



Prepared for:
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WITFIELD STORMWATER NETWORK AND ATTENUATION POND

DRAFT BASIC ASSESSMENT REPORT

DRAFT REPORT
REVISION 00

AUGUST 2016



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EXECUTIVE SUMMARY

Witfield is a suburb of Boksburg which is situated on the East Rand in the Gauteng Province of South Africa. The project location is situated south of the M44 and runs down up to the discharge point just north of the Witfield dam. The below figure illustrated the locality of the Witfield stormwater network and attenuation pond.



Figure 0- 1 Proposed Stormwater Network and Attenuation Pond

The current stormwater system (indicated in yellow in the figure above) runs underneath residential properties from Erf 199 down towards the dam located between Pitout Road and Edward Road. The current system cannot accommodate the excessive stormwater run-off generated by the fairly large catchment area. Erf 199 is currently un-occupied, and the EMM is in the process of buying the property for the purpose of constructing an attenuation facility to alleviate pressure on the existing system.

The EMM expressed its intention to implement a stormwater management plan to ensure low-lying areas in the Witfield area aren't flooded during certain storm events.

It is therefore proposed to construct a new attenuation pond of approximately 20 000 m³ on Erf 199 to control the discharge rate into the existing system. This would accommodate the northern catchment area.

A new stormwater network is proposed downstream of the N12 in both Edward Street and Pitout streets, within the road reserve to avoid conflict with existing services.

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Gauteng Department of Agriculture and Rural Development (GDARD)

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, 2010 (Version 1)

List of all organs of state and State Departments where the draft report has been submitted, their full contact details and contact person

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2010.
 2. This application form is current as of 2 August 2010. 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 to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken. The draft reports must be submitted to the relevant State Departments and on the same day, two CD's of draft reports must also be submitted to the Competent Authority (GDARD) with a signed proof of such submission of draft report to the relevant State Departments.**
 4. 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.
 5. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
 6. An incomplete report shall be rejected.
 7. 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 rejection of the application as provided for in the regulations.
 8. 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.
 9. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
 10. 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.
-

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
18th floor Glen Cairn Building
73 Market Street, Johannesburg

Admin Unit telephone number: (011) 355 1345

Department central telephone number: (011) 355 1900

(For official use only)

| | | | | | | |
|-------------------------------|--|--|--|--|--|--|
| File Reference Number: | | | | | | |
| Application Number: | | | | | | |
| Date Received: | | | | | | |

Submission to State Departments (Number 3 above)

Has a draft report for this application been submitted to 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 State Departments referred to above been attached to this report? Yes

If no, state reasons for not attaching the list.

Please refer to **Appendix I – Other Information** for the proof of submission of the Draft BAR to all State Departments administering a law related to the application.

SECTION A: ACTIVITY INFORMATION

1 ACTIVITY DESCRIPTION

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

WITFIELD STORMWATER NETWORK AND ATTENUATION POND

Select the appropriate box

The application is for an upgrade of an existing development

The application is for a new development

Other, specify

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

YES

NO

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

Section 21 (c) and (i) of the National Water Act, 1998 (Act 36 of 1998) read in conjunction with Government Gazette No. 32805 of 18 December 2009 – Department of Water and Sanitation

If yes, have you applied for the authorisation(s)? (attach in Appendix F)

YES

NO

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

YES

NO

2 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

| Title of legislation, policy or guideline | Administering authority | Promulgation Date |
|---|-------------------------|-------------------|
| National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended) | National & Provincial | 1998 |
| National Water Act, 1998 (Act No. 36 of 1998) | National | 1998 |
| National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) | National & Provincial | 2008 |
| National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) | National & Local | 2004 |
| National Heritage Resources Act, 1999 (Act No. 25 of 1999) | National | 1999 |

| Title of legislation, policy or guideline | Administering authority | Promulgation Date |
|--|---|-------------------|
| Ekurhuleni Metropolitan Municipality Waste Water By-Laws | Local Municipality | 2002 |
| The Constitution of the Republic of South Africa Act, 1996 (Act No. 108 of 1996) | National | 1997 |
| GN. R 982, NEMA Environmental Impact Assessment Regulations, 2014 | National & Provincial | 2014 |
| GN. R 983, NEMA Environmental Impact Assessment Regulations, 2014 | National & Provincial | 2014 |
| GN. R 985, NEMA Environmental Impact Assessment Regulations, 2014 | National & Provincial | 2014 |
| National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) | National | 2004 |
| Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) | Department of Labour | 1993 |
| Gauteng Provincial Environmental Management Framework (GPEMF) | Gauteng Department of Agriculture and Rural Development | 2014 |
| Gauteng Conservation Plan Version 3.3 (C-Plan 3.3) | Gauteng Nature Conservation, a component of the Gauteng Department of Agriculture and Rural Development | 2011 |
| The Gauteng Draft Red Data Policy | Directorate of Nature Conservation | 2001 |
| Gauteng Policy on Protection of High Potential Agricultural Land | Gauteng Department of Agriculture and Rural Development | 2011 |
| GDARD Requirements for Biodiversity Assessments Version 3 | Gauteng Department of Agriculture and Rural Development | 2014 |


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. Provide a description of the alternatives considered.

Provide a description of the alternatives considered

| No. | Alternative type | Description |
|-----|------------------|--|
| 1 | Proposal | <p>The proposal entails the construction of an attenuation pond of approximately 20 000 m³ on Portion 0 of Erf 199 to control the discharge rate into the existing stormwater/ culvert system to accommodate the northern catchment area.</p> <p>A new stormwater network will be constructed downstream of the N12 in both Edward Street and Pitout streets within the road reserve. This will be a parallel line to cater for the catchment areas downstream of the N12 and thus alleviate the pressure on the existing culvert.</p> <p>The preferred stormwater management network will divide the northern and southern catchment areas to assign the northern catchment to the existing culvert system and the southern catchment to the new stormwater networks.</p>  |

| No. | Alternative type | Description |
|-----|------------------|--|
| 2 | Alternative 1 | <p>This alternative excludes the attenuation pond on Erf 199. This was done in anticipation that should EMM not be able to obtaining ownership of Erf 199 remain. However, during the compilation of this report, the EMM indicated that the ownership of Erf 199 had been obtained for the proposed attenuation pond.</p> <p>This alternative is therefore discarded but will still be feasible in this application. It is, however, not the recommended development proposal.</p> <p>This alternative entails the construction of a two-sided stormwater network system to accommodate stormwater in three separate systems (Two stormwater network systems and the existing culvert) that ultimately converge at the outlet just north of the dam. This system has several shortcomings and is not the preferred option unless the attenuation facility could not be constructed for some reason.</p>  |

| No. | Alternative type | Description |
|-----|------------------|--|
| 3 | Alternative 2 | <p>This alternative entails the construction of an attenuation pond of approximately 20 000 m³ on Erf 199 to control the discharge rate into the existing system.</p> <p>In order to alleviate pressure on the existing culvert structure, it is proposed that a new system be constructed that connects to the existing culvert system and thus splits the existing culvert system downstream of the N12.</p> <p>The main culvert system would thus run from the inlet at Erf 199 underneath the N12 as is currently the status quo. It will then be connected to a new system that runs along Edward street (alternatively Pitout Street), which would mean that the existing culvert system is split at Wilson Street.</p>  |

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

NOTE: The numbering in the above table must be consistently applied throughout the application report and process

4 PHYSICAL SIZE OF ACTIVITY

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

| | Size of the activity: |
|---------------------------------------|-----------------------|
| Proposed activity (Attenuation Pond): | 20 000 m ³ |
| Alternatives: | |
| Alternative 1 (if any) | - |
| Alternative 2 (if any) | 20 000 m ³ |
| | Ha/ m ² |

or, for linear activities

(Stormwater network):

| | Length of the activity: |
|------------------------|-------------------------|
| Proposed activity | 1.4 km |
| Alternatives: | |
| Alternative 1 (if any) | 2.7 km |
| Alternative 2 (if any) | 0.7 km |
| | km |

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

| | Size of the site/ servitude: |
|------------------------|------------------------------|
| Proposed activity | 4252 m ² |
| Alternatives: | |
| Alternative 1 (if any) | 9586.6 m ² |
| Alternative 2 (if any) | 2920.6m ² |
| | Ha/ m ² |

5 SITE ACCESS

Proposal

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

m

No new access routes are planned, access to the site will be gained from Pitout Road, Edwards Road, Staats Street and Scholtz Street.

Include the position of the access road on the site plan. Appendix A

Alternative 1

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

Same as proposal

Include the position of the access road on the site plan.

Alternative 2

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

Same as proposal

Include the position of the access road on the site plan.

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

Section A 6-8 has been duplicated (only complete when applicable)

0

Number of times

6 SITE OR ROUTE PLAN

A detailed route (for linear activities) plan(s) have been prepared for each alternative site or alternative activity. It is attached as **Appendix A** to this document. The route plans indicate the following:

- the scale of the plan, which must be at least a scale of 1:2000 (scale cannot be larger than 1:2000 i.e. scale cannot be 1:2500 but could where applicable be 1:1500)
- the property boundaries and numbers of all the properties within 50 m of the site
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites
- the exact position of each element of the application 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, street lights, sewage pipelines, septic tanks, storm water infrastructure and telecommunication infrastructure
- walls and fencing including details of the height and construction material
- servitudes indicating the purpose of the servitude
- sensitive environmental elements on and within 100 m of the site or sites 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).

- for gentle slopes the 1 m contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500 mm contours must be indicated on the plan
- the positions from where photographs of the site were taken
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the 32 m position from the bank to be clearly indicated).

