



**BASIC ASSESSMENT FOR THE CONSTRUCTION OF
MOOKLOOF RIDGE BULK PIPELINE, CITY OF
TSHWANE, GAUTENG PROVINCE.**

DRAFT BASIC ASSESSMENT REPORT

GDARD REFERENCE NUMBER: GAUT 002/14-15/0219

March 2015

COMPILED BY:
Envirolution Consulting (Pty) Ltd
PO Box 1898
Sunninghill
2157
Tel: (0861) 44 44 99
Fax: (0861) 62 62 22
E-mail: info@envirolution.co.za
Website: www.envirolution.co.za

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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.
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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

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

(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?

Is a list of State Departments referred to above been attached to this report?

See Attached Appendix K

if no, state reasons for not attaching the list.

SECTION A: ACTIVITY INFORMATION

1. ACTIVITY DESCRIPTION

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

Mooikloof Ridge Bulk Pipeline, City of Tshwane Metropolitan Municipality , Gauteng Province

Select the appropriate box

The application is for an upgrade of an existing development

The application is for a new development

Other, specify

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

YES	NO
X	

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

According to the National Water Act (NWA), 1998 (Act No.36 of 1998), the proposed development requires a Water Use License as per the following regulations:

- Section 21(c): impeding or diverting the flow of water in a watercourse and;
- Section 21 (i): altering the bed, banks, course or characteristics of a watercourse

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

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

YES	NO X
YES	NO

The application for Water use license can only be started once the ROD has been issued by GDARD

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:

544, 18 June 2010	Activity 09: of listing notice 1 of 2010	The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water – (i) with an internal diameter of 0,36 metres or more; or
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BASIC ASSESSMENT REPORT [REGULATION 22(1)]

		<p>(ii) with a peak throughput of 120 litres per second or more, excluding where:</p> <p>a. such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or</p> <p>b. where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</p>
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Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act No. 107 of 1998 as amended.	National & Provincial	27 November 1998
National Environmental Management Act, 1998 (Act No. 107 of 1998): The National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA] was enacted in November 1998. NEMA strives to legislate the Consultative National Environmental Management Policy Process (CONEPP) and has repealed a number of the provisions of the Environmental Conservation Act. NEMA is focused primarily on co-operative governance, public participation and sustainable development.	Department of Environmental Affairs (DEA)	27 November 1998
Integrated Environmental Management: Integrated Environmental Management (IEM) is a philosophy, which prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development process. This philosophy aims to achieve a desirable balance between conservation and development. Integrated Environmental Management (IEM) is a philosophy, which prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development process. This philosophy aims to achieve a desirable balance between conservation and development (Department of Environmental Affairs: DEAT, 1992). The IEM guidelines intend endearing a pro-active approach to sourcing, collating and presenting information at a level that can be interpreted at all levels.	Department of Environmental Affairs (DEA)	1992
National Water Act, 1998 (Act No. 36 of 1998): The National Water Act aims to provide management of the national water resources to achieve sustainable use of water for the benefit of all water users. This requires that the quality of water resources is protected as well as integrated management of water resources with the delegation of powers to institutions at the regional or catchment level. The purpose of the Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled. Of specific importance to this application is Section 19 of the National Water Act, 1998 (Act No. 36 of 1998), which states that an owner of land, a person in control of land or a person who occupies or uses the land which thereby causes, has caused or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring and must therefore comply with any prescribed waste standard or management practices.	Department of Water Affairs (DWA)	1998
National Heritage Resource Act, 1999 (Act No. 25 of 1999): In terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), a Heritage Impact Assessment must be conducted for the proposed development site, since the proposed pipelines are both greater than 300m in length.	South African Heritage Agency And Gauteng Agency PHRA-G	1999

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

<p>("Section 38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as: (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length.")</p>		
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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

