spatial Development Framework.**

The key purpose of the Gauteng Spatial Development Framework (GSDF) is to provide spatial guidance on required spatial interventions within the province. This can be achieved jointly with the national government focusing on the environmental and social challenges while taking advantages of the economic opportunities within provinces. As identified by the GSDF in relation to the proposed activities, the inefficiencies and congestion with Gauteng roads contributes to loss of productivity, higher energy consumption, pollution, and greenhouse gas (GHG) emissions. It can thus be concluded that the proposed activities are in line with the planned development will address part of issues related to inefficiencies, productivity, and traffic congestion.

- **City of Ekurhuleni Metropolitan Municipality Regional Spatial Development Framework**

The CoEMM Regional Spatial Development Framework (RSDFs) are prepared for the six regions of the CoEMM (i.e. Region A to Region F). The land use demand per region as contained in the RSDFs. Ridge Road crosses Regions E and F which are earmarked for large portions of industrial and residential (subsidised and bonded) land uses. The proposed activities are aimed at servicing the current and planned future expansions which includes the airport city (aerotropolis) around the OR Tambo international airport. The proposed road upgrade will contribute aerotropolis as the COEMM upgrade roads that are line with their plan to improve quality of roads infrastructure to ensure safety and economic improvement within the City of Ekurhuleni.

- **City of Ekurhuleni Metropolitan Municipality Integrated Development Plan**

The Integrated Development Plan (IDP) of a municipality is a process through which the municipality prepares a strategic development plan aligned with the term of council which is 5 years. The IDP sets out development objectives to be achieved, from which each determined project is allocated a certain budget. The IDP identified developments are considered for each municipal department identified needs. The proposed upgrade of Ridge Road is identified under the roads and storm water department within the CoEMM IDP 2017/18-2019/2020.

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

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:

Monitoring and compliance with the mitigation measures as set out in the EMP and Specialist recommendations should be adhered to. An ECO should be appointed for monitoring compliance during construction of the proposed interventions. Any changes to the current design layout (add-ons), should be communicated to GDARD for comments.

9. THE NEEDS AND DESIRABILITY OF THE PROPOSED DEVELOPMENT

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

Need

Question	Response
Is the land use considered within the timeframe intended by the existing approved spatial development framework?	The CoEMM is planning the development of an airport city (aerotropolis) around the OR Tambo International Airport. The aerotropolis will involve the development of industrial and commercial land uses offering businesses fast connectivity to suppliers, clients and partners operating nationally and globally. The proposed upgrading of Ridge Road will therefore cater for the upcoming development through positive measures such as the easing of traffic and installation of new storm water management systems to alleviate flooding.
Should development, or if applicable, expansion of the town/area concerned in terms of this land use occur here at this point in time?	Yes: The proposed upgrades will service developments envisaged for the future particularly the aerotropolis. It is therefore

Question	Response
	important that this development is completed ahead of the activities associated with the aerotropolis.
Does the community/area need the activity and the associated land use concerned?	Yes: The route upgrade will ease traffic congestion. Additionally, local job opportunities, and skills transfer will be created during the construction phase of the development. In addition to the above, it is envisaged that the upgrades will result in improved safety for all road users.
Are the necessary services with adequate capacity currently available or must additional capacity be created to cater for the development?	<p>The development is proposed in an area in which existing stormwater and electrical services will cater for the proposed infrastructure.</p> <p>A storm water system will be constructed along the road. While the road will form part of the storm water management system, other proposed systems are a storm water pipe, concrete channels and street lights.</p>
Is this development provided for in the infrastructure planning of the municipality, and if not what will the implications be on the infrastructure planning of the municipality?	Yes, the project has been identified in the 2018/2019 Service delivery and Budget Implementation plan for CoEMM
Is this project part of a national programme to address an issue of national concern or importance?	No. While the project is not part of a national programme to address an issue of national concern or importance, it is of interest to the CoEMM as a local government. The CoEMM has identified several roads which need to be upgraded in order to serve the proposed aerotropolis.

Desirability	
Question	Response
Is this development the best practicable environmental option of this land/site?	Yes, the proposed Ridge Road is practicable on the proposed site. Ridge Road will be upgraded on an existing road which will be doubled from single lane to double lanes. The current environment on Ridge Road is already disturbed because of industrial developments in Bartlett such as residential areas, industries, shopping centre, accommodations.
Would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF as agreed to by the relevant authorities?	No