7 SITE PHOTOGRAPHS

Colour photographs from the centre of the site (start, middle and end-point of the proposed development) have been taken in the eight major compass directions with a description of each photograph. Photographs are attached under the **Appendix B**.

8 FACILITY ILLUSTRATION

A detailed illustration of the activity has been provided at a scale of 1:200 for activities that include structures. The illustrations are to scale and represent a realistic image of the planned activity. The illustration gives a representative view of the activity and is attached in **Appendix C**.

SECTION B: DESCRIPTION OF THE RECEIVING ENVIRONMENT

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

Further: 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 sections of the route times

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

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

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

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

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

1 PROPERTY DESCRIPTION

Property description (Farm name, portion etc.). The maps of the properties are presented in the table below.

Table 1-1 Property descriptions

| No | Property Name | Owner | Title deed | Size |
|----|---|--------------------------------------|------------|-------------|
| 1 | Portion 0 of Erf 199 of Township Witfield (Proposed Attenuation Pond) | Quidditch Trading Cc | T7381/2003 | 4.3217H |
| 2 | Portion 0 of Erf 204 of Township Witfield (Proposed Stormwater Structure) | Ekurhuleni Metropolitan Municipality | T2567/1926 | 800.0000DUM |



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.



Figure 1-2 Coordinates of turning points of proposed stormwater network

| Alternative: | Latitude (S): | Longitude (E): |
|--|-------------------|-------------------|
| In the case of linear activities: | | |
| Alternative: | | |
| • Starting point of the activity 2A | 26° 10' 46.351" S | 28° 12' 18.869" E |
| • Starting point of the activity 2B | 26° 10' 48.131" S | 28° 12' 23.713" E |
| • Middle point of the activity 2A | 26° 10' 52.248" S | 28° 12' 15.079" E |
| • Middle point of the activity 2B | 26° 10' 54.222" S | 28° 12' 20.529" E |
| • End point of the activity 2A | 26° 11' 5.667" S | 28° 12' 9.751" E |
| • End point of the activity 2B | 26° 11' 6.243" S | 28° 12' 9.621" E |
| • Pond | 26° 10' 35.738" S | 28° 12' 28.096" E |
| • New Outlet | 26° 10' 35.738" S | 28° 12' 9.219" E |

For route alternatives that are longer than 500 m, co-ordinates taken every 250 meters along the route and are attached in **Appendix D**.

3 GRADIENT OF THE SITE

Indicate the general gradient of the site.

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

4 LOCATION IN LANDSCAPE

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

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

5 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

The land has moderate susceptibility to water erosion, due to the moderately sloping land. Soils have low to moderate erodibility. Land is susceptible to wind erosion.

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

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

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

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

Latitude (S):

Longitude (E):

| | |
|--|--|
| | |
|--|--|

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

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

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

Latitude (S):

Longitude (E):

| | |
|--|--|
| | |
|--|--|

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

YES

NO

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

Latitude (S):

Longitude (E):

| | |
|--|--|
| | |
|--|--|

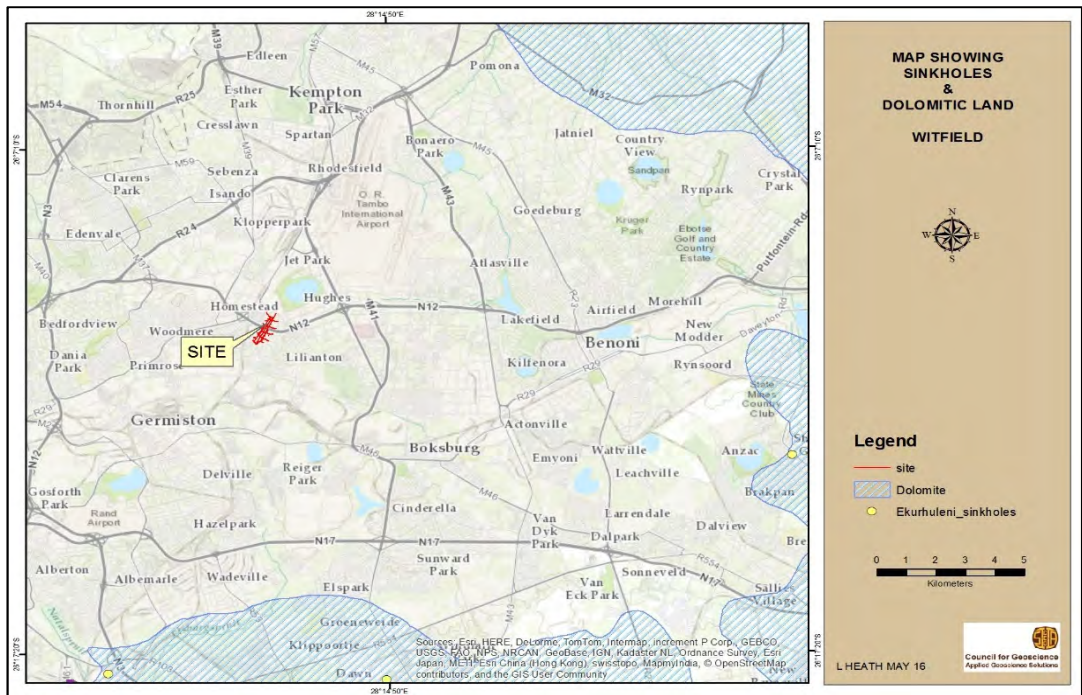


Figure 5-1: Sinkholes and Dolomitic Land

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

The study area is underlain by fine- to coarse-grained sandstone, shale, coal seams of the Vryheid Formation. Hence, no record exists of any sinkholes within a 300 m radius of the site.

6 AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 3)?

YES

NO

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

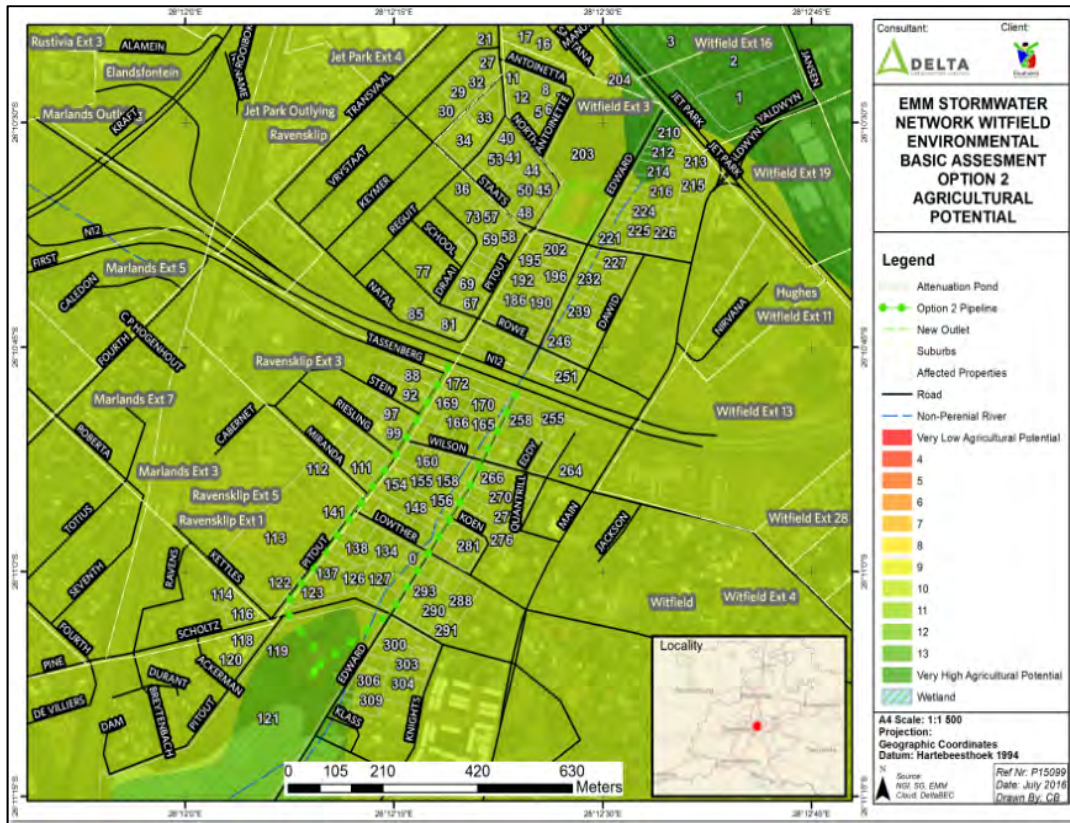


Figure 6-1 Agricultural Land Potential

It should be noted that the proposed stormwater network and attenuation pond will be constructed in an area that is already developed.

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 % = 5 | Natural veld with heavy alien infestation % = | Veld dominated by alien species % = | Landscaped (vegetation) % = 10 |
| Sport field % = | Cultivated land % = | Paved surface (hard landscaping) % = 80 | Building or other structure % = | Bare soil % = |

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

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

| | |
|-----|----|
| YES | NO |
|-----|----|

If YES, specify and explain:

Refer to the Biodiversity Assessment in **Appendix G**.

FAUNAL SPECIES OF CONCERN

A Biodiversity Assessment was conducted on the 13th of June 2016 by the Biodiversity Company. The following identifications have been made by the specialist pertaining to faunal species of conservation concern. None of these are, however, are rare or endangered flora or fauna species (including red list species).

Avifauna

Based on the assessment two (2) species of conservation concern have previously been recorded in the project area.

Based on the South African Bird Atlas Project 2 database (SABAP2), one (1) record exists of *Oxyura maccoa* (Maccoa duck) in the project area. This species can therefore be regarded as a incidental and its likelihood of occurrence in the project area is regarded as low. The *Phoenicopterus roseus* (Greater flamingo) has been recorded in the project area on 15 occasions and its likelihood of occurrence in the project area is therefore rated as moderate. Given the high disturbance and human density it is unlikely that this species would be resident at the site, it is more likely to occur as an occasional visitor.