No.	Alternative type, either alternative: site on property, properties, activity, design, technology, operational or other(provide details of "other")	Description
1	Steel Pipe Proposal (preferred)- (Pink and Red on map)	<p>The proposed Reticulation pipeline route as per the master plan (Shown in PINK & RED on the locality plan) is as follows: Connect to RW connection at Philadelphia Road, Woodlands Mall entrance.</p> <ul style="list-style-type: none"> - Follow the Garstfontein Road reserve for ±900m until after the water course crossing. Way-Leave approval required from the Gauteng Department of Transport. - The route follows a sewer servitude over portion 279 Garstfontein 374 JR and portion 75 of Rietfontein 375 JR and into the Mooikloof ridge residential estate. The servitude is only 3m wide and will probably have to be increased. - Located in a servitude over Mooikloof Ridge x15 and enter the pump station located in Augrabies Street reserve. The new pump station likely to be located in the servitude on the northern boundary of Mooikloof Ridge x15. - From the pumpstation the route follows the Augrabies Street 20m wide reserve and then along the south-eastern boundary of Mooikloof Ridge x6 as it exits the Mooikloof Ridge estate into Blesbok street. Seems no servitude was registered to protect the existing pipe. - Blesbok Street is a ROW servitude ±15m wide and comprises a tarred road. The route follows the servitude up to the intersection with Eland Street. - Eland Street is a ROW servitude ±15m wide and comprises a tarred road. The route follows the servitude up to the intersection with Fisant Street. - At the Eland/Fisant Street intersection it transverse over portions 16 and 26 of Rietfontein 375 JR. New servitude along the portion boundaries will be required (±500m). - The route exits portion 26 into a ±15m ROW servitude which comprises a gravel road. The servitude extends all the way south to the border of Grootfontein Country estate. - The pipe route now turns east and follows the powerline

	<p>Steel Pipe Proposal (preferred)- (shown in yellow on map)</p>	<p>servitude up to the existing reservoir complex. The RED route will be required for the reticulation supply from the reservoir. The bulk and reticulation pipelines may likely follow different routes. This proposed route is primarily located in servitudes but existing services and boundary walls need to be protected during construction. The accommodation of traffic will also be an important consideration and/or the construction procedure. The proposed route is primarily located in servitudes but existing services and boundary walls need to be protected during construction. An Bulk Extension pipeline route (Shown in YELLOW on the locality plan) to be investigated in the future preliminary design is the following: - Connect to RW connection at Philadelphia Road, Woodlands Mall entrance. - Follow the Garstfontein Road reserve for ±4.600m to approximately the southern boundary of Mooikloof Estate. The first portion is believed to be located in the road reserve and the Gauteng Department of Transport will be engaged to allow for the bulk feeder to be located in their road reserve. - At Mooikloof Estate's southern boundary it crosses over and follows the eastern boundary of Rietfontein 375 JR. A new servitude over portion 62 Rietfontein 375 JR (±1,750m) will be required or several of the portion boundaries if laid west of the cadastral boundary. The route will however still be accessible via existing ROW servitudes over portions 10, 13, 26,27. - The route intersects at portion 70 with the border of Grootfontein Country estate. - The route then turns east and follows the power line servitude up to the existing reservoir complex. This pipe route is proposed for the bulk supply. The alternative route is shorter and construction is expected to be less affected by existing services and boundary walls. The pipe will remain accessible for maintenance as well. The entire route also falls within the urban edge which may expedite implementation due to less environmental restrictions. The proposed reticulation feeder is show at this position also and hence the two pipes can be laid parallel.</p> <p>Steel Pipes are Preferred for small diameter pipelines, also for sections of the bulk that are difficult to fabricate or to replace and application requiring durability, for example, stream crossings. The Steel material would require minimal maintenance and is Vandal proof</p>
<p>2</p>	<p>Alternative 2: Concrete Pipes (Technology Alternative) (Shown in Pink, Red and Yellow on the locality plan).</p>	<p>An alternative pipe route, will be on the same foot print as the proposed reticulation and bulk extension routes.</p> <p>The project starts at Philadelphia Road at the Woodlands Mall entrance of Gartsfontein Road. It starts at the Rand Water connection RW4346 (approximate latitude 25°49'32.48"S and longitude 28°18'49.00"E) and ends at the Rietfontein/Grootfontein reservoir complex (approximate latitude 25°52'53.27"S and longitude 28°20'49.71"E).</p> <p>From RW4346 the pipeline route is along Garstfontain Road (M30) for the first ±900m where after it crosses the road and run parallel to an existing sewer to the Mooikloof Ridge township.</p>