<p>Would the approval of this application compromise the integrity of the existing environmental management priorities of the area and if so, can it be justified in terms of sustainability considerations?</p>	<p>This application will not compromise the integrity of the existing environmental management priorities of the area if the proposed mitigation measures are adhered to.</p>
<p>Do location factors favour this land use at this place?</p>	<p>Yes: the proposed Ridge Road upgrade entail the doubling of road lanes from a single lane to a double carriageway lane as well as the installation of new storm water management systems. This upgrade will address flooding that affects road users adjacent properties.</p>
<p>How will the activity or land use associated with the activity applied for, impact on sensitive natural and cultural areas?</p>	<p>The proposed development will impact o the CBA as well as the wetland system located parallel to Ridge Road particularly in the westernmost section of the road. It must be reiterated that as the project is an upgrade of an existing road, site alternatives in less sensitive environments are not applicable. Against the above mentioned and in order to ensure environmental protection, it is imperative that the proposed mitigation measures as set out in the EMPr are applied and construction activities monitored.</p>
<p>How will the development impact on people's health and well-being?</p>	<p>With the exception of the provision of temporary job opportunities during the construction phase, the impact on people's health and well-being is likely to be negative during the construction phase. The positive impacts of the project will be evident during the operational phase through improved infrastructure, thus providing safe and eased traffic conditions.</p>
<p>Will the proposed activity or land use associated with the activity applied for, result in unacceptable opportunity costs?</p>	<p>No, the proposed project has been identified within the CoEMM 2018/2019 service delivery and budget implementation plan and has been allocated a set budget implies that the need for additional fees will not be catered for proposed development.</p>
<p>Will the proposed land use result in unacceptable cumulative impacts?</p>	<p>No. The proposed development will not result in any unacceptable cumulative impacts</p>

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED.

(consider when the activity is expected to be concluded)

Based on the proposed phased approach for the proposed project activities, the Environmental Authorisation is required to cover the three phases of the project which are anticipated to be completed within a period of 7 years after the commencement of construction while this is the anticipation. The required period for Environmental Authorisation is ten (10) years to cover any unforeseen delays with regards to the commencement of project activities.

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

12. REFERENCES

1. Department of Environmental Affairs (DEA). 2010. Guideline Series 5. *Public Participation in the EIA process*. Department of Environmental Affairs Pretoria, South Africa
2. Department of Environmental Affairs (DEA). 2018. *Gauteng Provincial Environmental Management Framework Standard (GPEMF)*. (Government Notice No. 164). Government Gazette, 41473, 2 Mar
3. Department of Environmental Affairs. 2011. *National Waste Management Strategy*. Department of Environmental Affairs, Pretoria, South Africa
4. Department of Environment, Forestry and Fisheries (DEFF). 2020. Department of Environment, Forestry and Fisheries (DEFF). 2020. Screening Report for an Environmental Authorization or for a part two amendment of an Environmental Authorisation as required by the 2014 EIA Regulations – proposed site environmental sensitivity for the Ridge Road upgrade. [https://screening.environment.gov.za/screeningtool/generated 03 June 2020](https://screening.environment.gov.za/screeningtool/generated/03%20June%202020).
5. Dikgato Engineering Consultants (Pty) Ltd. 2020, Preliminary Stormwater Management Report: IPW 3: *Geometric Improvements – Doubling Of Ridge Road*.
6. Fourie, F. 2020, *Palaeontological Impact Assessment: Phase 1: Field Study, The Underground Services Detection for the Doubling of Ridge Road in Boksburg, City of Ekurhuleni Metropolitan Municipality within the Gauteng Province, Farm/Town: Boksburg*.
7. Gauteng Department of Agriculture and Rural Development (GDARD). 2011. *The Gauteng Conservation Plan (C-Plan), version 3.3*. Gauteng Department of Agriculture and Rural Development, Johannesburg, South Africa
8. KTN Consulting Engineering & Project Managers. 2019. *Ridge Road – Section between Rondebult Road and Atlas Road, Stormwater Investigation*.
9. Mabu Geotechnical Consultancy (Pty) Ltd. 2020. *Report on the Centerline and Materials Investigation for the upgrade to Ridge Road, City of Ekurhuleni*.
10. Manakana Projects and Consulting (Pty) Ltd. 2020. *Ecological Assessment, Proposed Upgrade of Ridge Road, Boksburg, Gauteng*.
11. Millennium Heritage Group (Pty) Ltd. 2020. *Phase 1: Archaeological Impact Assessment Relating To The Proposed Ridge Road Upgrade Near Boksburg, City Of Ekurhuleni Metropolitan Municipality, Gauteng Province, South Africa*.
12. Oasis Environmental Specialists. 2020. *Wetland Assessment, Proposed Ridge Road Upgrade, Boksburg, Ekurhuleni Metropolitan Municipality, Gauteng Province*
13. South Africa. 1998. *National Environmental Management Act 107 of 1998*.
14. South Africa. 2017. *National Environmental Management Act 1998 (Act No. 107 of 1998): Amendments to the Environmental Impact Assessment Regulations, 2014*. (Government notice no. 326). Government Gazette, 40772, 7 Apr.
15. Wazimap. 2020. *Ekurhuleni Ward 17 (79700017)*. <https://wazimap.co.za/profiles/ward-79700017-ekurhuleni-ward-17-79700017/>, accessed 28 September 2020

SECTION F: APPENDICES

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

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

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

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

Appendix E: Public participation information

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

Appendix G: Specialist reports

Appendix H: EMPr

Appendix I: Other information

Appendix J: EAP's CV

Appendix K: Vusmuzi CV

Appendix L: Snowy CV

Appendix M: Ntsebo CV

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.

Appendix A: Site Plans

Appendix B: Site Photographs

Appendix C: Facility illustrations

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

Appendix J: EAP's CV

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Appendix L: Ntsebo CV

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