Mammals

Based on the assessment, the following 3 mammal species of conservation concern could potentially be present at the project area.

- *Chrysospalax villosus* (Rough-haired golden mole)
- *Lutra maculicollis* (Spotted-necked otter)
- *Dasyms incomtus* (African marsh rat).

The probability of occurrence of these species was assessed based on factors such as habitat preference, distributional range and sensitivity to disturbance. Given the degree of disturbance and the location of the site at the margin of this species' distribution the likelihood of occurrence is rated as unlikely.

Invertebrates

The following 2 invertebrate species of concern may potentially occur in the project area.

- *Lepidochrysos praeterita* (Highveld Blue Butterfly)
- *Chrysoiritis aureus* (Heidelberg Copper Butterfly).

The assessment rated the species as unlikely to occur in the project area.

FLORAL SPECIES OF CONCERN

Protected Species List

Based on SANBI 2016 databases that were consulted, one endangered plant species of concern is located in the 2628AA degree grid square, namely the Proteaceae (*Leucadendron daphnoides*).

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

| | |
|-----|----|
| YES | NO |
|-----|----|

If YES, specify and explain:

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

| | |
|-----|----|
| YES | NO |
|-----|----|

If YES, specify and explain:

A Biodiversity Assessment was conducted on the 13th of June 2016 by the Biodiversity Company.

The following conclusions were reached based on the results of this assessment:

- Based on the desktop assessment, one (1) non National Freshwater Ecosystem Priority Areas (FEPA) seep wetland was identified within 500 m of the project area;
- The Gauteng C-Plan indicates the project area to be an Ecological Support Area (ESA) and not a Critical Biodiversity Area (CBA);
- Based on the field survey the wetlands associated with the proposed development were identified as channelled valley bottom wetlands.
- The wetland systems are in a seriously modified (Category E) state, suggesting the change in ecosystem processes and loss of natural habitat and biota is great but some remaining natural habitat features are still recognizable;
- The change in geomorphic processes is great but some features are still recognizable.
- Vegetation composition has been largely altered and introduced, alien and/or increased ruderal species occur in approximately equal abundance to the characteristic indigenous wetland species.
- The proposed construction of the attenuation pond and new outlet presents a risk to the wetland systems. The significance of the risks were rated as moderate prior to implementation of mitigation measures;
- Based on the in situ water quality results low DO concentration and saturation levels were identified as a limiting factor of aquatic ecosystems;
- Based on the SASS results, biotic integrity in the Elsburgspruit was severely impaired (PES Class E/F) at the time of the June 2016 survey (Table 16). This was attributed in part to limited habitat availability as shown by the IHAS results and the low DO concentrations;
- The likelihood of bird, mammal and invertebrate species of conservation concern occurring on site was assessed and with a few exceptions ranged from unlikely to low;
- Given the low probability of occurrence of species of conservation concern in the project area the significance of this impact was rated as low prior to implementation of mitigation

- This study area is situated within the Grassland Biome of southern Africa, more specifically the Soweto Highveld Grassland (Gm8), however very little of the original grassland remains in the project area;
 - Based on the terrestrial vegetation the sensitivity of the vegetation communities ranged from medium to low;
 - Given the transformed state of vegetation communities and the low level of sensitivity the significance of impacts on terrestrial vegetation ranged from moderate to low.
- Refer to the Biodiversity Assessment in Appendix G

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

If yes complete specialist details

| | | | |
|-------------------------------------|---------------------------------------|--|--|
| Name of the specialist: | Peter Kimberg | | |
| Qualification(s) of the specialist: | BSc Hons Zoology SACNASP 400085/15 | | |
| Postal address: | 420 Vale Avenue, Ferndale | | |
| Postal code: | 2194 | | |


| | | | |
|------------|----------------------------------|-------|--------------|
| Telephone: | 081 319 1225 | Cell: | 081 319 1225 |
| E-mail: | peter@thebiodiversitycompany.com | Fax: | 086 527 1965 |

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify:

If YES, is such a report(s) attached? YES NO

If YES list the specialist reports attached below

| | | | |
|--------------------------|---|-------|----------------|
| Signature of specialist: |  | Date: | 15 August 2016 |
|--------------------------|---|-------|----------------|

| | | | |
|-------------------------------------|---|--|--|
| Name of the specialist: | Andrew Husted | | |
| Qualification(s) of the specialist: | MSc Aquatic Health SACNASP 400213/11 | | |
| Postal address: | 420 Vale Avenue, Ferndale | | |
| Postal code: | 2194 | | |

| | | | |
|------------|-----------------------------------|-------|--------------|
| Telephone: | 081 319 1255 | Cell: | 081 319 1255 |
| E-mail: | andrew@thebiodiversitycompany.com | Fax: | 086 527 1965 |

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify:

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

| | |
|-----|----|
| YES | NO |
|-----|----|

If YES list the specialist reports attached below

| | | | |
|--------------------------|---|-------|----------------|
| Signature of specialist: |  | Date: | 15 August 2016 |
|--------------------------|---|-------|----------------|

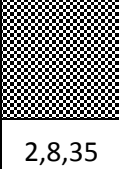
Please note: If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated


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 500 m radius around the site.

| | | | | |
|---|--|---|---------------------------------------|---|
| 1. Vacant land | 2. River, stream, wetland | 3. Nature conservation area | 4. Public open space | 5. Koppie or ridge |
| 6. Dam or reservoir | 7. Agriculture | 8. Low density residential | 9. Medium to high density residential | 10. Informal residential |
| 11. Old age home | 12. Retail | 13. Offices | 14. Commercial & warehousing | 15. Light industrial |
| 16. Heavy industrial ^{AN} | 17. Hospitality facility | 18. Church | 19. Education facilities | 20. Sport facilities |
| 21. Golf course/polo fields | 22. Airport ^N | 23. Train station or shunting yard ^N | 24. Railway line ^N | 25. Major road (4 lanes or more) ^N |
| 26. Sewage treatment plant ^A | 27. Landfill or waste treatment site ^A | 28. Historical building | 29. Graveyard | 30. Archaeological site |
| 31. Open cast mine | 32. Underground mine | 33. Spoil heap or slimes dam ^A | 34. Small Holdings | |
| Other land uses (describe): | 35. Community Facility 36. Social Services 37. Public Services | | | |

NOTE: Each block represents an area of 250 m X 250 m

| | | | | | | |
|------|--|----------------------|---------------------------|---|---------------------|------------------|
| | | NORTH | | | | |
| | | 9,15 | 4,8,9, 11,13 | 2, 8, 9, 25 | 2, 4, 8, 9,13,25 | |
| | | 9, 2 | 4,8,9 | 2,8,9,2 5 | 8,9,13, 25 | |
| WEST | | 4, 78,9,25 ,35 | 2,4,8,2 5,35 |  | 8,9,17, 25,37 | 8,9,17, 25,37 |
| | | 2, 9, | 8,9,11 | 2,8,35 | 8,9 | 9, |
| | | 2, 4, 9 | 4,8,9,1 1,25,35 ,36 | 2,4,8,9, 11 | 2,4,8,9, 13 | 4,2, 9 |
| | | SOUTH | | | | |


 = Site

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

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

The Land Use Map below (Appendix I) illustrates the Land Use Characteristics on and within a 500 m radius around the proposed linear development. The grid and blocs represents areas of 250 m x 250 m. Each block has been provided with a grid number for reference purposes, refer to Table 8-1.

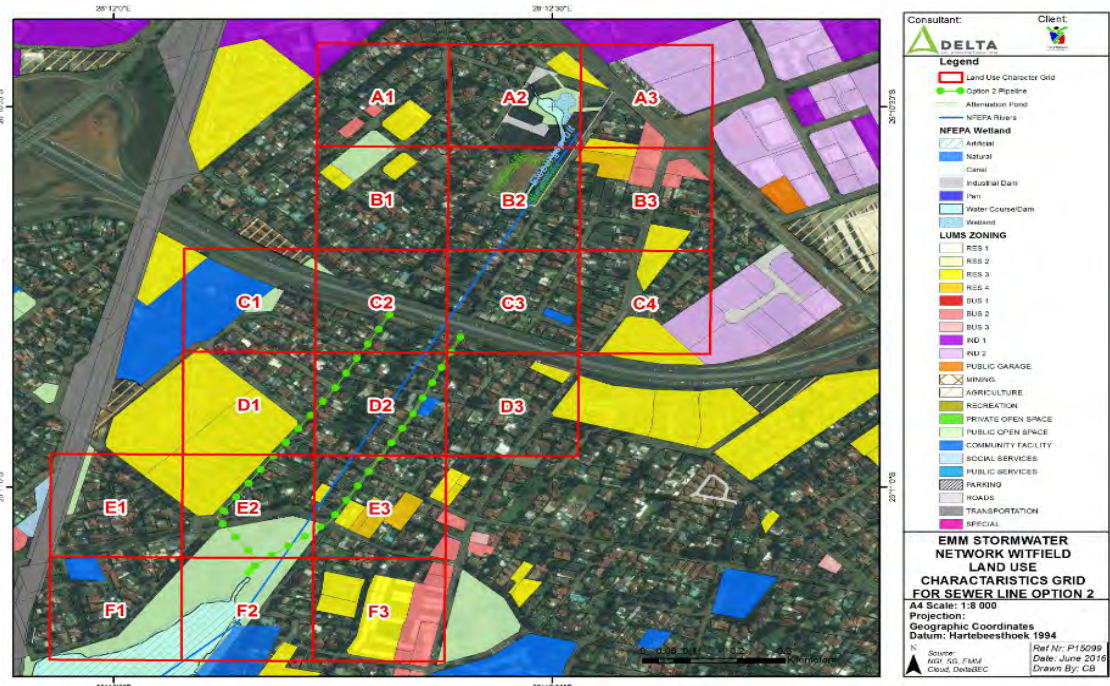


Figure 8-1: Land Use Characteristics on and within 500 m radius around the proposed development

The table below presents the grid number and the assigned classification of the land use as per Table 8-1.