		<p>The existing pipeline is presumed to be located inside the 3m wide servitude over portion 279 Garstfontein 374 JR and portion 75 of Rietfontein 375 JR.</p> <p>The existing pump station is located just inside the Mooikloof Ridge township in the Augrabies Street road reserve (approximate latitude 25°50'20.27"S and longitude 28°19'8.08"E).</p> <p>The majority of the proposed route is located in road reserves or servitudes except for a 550m portion of the route south of Fisant Street. The urban edge ends at approximately Fisant Street also. The reservoir complex is located ±5.6km south of the pump station adjacent to distribution powerline servitude.</p> <p>Concrete Pipelines are designed mainly for high pressures. Concrete pipes and manholes are the most frequently used products for outfall sewers. They usually come heavy and in short lengths, this means there are more joints to make, making the pipe prone to leaks, this in turn is not cost effective. Concrete does not corrode.</p>
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In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

This project has no layout alternatives, instead technology alternatives are discussed.

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

4. PHYSICAL SIZE OF THE ACTIVITY

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

Proposed activity	Size of the activity:
Alternatives:	±1,780m
Alternative 1 (if any)	±1,780m
Alternative 2 (if any)	Ha/ m ²

or, for linear activities:

Proposed activity	Length of the activity:
Alternatives:	±1,780m (0.00178 km)
Alternative 1 (if any)	±1,780m (0.00178 km)
Alternative 2 (if any)	k/km

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

Proposed activity	Size of the site/servitude:
Alternatives:	3-15 m (5.196 m ²)
Alternative 1 (if any)	3-15 m (5.196 m ²)
Alternative 2 (if any)	Ha/m ²

5. SITE ACCESS

Proposal

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

YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
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BASIC ASSESSMENT REPORT [REGULATION 22(1)]

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

m

Describe the type of access road planned:

Philadelphia Road and Garstfontein Road

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

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

Describe the type of access road planned:

Philadelphia Road and Garstfontein Road

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

Describe the type of access road planned:

N/A

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

Number of times

(only complete when applicable)

6. SITE OR ROUTE PLAN

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

- the scale of the plan, which must be at least a scale of 1:2000 (scale can not be larger than 1:2000 i.e. scale can not be 1:2500 but could where applicable be 1:1500)
- the property boundaries and numbers of all the properties within 50m 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 100m 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 1m contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 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 32m position from the bank to be clearly indicated)

No duplicate for site or route Plan as there is no site alternative, the report only discusses Technology alternative, Steel vs Concrete pipes.

7. SITE PHOTOGRAPHS

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

Site Photographs attached as Appendix B

8. FACILITY ILLUSTRATION

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

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

Facility illustration attached as appendix C

SECTION B: DESCRIPTION OF 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 location/route alternatives times
(complete only when appropriate)

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

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

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

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

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:

Proposed: portion 279 Garstfontein 374 JR and portion 75 of Rietfontein 375 JR and into the Mooikloof ridge residential estate

Alternative Route: portion 62 Rietfontein 375 JR

The pipeline will be on road reserves that fall within the following sites:
 Mooikloof Ridge x15 Erf 85
 Mooikloof Ridge x 2 erf 90
 Mooikloof Ridge erf 1,2 & 3
 Mooikloof Ridge x 10 erf 91
 Mooikloof Ridge x 16 erf 94, 95 & 96
 Mooikloof Retail park and Prairie Giants x3 erf 12

(Farm name, portion etc.)