Table 8-1: Land Use Classification

| GRID NUMBER | LAND USE CLASSIFICATION NUMBER | GRID NUMBER | LAND USE CLASSIFICATION NUMBER |
|-------------|--------------------------------|-------------|--------------------------------|
| A1 | 4, 8, 9, 11, 13 | D1 | 8, 9, 11 |
| A2 | 2, 8, 9, 25 | D2 | 2, 8, 35 |
| A3 | 2, 4, 8, 9, 13, 25 | D3 | 8, 9 |
| B1 | 4, 8, 9 | E1 | 4, 8, 9, 11, 25, 35, 36 |
| B2 | 2, 8, 9 | E2 | 2, 4, 8, 9, 11 |
| B3 | 8, 9, 13, 25 | E3 | 2, 4, 8, 9, 13 |
| C1 | 4, 7, 8, 9, 25, 35 | F1 | 2, 4, 6, 8, 25, 35 |
| C2 | 2, 4, 8, 25 | F2 | 2, 4, 6, 8, 9 |
| C3 | 2, 8, 25, 35 | F3 | 4, 8, 9, 13 |
| C4 | 8, 9, 17, 25, 37 | | |

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

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

Have specialist reports been attached

| | |
|-----|----|
| YES | NO |
|-----|----|

If yes indicate the type of reports below

Refer to **Appendix G** for the following specialist reports:

- Palaeontological Specialist Report
- Cultural Heritage Statement Report
- Biodiversity Specialist Report

9 SOCIO-ECONOMIC CONTEXT

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

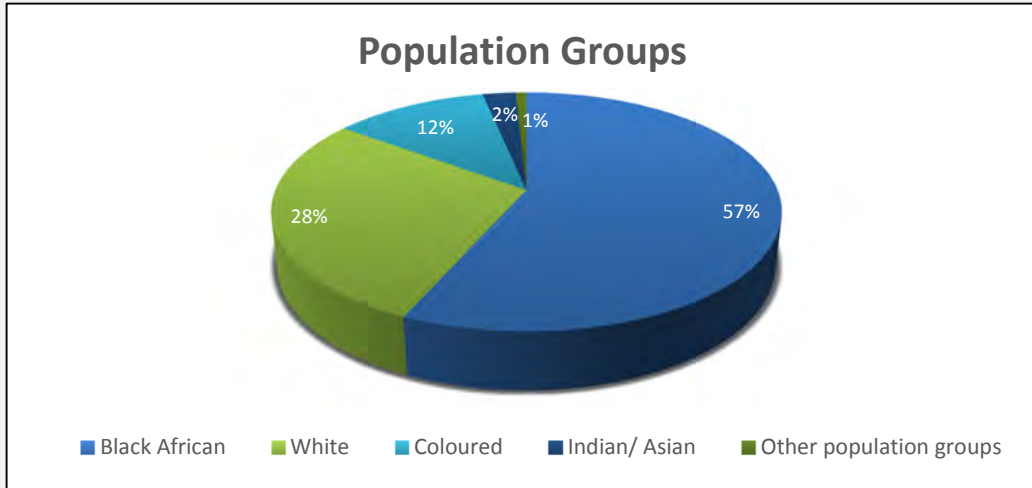
CITY REGION

Witfield is a suburb of Boksburg and falls in Ward 33 and planning Region A. The role of Region A is to accommodate future urban growth related to the Aerotropolis and to ensure linkages. Region A’s function is the enhancement and protection of the existing urban fabric, including properly planned urban expansion towards the east of the region and the provision of essential infrastructure (GIBB, 2015).

The existing social and economic characteristics of Boksburg are provided in the graphs to follow.

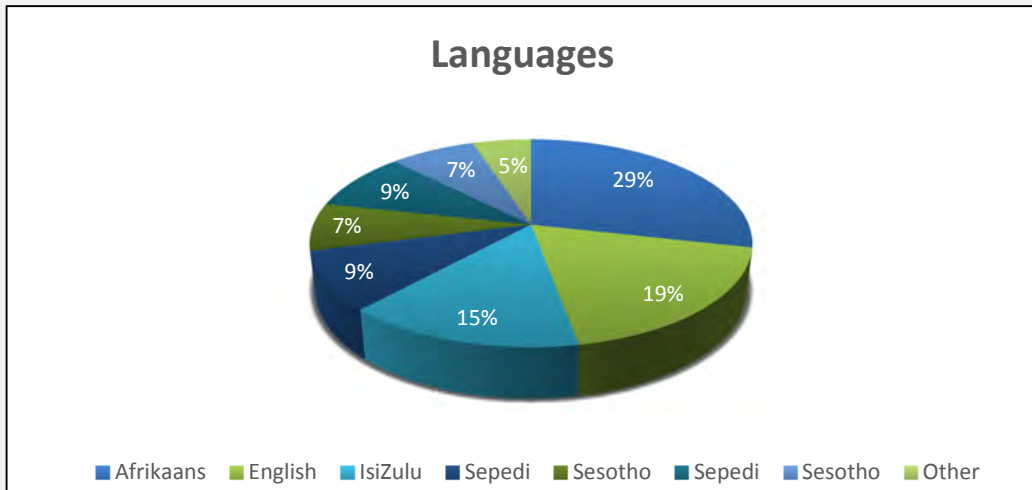
POPULATION GROUPS

The population of Boksburg consist out of 57% Black African, 28% white, 12% is coloured, 2% Indian/Asian and 1% is made up of other population groups.



LANGUAGES

Afrikaans (29%), English (19%) and isiZulu (15%) are the predominant languages in Boksburg.

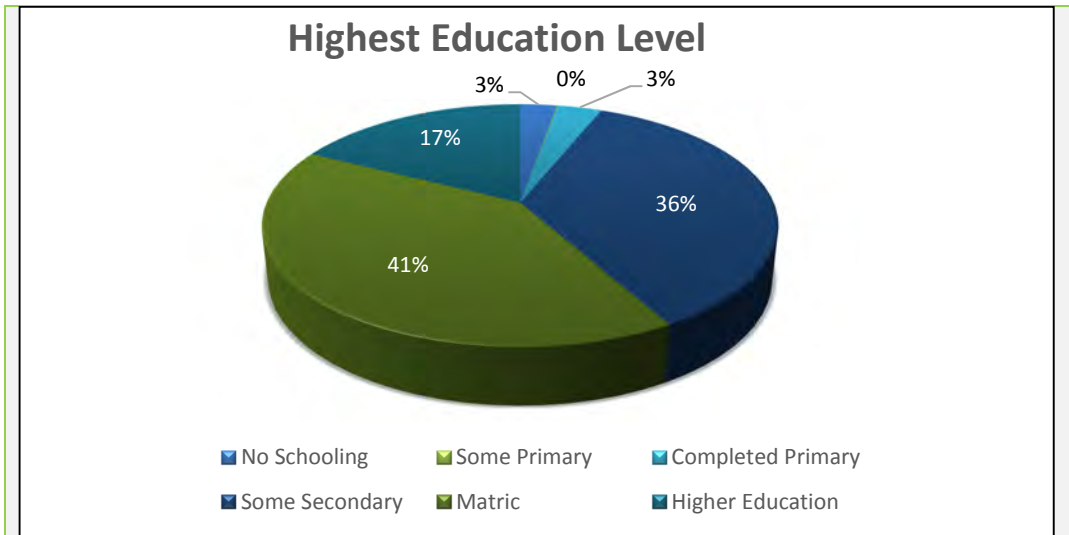


GENDER

The male population makes up 52.1% of the population and the female populations makes up 47.9%

HIGHEST EDUCATION LEVEL

A significant proportion of the population has some schooling: 41% has completed Matric, 36% has attended some secondary schooling, 17% received higher education, 3% received some primary schooling and 3% has no schooling background.



ECONOMY

Over 19% of the households receive no formal income, 14.2% receive an average household income of between R19, 601 – R38, 200 per annum. The highest average income of R 2,457, 601 is received by only 0.5% of the population.

8 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 300 m in length;
- b) the construction of a bridge or similar structure exceeding 50 m in length;
- c) any development or other activity which will change the character of a site-
 - i. exceeding 5 000 m2 in extent
 - ii. involving three or more existing erven or subdivisions thereof
 - iii. involving three or more erven or divisions thereof which have been consolidated within the past five years
 - iv. the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority.
- a) the re-zoning of a site exceeding 10 000 m2 in extent
- b) 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

| | |
|-----|----|
| YES | NO |
|-----|----|

Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or paleontological sites, on or close (within 20 m) to the site?

| | |
|--|--|
| | |
|--|--|

If YES, explain:

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

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

J van Schalkwyk, the heritage consultant who conducted the desk-top investigation of the study area, stated in the Cultural Heritage Statement (attached in **Appendix G**) that the area has a low possibility for heritage sites, especially dating to the pre-colonial area. As a result of the dense urbanisation and the fact that houses were built over the existing canal, any heritage sites or features that might have occurred here in the past, would have been destroyed. The heritage consultant is of the opinion that there would be no impact as a result of the proposed development of the stormwater network and as such SAHRA has been requested to grant exemption from doing a Heritage Impact Assessment for the site. A case was created on SAHRA’s website, please refer to Appendix F.

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

| | |
|-----|----|
| YES | NO |
| YES | NO |

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

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

SECTION C: PUBLIC PARTICIPATION

1 ADVERTISEMENT

The Environmental Assessment Practitioner must follow any relevant guidelines adopted by the competent authority in respect of public participation and must at least –

- a) Fix a site notice at a conspicuous place, on the boundary of a property where it is intended to undertake the activity which states that an application will be submitted to the competent authority in terms of these regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made;

Site notices were placed on 7 June 2016 at the following locations:

- i) Site Notice 1: At the property intended to construct the outlet structure; Edward Road; 26°11'6.99"S; 28°12'11.82"E
- ii) Site Notice 2: At the Witfield Superspar; Main Road; 26°11'30.53"S; 28°12'18.52"E
- iii) Site Notice 3: Two site notices at the property intended to construct the attenuation pond ; 26°10'36.10"S; 28°12'30.10"E
- iv) Site Notice 4: At the centre/ middle point of the proposed activity: Wilson Street; 26°10'33.04"S; 28°12'26.61"E

Please refer to the site notices in Appendix E1

- b) Inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority;

Notice of the application was given to all landowners and occupiers of adjacent land by means of registered post and Email. The written notice contained a Background Information Document and an I&AP Registration Form (Appendix E2).

- c) Inform landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity of the applicant's intention to submit an application to the competent authority;

Proof attached in Appendix E2.

- d) Inform the ward councillor and any organisation that represents the community in the area of the applicant's intention to submit an application to the competent authority;

Notice was given to Cllr Hillary Coke (Councillor – DA Ward 33) via email. See proof of notice in Appendix E2.

- e) Inform the municipality which has jurisdiction over the area in which the proposed activity will be undertaken of the applicant’s intention to submit an application to the competent authority;

Notices were sent to EMM, refer to Appendix E2.

- f) Inform any organ of state that may have jurisdiction over any aspect of the activity of the applicant’s intention to submit an application to the competent authority; and

Notices were sent to DWS, DEA, GDARD and GDRT. A case was created on SAHRA’s website, refer to Appendix E2.

- g) Place an advertisement in one local newspaper and any Gazette that is published specifically for the purpose of providing notice to the public of applications made in terms of these regulations.

A newspaper advertisement was placed in the “Beeld” on Thursday, 9 June 2016 (Appendix E3).

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 (GDARD).

Has any comment been received from the local authority?

| | |
|-----|----|
| YES | NO |
|-----|----|

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

If “NO” briefly explain why no comments have been received

It should be noted that the Draft BAR is currently subjected to a public participation process for at least 30 days. After the 30 days the basic assessment report, inclusive of specialist report and EMPr will reflect the incorporation of any comments received, including any comments of the competent authority.

3 CONSULTATION WITH OTHER STAKEHOLDERS

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

Has any comment been received from stakeholders?

| | |
|-----|----|
| YES | NO |
|-----|----|

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

Comments from Brian Gardner (consultancy undertaking an EIA for the property directly north of the proposed attenuation dam (Portion 0 of Erf 199; Property Owner: Quidditch Trading Cc)

02.08.2016

Please can you add me to your database as an interested and affected party for this particular project? Please can you send me the background information document in the meantime? I will not be able to attend the information session.

10.08.2016

As you know I was unable to attend the info session on Monday, but I would really appreciate it if you can send me any additional information that came from the info session (comments and responses from the session, or a presentation etc...) Look forward to your response.

11.08.2016

Our consultancy is undertaking an EIA for the property directly north of the proposed attenuation dam and are interested in the process being undertaken for the attenuation dam. The proposed development upslope of your attenuation dam may be affected.

Responses to Brian Gardner

02.08.2016

We herewith confirm receipt of your correspondence dated 2 August 2016 forwarded to us by electronic mail. Please find attached the following documents and files for your attention:

- Background Information Document
- KML files of the proposed Witfield Stormwater Network and Attenuation
- Frequently asked questions and responses.

11.08.2016

Can you please complete the form in the background information document (page 7) and return to us to register you as an interested/ affected party?

The comments received during the information session will be included in the Draft Basic Assessment Report that will be made available to all registered I&APs for review and comment.

12.08.2016

Thank you for the registration form.

You will be registered and kept up to date with the proceedings.

Please refer to **Appendix E4** for the Registration Form completed by Mr Brian Gardner

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

4 GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation 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 inadequate.

The practitioner must record all comments and respond to each comment of the public / interested and affected party before the application 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.

Please Note:

A public information session was held with the residents of Witfield on Monday, 8 August 2016 at the Boksburg Centenary Hall. Ms Nathalie Smal from EMM Department of Roads and Stormwater: Roads and Infrastructure Planning (North) was present at the meeting and provided input during the information session. Please refer to Appendix E5 for the invitation to attend the public information session and the attendance register. Also refer to Appendix E4 for all comments and responses captured of the public / interested and affected party.

5 APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is attached **Appendix E**. The information in this Appendix is ordered as detailed below.

| | |
|---------------|--|
| Appendix E1: | Proof of site notice |
| Appendix E2:- | Written notices issued to those persons detailed in Section C1 (b) to (f) above |
| Appendix E3: | Proof of newspaper advertisements |
| Appendix E4: | Communications to and from persons detailed in Section C 2 and 3 above |
| Appendix E5: | Invitation to attend the public information session, the attendance register and minutes of the public and stakeholder meeting |
| Appendix E6: | Comments and Responses Report |
| Appendix E7: | Comments from I&APs on Basic Assessment (BA) Report |
| Appendix E8: | Comments from I&APs on amendments to the BA Report |
| Appendix E9: | Copy of the register of I&APs |
| Appendix E10: | Comments from I&APs on the application |
| Appendix E11: | Other. |

SECTION D: RESOURCE 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
2. Each alternative needs to be clearly indicated in the box below
3. Attach the above documents in a chronological order

Section D has been duplicated for alternatives times

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

1 WASTE, EFFLUENT AND EMISSION MANAGEMENT

Solid waste management

| | | |
|--|-------------------|----|
| Will the activity produce solid construction waste during the construction/initiation phase? | YES | NO |
| If yes, what estimated quantity will be produced per month? | 69 m ³ | |

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

- Solid waste generated will mainly originate from excavation activities and unsuitable material from trench bottoms.
- All solid waste generated during the construction process (including packets, plastic, rubble, waste materials, etc.) will be placed in a bulk waste collection area in the contractor’s camp. The waste will be cleared regularly by a waste subcontractor.
- Litter collection bins will be provided within the contractor’s camp at convenient intervals and will be regularly cleared. Separation of waste and recycling of paper, glass, plastic, cardboard, etc. shall be encouraged. Burning or burying of waste will not be allowed. Unutilised, construction materials will be removed once construction has ended, e.g. crushed stone shall not be left or randomly scattered around the site.
- Low quantities of solid waste will be created during the construction period. Excavated soil will be used mostly as backfill and as such minimal waste would be produced. Any excess will be disposed of, by the appointed contractor at a licensed facility at least once a week.
- Hazardous materials that require disposal of shall be collected by an appropriate hazardous waste contractor. Certificates of safe disposal shall be obtained and records shall be kept on site.

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

Solid Waste will be disposed of at a licensed waste disposal site. The Rooikraal Landfill in Boksburg and the Rietfontein landfill in Springs are possible landfills in which solid waste can be disposed of.

Will the activity produce solid waste during its operational phase?

| | |
|-----|----|
| YES | NO |
|-----|----|

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

| |
|----------------|
| m ³ |
|----------------|

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

| |
|--|
| |
|--|

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

There will be an insignificant amount of waste generated through the construction of this activity, which will be disposed of at the nearest local landfill site.

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

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

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

The “demolition” waste generated by the construction activities and not posing a pollution hazard, will be used as a filling material on site.
Should no filling be required, this waste will be collected in waste skips and disposed off at a licensed landfill site.
Domestic waste generated during the construction will be separated where possible, into recyclable and non-recyclable waste. Recyclable waste will be collected in separate waste skips and removed by a licenced waste collector and delivered to a registered recycling facility.

Liquid effluent (other than domestic sewage)

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

| |
|----------------|
| m ³ |
|----------------|

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

| | |
|-----|----|
| YES | NO |
|-----|----|

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

| | |
|-----|-----------|
| Yes | NO |
|-----|-----------|

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

| | |
|----------------|--|
| m ³ | |
|----------------|--|

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

| |
|--|
| |
|--|

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

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

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

If yes, provide the particulars of the facility:

| | | |
|-----------------|-------|--|
| Facility name: | | |
| Contact person: | | |
| Postal address: | | |
| Postal code: | | |
| Telephone: | Cell: | |
| E-mail: | Fax: | |

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

Liquid effluent (domestic sewage)

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

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

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

| | |
|----------------|--|
| 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)?

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

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

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

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

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

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

| | |
|-----|-----------|
| YES | NO |
|-----|-----------|

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

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

Limited amounts of emissions will be released during the construction phase. The major sources of air pollution will be exhaust fumes from motor vehicles and construction vehicles. Creation of dust during construction is also expected, but will be mitigated as much as possible as suggested in the EMPr.

2 WATER USE

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

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

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

| | |
|--|--------|
| the volume that will be extracted per month: | litres |
|--|--------|

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

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

| | |
|------------|-----------|
| YES | NO |
|------------|-----------|

If yes, list the permits required

Section 21 (c): impeding or diverting the flow of water in a watercourse.
Section 21 (j): altering the bed, banks, course or characteristics of a watercourse.

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

| | |
|------------|-----------|
| YES | NO |
|------------|-----------|

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

| | |
|------------|-----------|
| YES | NO |
|------------|-----------|

3 POWER SUPPLY

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

Municipal power supply or local use of generators (very limited amounts of power will be required).