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:

Latitude (S):	Longitude (E):
°	°
<input type="text"/>	<input type="text"/>

In the case of linear activities:

Alternative:

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

Latitude (S):	Longitude (E):
25°49'32.48"	28°18'49.00"
25° 50' 42.59"	28 ° 21' 23.05"
25°52'53.27"	28°20'49.71"

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

Addendum of route alternatives attached

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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4. LOCATION IN LANDSCAPE

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

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

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

Shallow water table (less than 1.5m deep)

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

Dolomite, sinkhole or doline areas
 Seasonally wet soils (often close to water bodies)
 Unstable rocky slopes or steep slopes with loose soil
 Dispersive soils (soils that dissolve in water)
 Soils with high clay content (clay fraction more than 40%)
 Any other unstable soil or geological feature
 An area sensitive to erosion

YES	NO X
YES X	NO
YES	NO X
YES	NO X
YES X	NO
YES	NO X
YES X	NO

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

Map showing soil and geographical features of the area is attached on pages 14-15 of the Wetland report attached as Appendix G1

b) are any caves located on the site(s) YES NO X
 If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)
Latitude (S): _____ **Longitude (E):** _____

c) are any caves located within a 300m radius of the site(s) YES NO
 If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)
Latitude (S): _____ **Longitude (E):** _____

d) are any sinkholes located within a 300m radius of the site(s) YES NO
 If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)
Latitude (S): _____ **Longitude (E):** _____

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

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 3)? YES NO X

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

7. GROUNDCOVER

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

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

Natural veld - good condition % =	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =30	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =65	Paved surface (hard landscaping) % =1	Building or other structure % =	Bare soil % =4

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 X

If YES, specify and explain:

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

No endangered fauna or flora species were identified on site. Rand Highveld Grassland vegetation type was found on site. Rand Highveld Grassland comprises species rich, wiry, sour grassland alternating with low, sour shrubland on rocky outcrops and steeper slopes. This vegetation unit is poorly conserved with much of its area transformed by cultivation, plantations, urbanisation or dam-building and mining. Where disturbances occurred, the invasive exotic tree *Acacia mearnsii* (Black Wattle) can become dominant and displace the natural vegetation. Due to the extensive usage of the areas once covered by Rand Highveld Grassland vegetation types, the remaining portions are of high conservation value and sensitivity and are thus classified as endangered vegetation types (Mucina & Rutherford, 2006).

A small section of the proposed pipeline located in the north is located on the Marikana Thornveld vegetation type. The vegetation type Marikana Thornveld comprises open *Acacia* karoo woodland occurring in undulating landscapes and some lowland hills. Shrubs are denser in drainage lines, termitaria (areas with termite mounds) and on rocky outcrops (Mucina & Rutherford, 2006). This vegetation type is impacted and up to 50% is transformed by cultivation and urban expansion (Mucina & Rutherford, 2006). This vegetation type is classified as Endangered. Only about 50% of this vegetation is currently still in a natural state and it is not well protected in formal reserves. Proposed Mooikloof Bulk Water Management Pipes for City of Tshwane Metropolitan Municipality:

Another small section of the proposed route is located on the Andesite Mountain Bushveld vegetation type. Andesite Mountain Bushveld is characterised by dense, medium-tall thorny bushveld with a well-developed

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	YES	NO X
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If YES, specify and explain:

N/A

Are there any special or sensitive habitats or other natural features present on the site?	YES X	NO
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If YES, specify and explain:

The northern extent of the proposed pipelines is located adjacent to an area classified as an important area as well as an area approximately 500 m south. Farther south adjacent to the Mooikloof bulk Extension proposed pipeline are areas classified as ecological support areas (Figure 5 of the wetland Report attached as Appendix G1 Rietvlei dam which is classified as a protected area is located to the west of the proposed lines.

Was a specialist consulted to assist with completing this section	YES X	NO
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If yes complete specialist details

Name of the specialist:	Antoinette Bootsma,
Qualification(s) of the specialist:	Bsc (Ecologist/Botanist/Wetland specialist)
Postal address:	P.O Box 32733, Waverley, Pretoria
Postal code:	0135

Telephone:		Cell:	083 4545 454
E-mail:	antoinette@limosella.co.za	Fax:	

Are any further specialist studies recommended by the specialist?	YES	NO X
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If YES, specify: **N/A**

If YES, is such a report(s) attached?	YES	NO X
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If YES list the specialist reports attached below

N/A

Signature of specialist:	Signature of Specialist Attached as Appendix G1	Date:	24/05/2015
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Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