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

Local use of generators.

2 ENERGY EFFICIENCY

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

Not applicable as machinery such as diggers and bulldozers will be used to excavate soil and trenches.

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

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2006, 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.

1 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

- Will it be possible to see the proposed plans and project time frame for the project?
- Will the development cost me?
- I have heard that there is also planning being done for a development of an apartment block next to the new proposed dam?
- Is the proposed attenuation pond being built as to assist with the stabilisation of the area where the planned apartments will be erected?
- I am concerned about the safety of the community.
- The area where the proposed attenuation pond is planned to be built is a natural pond with a creek running through the field which acts as a natural storm water runoff. Why is there a need to replace the natural pond with a concrete pond?
- There are trees that have been there for years and birdlife which live in the fielded area. Has a study been done with regards to the effects the proposed attenuation pond will have on the area?
- The current natural pond and creek act as a step in the process of natural water purification. How will the proposed attenuation pond assist with this function?
- Will the water within the proposed attenuation pond be stationary or will there be a water flow through the pond?
- How will the natural landscape be changed?
- Our consultancy is undertaking an EIA for the property directly north of the proposed attenuation dam and are interested in the process being undertaken for the attenuation dam. The proposed development upslope of your attenuation dam may be affected.

Summary of response from the practitioner to the issues raised by the interested and affected parties (A full response must be provided in the Comments and Response Report that must be attached to this report):

Refer to Appendix E7 for the full report of comments received.

- The project schedule has not been finalised, but the preliminary construction commencement date is planned for June 2017.
- Please refer to Annexure A: Facility Illustrations and Drawings.
- The public will not incur costs for the proposed development.
- The planned residential development (next to the new proposed attenuation dam) does not have any connotation with, nor form part of Ekurhuleni Metropolitan

Municipality's scope of work for the proposed stormwater network and attenuation pond.

- The proposed stormwater network and attenuation pond is commissioned for a public purpose or in the public interest. The proposed attenuation pond is not merely to assist in the stabilisation of the area for possible future developments in the area, but also to improve the current stormwater management in the area and reduce the risk of flooding of residential houses.
- Mitigation measures will be included in the Environmental Management Programme (EMPr), indicating how the impacts on the safety of the community, including traffic and transportation will be managed and mitigated.
- The natural stream/pond does not attenuate stormwater, which causes the existing culvert to surcharge during storm events. The inlets downstream of this area are surcharged to such an extent that water actually discharges out of them and into the properties. In order to alleviate pressure on the system an attenuation pond is proposed as it will help to minimise the flows into the existing culvert system. The main purpose of the pond will be to reduce the peak flow in the existing culvert structure.
- A Biodiversity Assessment was done by a specialist to determine the impact on wetlands, rivers, fauna and flora within the project area. The findings of this assessment will be incorporated into the Environmental Management Programme for the construction phase of the project.
- The attenuation pond slows down the velocity of water similar to that of the natural stream, it will help to remove silt and purify water much like a silt trap does in the mining industry. The pond will provide much the same purification as that of the existing stream, but with the added benefit of being easy to clean and maintain, which was difficult to do with the existing stream.
- The attenuation pond will be normally dry, except following storm events when it will temporarily stores stormwater to attenuate flows.

Mitigation measures will be included in the Environmental Management Programme (EMPr), indicating how the impacts on the natural landscape must be managed and mitigated. You will be informed once the document is available for review and comment.

2 IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

The methodology utilised in the rating of significance of impacts are described below.

The method to be used for assessing risks/impacts is outlined in the sections below.

The first stage of the risk/impact assessment is the identification of environmental activities, aspects and impacts. This is supported by the identification of receptors and resources, which allows for an understanding of the impact pathway and an assessment of the sensitivity to change. The definitions used in the impact assessment are presented below.

- An **activity** is a distinct process or task undertaken by an organisation for which a responsibility can be assigned. Activities also include facilities or infrastructure that is possessed by an organisation.

- An **environmental aspect** is an 'element of an organizations activities, products and services which can interact with the environment. The interaction of an aspect with the environment may result in an impact.
- **Environmental risks/impacts** are the consequences of these aspects on environmental resources or receptors of particular value or sensitivity, for example, disturbance due to noise and health effects due to poorer air quality. In the case where the impact is on human health or wellbeing, this should be stated. Similarly, where the receptor is not anthropogenic, then it should, where possible, be stipulated what the receptor is.
- **Receptors** can comprise, but are not limited to, people or human-made systems, such as local residents, communities and social infrastructure, as well as components of the biophysical environment such as wetlands, flora and riverine systems.
- **Resources** include components of the biophysical environment.
- **Frequency** of activity refers to how often the proposed activity will take place.
- **Frequency** of impact refers to the frequency with which a stressor (aspect) will impact on the receptor.
- **Severity** refers to the degree of change to the receptor status in terms of the reversibility of the impact, sensitivity of receptor to stressor, duration of impact (increasing or decreasing with time), controversy potential and precedent setting, threat to environmental and health standards.
- **Spatial extent** refers to the geographical scale of the impact.
- **Duration** refers to the length of time over which the stressor will cause a change in the resource or receptor.

The significance of the impact is then assessed by rating each variable numerically according to the defined criteria. The purpose of the rating is to develop a clear understanding of influences and processes associated with each impact. The severity, spatial scope and duration of the impact together comprise the consequence of the impact and when summed can obtain a maximum value of 15. The frequency of the activity and the frequency of the impact together comprise the likelihood of the impact occurring and can obtain a maximum value of 10. The values for likelihood and consequence of the impact are then read off a significance rating matrix and are used to determine whether mitigation is necessary.

The assessment of significance is undertaken twice. Initially, significance is based on only natural and existing mitigation measures (including built-in engineering designs). The subsequent assessment takes into account the recommended management measures required to mitigate the impacts. Measures such as demolishing infrastructure, and reinstatement and rehabilitation of land, are considered post-mitigation.

The model outcome of the impacts is then assessed in terms of impact certainty and consideration of available information. The Precautionary Principle is applied in line with the South Africa's National Environmental Management Act (No. 108 of 1997). In instances of uncertainty or lack of information, the assigned ratings or adjusting final model outcomes are increased. In certain instances, where a variable or outcome requires rational adjustment due to model limitations, the model outcomes have been adjusted.

The below tables stipulates the criteria for assessing significance of impacts (Significance = Likelihood x Consequence)

LIKELIHOOD DESCRIPTORS

| Probability of Impact | RATING |
|--------------------------------------|--------|
| Highly unlikely | 1 |
| Possible | 2 |
| Likely | 3 |
| Highly likely | 4 |
| Definite | 5 |
| Sensitivity of Receiving Environment | RATING |
| Not sensitive/important | 1 |
| Limited sensitivity/importance | 2 |
| Moderately sensitive/ /important | 3 |
| Highly sensitive /important | 4 |
| Critically sensitive /important | 5 |

CONSEQUENCE DESCRIPTORS

| Severity of Impact | RATING |
|--|--------|
| Insignificant / ecosystem structure and function unchanged | 1 |
| Small / ecosystem structure and function largely unchanged | 2 |
| Significant / ecosystem structure and function moderately altered | 3 |
| Great / harmful/ ecosystem structure and function Largely altered | 4 |
| Disastrous / ecosystem structure and function seriously to critically altered | 5 |
| Spatial Extent of Impact | RATING |
| Activity specific/ < 5 ha impacted / Linear features affected < 100 cm | 1 |
| Development specific/ within the site boundary / < 100ha impacted / Linear features affected < 100 m | 2 |
| Local area/ within 1 km of the site boundary / < 5000ha impacted / Linear features affected < 1000 m | 3 |
| Regional within 5 km of the site boundary / < 2000ha impacted / Linear features affected < 3000m | 4 |
| Entire habitat unit / Entire system/ > 2000ha impacted / Linear features affected > 3000 m | 5 |
| Duration of Impact | RATING |
| One day to one month | 1 |
| One month to one year | 2 |
| One year to five years | 3 |
| Life of operation or less than 20 years | 4 |
| Permanent | 5 |

Significant rating matrix

| | | CONSEQUENCE (Severity + Spatial Extent + Duration) | | | | | | | | | | | | | | |
|--|----|--|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|--|
| LIKELIHOOD (Probability + Sensitivity) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | |
| | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 | |
| | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 | 56 | 60 | |
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | |
| | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 | 78 | 84 | 90 | |
| | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 | 91 | 98 | 105 | |
| | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 | |
| | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 | 117 | 126 | 135 | |
| | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | |

Positive/ Negative Mitigation Ratings

| Significance Rating | Value | Negative Impact management recommendation | Positive Impact management recommendation |
|----------------------------|--------------|--|--|
| Very High | 126 - 150 | Consider the viability of the project. Very strict measures to be implemented to mitigate impacts according to the impact mitigation hierarchy if the project is to proceed. | Actively promote the project. |
| High | 101 - 125 | Consider alternatives in terms of project execution and location. Ensure designs take environmental sensitivities into account and ensure management and housekeeping is maintained and attention to impact minimisation is paid according to the impact mitigation hierarchy. | Promote the project and monitor ecological performance |
| Medium High | 76 – 100 | Consider alternatives in terms of project execution and ensure management and housekeeping is maintained and attention to impact minimisation is paid according to the impact mitigation hierarchy. | Implement measures to enhance the ecologically positive aspects of the project while managing any negative impacts |

| Significance Rating | Value | Negative Impact management recommendation | Positive Impact management recommendation |
|----------------------------|--------------|---|--|
| Medium Low | 51 - 75 | Risk and impact on aspects are notable and require mitigation measures on a higher level, which costs more and require specialist inputs. | Implement measures to enhance the ecologically positive aspects of the project while actively managing any negative impacts. |
| Low | 26 - 50 | Acceptable as is or consider requirement for mitigation. Impacts are regarded as small and easily mitigated. | Monitor ecological performance and pay extensive attention to minimizing potential negative environmental impacts |
| Very Low | 1 - 25 | Promote the project. | Actively seek measures to implement impact minimization according to the impact mitigation hierarchy and identify promoted |

An impact assessment following the above methodology will be undertaken where the anticipated impacts on the ecological environment arising from the project will be assessed. The significance of each impact will be determined for each phase of the project life cycle. Following the assessment of impacts, migratory measures will be developed which will aim to lessen or negate the significance of the identified impacts.

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

| CONSTRUCTION | | | | | | | | | |
|---------------------|---|---|-----------------------|---------------------------|------------------------------|---|----------------------------|---|---|
| Aspect | Potential Impact | Duration | Spatial Extent | Severity of Impact | Probability of Impact | Sensitivity of receiving environment | Significance Rating | Proposed Mitigation | Significance impact after mitigation |
| Wetlands | Excavations of attenuation pond and new outlet have the potential to damage wetlands and result in the loss of wetland areas. | Permanent | Local area | Significant | Highly Likely | Moderately sensitive | Medium - Low | <ul style="list-style-type: none"> It is preferable that construction takes place during the dry season (if possible) to reduce the erosion potential of the exposed surfaces. | Low |
| | Construction activities during the upgrade of the stormwater canals have the potential to alter the hydrological regime, impair water quality, result in biodiversity loss and alter the hydrological regime. | Permanent | Local area | Significant | Highly Likely | Moderately sensitive | Medium - Low | <ul style="list-style-type: none"> The delineated wetland area must be avoided where possible. Laydown yards, camps and storage areas must be established beyond the wetland and buffer areas. The contractors used for the project should have spill kits available to ensure that any fuel or oil spills are clean-up and discarded correctly. | Low |
| | Stormwater Management | Life of operation or less than 20 years | Local area | Significant | Highly Likely | Moderately sensitive | Medium - Low | <ul style="list-style-type: none"> Prevent uncontrolled access of vehicles through wetlands that can cause a significant adverse impact on the hydrology and soil structure of these areas through rutting (which can act as flow conduits) and through the compaction of soils. | Low |

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

| CONSTRUCTION | | | | | | | | | |
|--------------------------|--|------------------------|-----------------------|---------------------------|------------------------------|---|----------------------------|--|---|
| Aspect | Potential Impact | Duration | Spatial Extent | Severity of Impact | Probability of Impact | Sensitivity of receiving environment | Significance Rating | Proposed Mitigation | Significance impact after mitigation |
| Aquatic Systems | The construction activities are situated in close proximity to aquatic ecosystems, there is potential for pollutants entering these systems. Potential sources include hydrocarbons and soils entering the system through surface runoff, resulting in deterioration of habitat quality. | One year to five years | Local | Significant | Possible | Moderately sensitive | Very Low | <ul style="list-style-type: none"> Construction activities and vehicles could cause spillages of lubricants, fuels and construction material which could runoff into aquatic ecosystems. All vehicles and equipment must be maintained, and all re-fuelling and servicing of equipment is to take place in demarcated areas away from aquatic ecosystems. | Very Low |
| | The proposed activities include excavations in order to construct the attenuation ponds. There is potential for further sedimentation of the aquatic systems, resulting in decreased water quality. | One year to five years | Local | Significant | Possible | Moderately sensitive | Very Low | <ul style="list-style-type: none"> No equipment may be washed within the watercourse, nor may dumping of construction material into the drainage system take place. Adequate sanitary facilities and ablutions on the servitude must be provided for all personnel. | Very Low |
| Terrestrial Fauna | Potential impacts on terrestrial ecosystems include the loss of species of conservation concern. | Permanent | Local | Significant | Possible | Limited sensitivity | Very Low | <ul style="list-style-type: none"> The intentional killing of any animals including snakes, lizards, birds or other animals should be prohibited. | Very Low |

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

| CONSTRUCTION | | | | | | | | | |
|-------------------------------|------------------------------|---|-----------------------|---------------------------|------------------------------|---|----------------------------|---|---|
| Aspect | Potential Impact | Duration | Spatial Extent | Severity of Impact | Probability of Impact | Sensitivity of receiving environment | Significance Rating | Proposed Mitigation | Significance impact after mitigation |
| Terrestrial Vegetation | Loss of vegetation | One year to five years | Local | Significant | Likely | Limited sensitivity | Very Low | <ul style="list-style-type: none"> Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover. The grassland can be removed as sods and re-established after construction is completed. | Very Low |
| | Soil Erosion | Life of operation or less than 20 years | Project specific | Significant | Likely | Limited sensitivity | Very Low | <ul style="list-style-type: none"> Protect all areas susceptible to erosion (especially the sloped rocky grassland) i.e keep well-maintained contour banks, sediment fences or turf buffer strips, and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas. After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction. | Very Low |
| | Increase in Alien Vegetation | Permanent | Local | Significant | Highly Likely | Moderately sensitive | Low | <ul style="list-style-type: none"> Alien invasive species, in particular category 1 species that were identified within the study area should be removed from the development footprint and immediate surrounds, prior to construction or soil disturbances. By removing these species, the spread of seeds will be prevented into disturbed soils which could thus have a positive impact on the surrounding natural vegetation. | Low |
| | Soil compaction | Life of operation or less than 20 years | Project specific | Significant | Likely | Limited sensitivity | Very Low | <ul style="list-style-type: none"> Prohibit vehicular or pedestrian access into areas beyond the demarcated project footprint. | Very Low |

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

| CONSTRUCTION | | | | | | | | | |
|-----------------------------|---|-----------------------|------------------|--------------------|-----------------------|--------------------------------------|---------------------|--|--------------------------------------|
| Aspect | Potential Impact | Duration | Spatial Extent | Severity of Impact | Probability of Impact | Sensitivity of receiving environment | Significance Rating | Proposed Mitigation | Significance impact after mitigation |
| Palaeontological Resources | Plant fossils detected during excavation activities. | Permanent | Local areas | Significant | Highly unlikely | Limited sensitivity | Very Low | <ul style="list-style-type: none"> If fossil plant material is discovered, a professional palaeobotanist must be appointed to assess the importance of the material. | Very Low |
| | | | | | | | | <ul style="list-style-type: none"> Do not disturb these sites until approval/ permit has been obtained from SAHRA for the palaeontologist to rescue the discovered fossil plant material. | |
| | | | | | | | | <ul style="list-style-type: none"> Ensure that all contractors and subcontractors are made aware of the potential existence of palaeontological resources. | |
| Cultural Heritage Resources | No impact on cultural heritage resources has been identified. | Permanent | Local areas | Significant | Highly unlikely | Limited sensitivity | Very Low | <ul style="list-style-type: none"> Inform a heritage practitioner immediately if any archaeological sites or graves are exposed during construction activities. | Very Low |
| | | | | | | | | <ul style="list-style-type: none"> Do not disturb these sites until further approval / permit has been obtained from SAHRA. | |
| | | | | | | | | <ul style="list-style-type: none"> Ensure all sub-contractors and contractors are made aware of the potential existence of cultural heritage resources. | |
| Waste Management | Soild waste generated by excavation activities. | One month to one year | Project specific | Significant | Definite | Limited sensitivity | Low | <ul style="list-style-type: none"> The management of waste must be in accordance with the stipulations of the municipal Soild Waste By-law (2002) | Low |
| | | | | | | | | <ul style="list-style-type: none"> No littering is permitted and site clean-ups must be regularly undertaken. | |

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

| CONSTRUCTION | | | | | | | | | |
|--------------------|--|-----------------------|-------------------|--------------------|-----------------------|--------------------------------------|---------------------|--|--------------------------------------|
| Aspect | Potential Impact | Duration | Spatial Extent | Severity of Impact | Probability of Impact | Sensitivity of receiving environment | Significance Rating | Proposed Mitigation | Significance impact after mitigation |
| | | | | | | | | <ul style="list-style-type: none"> • Sufficient weather and scavenger proof containers shall be provided at the site camp for the disposal of solid waste. • Waste and litter shall be disposed of into the bins to be provided by the contractor, and must not be allowed to be blown off site. • Ensure the waste is segregated, classified and labelled at the source. • The disposal of / burying of waste on site shall not be permitted. • Bins shall be emptied at least once weekly or more regularly if required. • All waste shall be disposed of at a licensed landfill site. | |
| Air Quality | Dust will be generated from the movement of vehicles during the clearing of vegetation and throughout the construction phase of the development. | One month to one year | Project specific | Small | Definite | Limited sensitivity | Low | <ul style="list-style-type: none"> • Construction vehicle speeds should be reduced to limit dust generation. • Keep a complaints register at construction site to record all complaints received from the community. | Low |
| | The movement of construction vehicles, construction activities and excavations equipment will generate noise during the construction phase of the development. | One month to one year | Activity specific | Small | Definite | Limited sensitivity | Low | <ul style="list-style-type: none"> • Implement noise management plan to indicate how noise will be reduced. • Keep a complaints register at construction site to record all complaints received from the community. | Low |