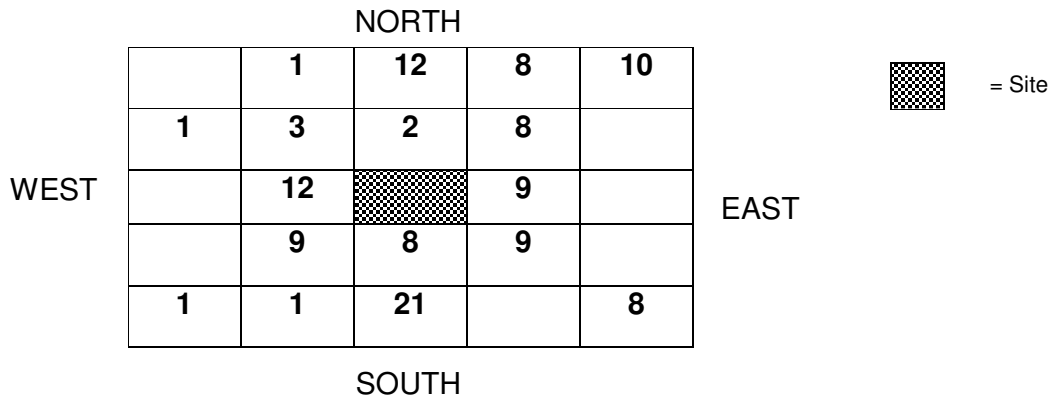
Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

16. Heavy industrial ^{AN}	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport ^N	23. Train station or shunting yard ^N	24. Railway line ^N	25. Major road (4 lanes or more) ^N
26. Sewage treatment plant ^A	27. Landfill or waste treatment site ^A	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam ^A	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X250m



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

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

Have specialist reports been attached
If yes indicate the type of reports below

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

- Wetland Report
- Wetland rehabilitation

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.

Region 6 of City of Tshwane

- The south-eastern section of this region has the highest income per capita and could be considered the fuel injection of the city.
- However, there is also a huge concentration of people in the north east quadrant, representing low and no-income groups.
- It is the region with the greatest development pressure.
- Decentralised nodes accommodate a wide range of urban facilities.
- The region is popular in terms of retail as well as office functions as many of the higher category retail and office functions of the City have relocated to this region over the past few years. Further to this is also the second most important industrialised area in Tshwane situated in Silverton/ Silvertondale/ Waltloo/ Bellevue-area.
- Suburban areas are mostly low density in nature and the region accommodates a number of Golf and Life Style Estates such as Woodhill, The Hills and Silver lakes. However, there is also a high density area to the north of the region with large areas planned for RDP type development and informal settlements invaded the land before construction of services took place.
- The east-west transportation linkages between nodes are saturated during peak hours.
- The historical radial linkages to the CBD are prominent.
- There is a high dependency on private motor vehicles, from the southern section of the region, placing an impossible demand on the road infrastructure. Further to this is a high rail related dependency of the north eastern quadrant to the City Centre. No south connection is possible.
- There are also an unusually high dependency on bus travel through the area from the far outlying rural areas e.g. Moutse and Moloto.
- The Bronberg and the Magaliesberg Mountain range is a major environmental feature running east to west in the northern part of the region. It provides limited thoroughfare, with only two major crossing points.
- The Moreleta Spruit and its tributaries cover virtually the entire area to the south of the Bronberg, contributing to the well-defined regional open space system of the southern part of the region.
- Further to the south of the region is the Rietvlei Dam and Nature reserve which is one of the larger open space assets of the City.
- The region contains a number of strategic land uses including the CSIR, South African National Intelligence Service and the Menlyn Park Retail Node which has a metropolitan function in terms of facilities.
- The Hatherley landfill site has a metropolitan function in terms of its Strategic nature and size. Also there is the Garstkloof Garden Waste and Building Rubble Landfill Site located near Elardus Park. Waste removal trucks use this dumping site on a daily basis, there is no other sites are known for future development in the Metro as yet.
- The region contains three large private hospitals as well as the Pretoria East Cemetery
- Almost all the developable land within the southern section of the Region has been developed and the uncontrolled development in the old Kungwini area places a burden on the existing saturated road infrastructure
- The north-eastern section of the region accommodates mostly low-income communities and industrial land uses.
- The middle and south-western section of the region accommodates medium to high-income areas with large institutional uses.
- The northern section of the region includes a number of strategically located undeveloped areas in terms of accessibility and infrastructure which offer significant development potential