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

| CONSTRUCTION | | | | | | | | | |
|--|---|-----------------------|------------------|--------------------|-----------------------|--------------------------------------|---------------------|---|--------------------------------------|
| Aspect | Potential Impact | Duration | Spatial Extent | Severity of Impact | Probability of Impact | Sensitivity of receiving environment | Significance Rating | Proposed Mitigation | Significance impact after mitigation |
| Health and Safety | The construction phase pose a risk to the local public and employees, employed to perform construction work, due to unforeseen incidents and accidents. | One month to one year | Project specific | Great | Possible | Limited sensitivity | Low | <ul style="list-style-type: none"> Adequate signs must be placed in the area where construction will take place. | Low |
| | | | | | | | | <ul style="list-style-type: none"> Plan construction operation in such a manner that the length of the excavated trenches remains open at a restricted minimum time. | |
| | | | | | | | | <ul style="list-style-type: none"> The length of open trench at each work front shall not exceed 1000 m. | |
| | | | | | | | | <ul style="list-style-type: none"> The client, project management team and contractor must comply with the National building Regulations and Building Act (No. 103 of 1997) and the Occupational Health and Safety Act (No. 95 of 1993) | |
| Public and Service Infrastructure | The construction phase pose a risk to damage and disruption of yet unidentified services and public infrastructure. | Short term | Local area | Significant | Highly Likely | Limited sensitivity | Medium - Low | <ul style="list-style-type: none"> Negotiate with local authorities, well before construction, to determine what the needs are for the use of municipal services (water, electricity, sewage wastewater disposal). | Low |
| | | | | | | | | <ul style="list-style-type: none"> Liaise closely with the relevant authorities on all matters related to potential use of or impact on public services or service infrastructure, e.g. roads, pipelines, telecommunication, waste facilities, health services, emergency services, law enforcement services and development and mitigation plans. | |
| | | | | | | | | <ul style="list-style-type: none"> Keep the disruption of essential services as short as possible to minimise public inconvenience for both planned and unforeseen events. | |

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

| CONSTRUCTION | | | | | | | | | |
|---------------------------|--|-----------------------|----------------|--------------------|-----------------------|--------------------------------------|---------------------|---|--------------------------------------|
| Aspect | Potential Impact | Duration | Spatial Extent | Severity of Impact | Probability of Impact | Sensitivity of receiving environment | Significance Rating | Proposed Mitigation | Significance impact after mitigation |
| | | | | | | | | <ul style="list-style-type: none"> Protect all public and private service infrastructures (e.g. pipelines, cables) by clearly marking these or incorporating the relevant servitudes into 'No-go' areas, where applicable Negotiate with local authorities, well before construction, to determine what the needs are for the use of municipal services (water, electricity, sewage wastewater disposal). | |
| Traffic Management | The construction activities may interfere with traffic as a result of road closures during construction. | One month to one year | Local area | Significant | Highly Likely | Limited sensitivity | Medium - Low | <ul style="list-style-type: none"> Complete construction within the road reserve at the shortest time possible. Implement a traffic management plan to indicate how traffic will be managed. Employ flag personnel to regulate the traffic. | Low |

The following specialist reports were used to fill in the above tables. Such reports are attached in **Appendix G**.

- Biodiversity Assessment Report
- Palaeontological Impact Assessment Report
- Cultural Heritage Impact Assessment Report

3 IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

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

It is not envisaged that the proposed stormwater network and attenuation pond will be decommissioned in the foreseeable future. Should decommissioning take place, the legislation applicable at that time should be complied with, and relevant environmental practices implemented.

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:

The proposed upgrades will result in direct risks to the wetland systems, due to the excavations and associated activities required within the wetland areas. The improved stormwater management will divert stormwater to the larger dam system and is likely to impact on the overall water quality of the system. The significance of the risks associated with the proposed upgrade range from low to moderate.

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

WETLANDS

The potential impacts on wetlands systems, as a result of the proposed development have been identified as loss of wetland areas, damage to wetlands, altered hydrological regime, siltation of wetland, impaired water quality and loss of biodiversity. These impacts have been rated by the specialist as moderate. Provided that all the suggested mitigations are implemented, the proposed development impact should remain moderate on the wetland systems.

AQUATIC ECOSYSTEMS

The potential impacts on aquatic ecosystems, as a result of the proposed development, have been identified as decreased water quality and deterioration on habitat quality. These impacts have been rated by the specialist as low. Provided that all suggested mitigations are implemented, the proposed development impact should remain low on the terrestrial vegetation.

TERRESTRIAL FAUNA

The potential impact on terrestrial fauna, as a result of the proposed development has been identified as the loss of species of concern. The impact has been rated by the specialist as low. Provided that the suggested mitigation is implemented, the proposed development's impact should remain low on terrestrial fauna

TERRESTRIAL VEGETATION

The potential impacts on terrestrial vegetation, as a result of the proposed development have been identified as loss of plant species during vegetation clearing, exposure of the soil to erosion, spread of alien invasive vegetation, soil compaction and the subsequent disturbance of the soil seed bank. These impacts have been rated by the specialist as low to moderate. Provided that all suggested mitigations are implemented, the proposed development impact should be low on the terrestrial vegetation.

PALEONTOLOGICAL RESOURCES

No potential impact on palaeontological resources has been identified, however the possibility exists that plant fossils may only be detected once excavation activities have started. The impact has been rated by the specialist as low and provided that the suggested mitigation measures are implemented, the proposed development impact should remain low on palaeontological resources.

CULTURAL HERITAGE RESOURCES

No potential impact on cultural heritage resources has been identified as a result of the proposed development. The impact has been rated as low by the specialist and provided that the suggested mitigation measures are implemented the proposed development impact should remain low on cultural heritage resources.

WASTE

The potential impact of waste, as a result of poor waste management practices has been rated as low. Provided that the suggested mitigation measures will be implemented the proposed development will have a low waste impact.

AIR QUALITY

The potential impact on air quality and noise, as a result of the movement of construction vehicles during clearing of vegetation, excavation of earth and construction workers on site during the construction phase of the project. These impacts have been rated as low prior to the implementation of mitigation measures.

PUBLIC AND SERVICE INFRASTRUCTURE

The potential impacts on public and service infrastructure, as a as a result of the proposed development have been identified as unidentified service and public infrastructure that could

result in damages and disruption of services. These impacts have been identified as medium-low. Provided that the suggested mitigation measures will be implemented the proposed development should have a low impact on public and service infrastructure.

Alternative 1

Same as proposal, however excluding the potential impact on the northern wetland systems where the attenuation pond is proposed.

Alternative 2

Same as proposal.

No-go (compulsory)

The 'No-go' alternative is the alternative option of not developing the attenuation pond and stormwater network. This alternative would result in no environmental impacts on the site or surrounding areas. However, failure to proceed with the development the status quo will remain that is the natural stream/pond (property on which the attenuation pond is proposed) does not attenuate stormwater, and therefore causes the existing culvert to surcharge during storm events. The inlets downstream of this area frequently surcharged to such an extent that stormwater discharges out of the inlets and into the properties. Residents of Witfield will continue to experience flooding during heavy rainfall periods, which causes damage to homes and compromise the quality of the lives affected. **The "no-go"** option will also prevent the stabilisation of the area for possible future development in the area.

6 IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The impacts are identified as low and not significant following the implementation of mitigation measures.

For alternative:

All associated impacts will be the same as that of the above-mentioned.

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

The stormwater network will affect the least possible amount of properties and will mostly be routed within the road reserve. Prevent flooding of low-lying areas in the Witfield area.

7 RECOMMENDATION OF 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)

| | |
|-----|----|
| YES | NO |
|-----|----|

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

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

The Environmental Management Program attached to this Basic Assessment Report must be implemented during all phases. However the important aspects regarding the mitigation measures that need be considered are:

- The delineated wetland area must be avoided where possible. Laydown yards, camps and storage areas must be beyond the wetland and buffer areas. Where possible, existing access routes and paths must be made use of, and new routes limited.
- The contractors used for the project should have spill kits available to ensure that any fuel or oil spills are cleaned-up and discarded correctly.
- It is preferable that construction takes place during the dry season (if possible) to reduce the erosion potential of the exposed surfaces.
- Adequate sanitary facilities and ablutions on the servitude must be provided for all personnel.
- Prevent uncontrolled access of vehicles through wetlands that can cause a significant adverse impact on the hydrology and soil structure of these areas through rutting (which can act as flow conduits) and through the compaction of soils.
- Construction activities and vehicles could cause spillages of lubricants, fuels and construction material which could runoff into aquatic ecosystems. All vehicles and equipment must be maintained, and all re-fuelling and servicing of equipment is to take place in demarcated areas away from aquatic ecosystems.
- No equipment may be washed within the watercourse, nor may dumping of construction material into the drainage system take place.
- The intentional killing of any animals including snakes, lizards, birds or other animals should be prohibited.
- Prohibit vehicular or pedestrian access into areas beyond the demarcated project footprint.
- After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction.
- Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover. The grassland can be removed as sods and re-established after construction is completed.

- Protect all areas susceptible to erosion (especially the sloped rocky grassland) and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas.
- Alien invasive species, in particular category 1 species that were identified within the study area should be removed from the development footprint and immediate surrounds, prior to construction or soil disturbances. By removing these species, the spread of seeds will be prevented into disturbed soils which could thus have a positive impact on the surrounding natural vegetation.
- If fossil plant material is discovered, a professional palaeobotanist must be appointed to assess the importance of the material.
- Inform a heritage practitioner immediately if any archaeological sites or graves are exposed during the construction activities.

8 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

If the EAP answers yes to Point 7 above then an EMPr is to be attached to this report as an Appendix

EMPr attached

Appendix H

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

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

- Appendix A: Site plan(s)
- Appendix B: Photographs
- Appendix C: Facility illustration(s)
- Appendix D: Route position information
- Appendix E: Public participation information
- Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information
- Appendix G: Specialist reports
- Appendix H: EMPr
- Appendix I: Other information.

CHECKLIST

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

Where requested, supporting documentation has been attached.

All relevant sections of the form have been completed.