The project area forms part of the region that has grown and expanded very quickly, hence the programme to upgrade the Garsfontein supply area in the eastern suburbs was initiated by the City of Tshwane: Water and Sanitation unit in 2007, after bottlenecks in the Garsfontein supply system were identified.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-
 - (i) exceeding 5 000 m2 in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

YES X	NO
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If YES, explain:

A stone walled site dating to the Late Iron Age was identified. Fortunately, this site is on the opposite side of the road where the proposed pipeline is to pass through and would therefore not be impacted on by the proposed development.

An informal cemetery was identified next to the road. It was determined that the proposed pipeline would pass right through this feature. If at all possible, the burial site should be avoided by rerouting the pipeline and that it is fenced off with danger tape during construction of the pipeline. If that is not possible, the graves must be relocated after the proper procedure has been followed.

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

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

The aim of the Heritage Impact Assessment (Appendix G2) was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the proposed site.

The cultural landscape qualities of the region is made up of a pre-colonial element consisting of limited Stone Age and Iron Age occupation, as well as a much later colonial (farmer) component, which gave rise to an urban component.

A stone walled site dating to the Late Iron Age was identified. Fortunately, this site is on the opposite side of the road where the proposed pipeline is to pass through and would therefore not be impacted on by the proposed development.

An informal cemetery was identified next to the road. It was determined that the proposed pipeline would pass at a 10m buffer from this feature. At all possible, the burial site will be avoided by rerouting the pipeline and that it is fenced off with danger tape during construction of the pipeline.

The Heritage specialist has recommended that the proposed development continue on condition that the proposed mitigation measures are incorporated. It was also recommend that if archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage consultant so that an investigation and evaluation of the finds can be made.

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

YES	NO X
YES	NO

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 –

- 1(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;
- 1(b) inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority;
- 1(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;
- 1(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;
- 1(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; and
- 1(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
- 1(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.

Proof of Advert attached as 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 X
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If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

Comments anticipated after the public review period, of the distribution of this report, meeting with Cllr Alex Middleburg on the 19/01/2015 to introduce the project.

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

No comments have been received to date; comments are anticipated that once the Draft Basic Assessment Report (DBAR) (this report) has been circulated.

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 X	NO
--------------	----

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

They Stakeholders:

1. Mr Kobus (Woodland Boulevard Estate Manager)
 - Duration of Construction
 - Traffic Impact on Philadelphia Road
 - Access to the tank situated on Philadelphia road

2. HARALD E DYBWAD (Landowner)

To note: there is a 200mm underground water line running from Mooikloof Ridge, along Blesbok and Eland Street, Installed at the cost of Rietfontein 375 Residents.

Copies attached as Appendix E2

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.

5. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of site notice **Attached as Appendix E1**

Appendix 2 – Written notices issued to those persons detailed in 1(b) to 1(f) above

Appendix 3 – Proof of newspaper advertisements **Attached as Appendix E3**

Appendix 4 – Communications to and from persons detailed in Point 2 and 3 above **Attached as Appendix E4**

Appendix 5 – Minutes of any public and/or stakeholder meetings **Attached as Appendix E5**

Meeting of introduction was held with Cllr, but no Public Meeting has been held yet.

Appendix 6 - Comments and Responses Report **Attached as Appendix E6**

Appendix 7 –Comments from I&APs on Draft Basic Assessment (BA) **Report Attached as Appendix E7**

Appendix 8 –Comments from I&APs on amendments to the BA Report **(N/A)**

Appendix 9 – Copy of the register of I&APs **Attached as Appendix E9**

Appendix 10 – Comments from I&APs on the application **(N/A)**

Appendix 11 - Other

SECTION D: RESOURCE USE AND PROCESS DETAILS

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

Instructions for completion of Section D for alternatives

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

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

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

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

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

YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
Unknown m ³	

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

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

Construction rubble/ solid waste will be temporarily stored on site in designated waste skips and then removed by an appropriate waste contractor appointed by the main construction contractor to an approved landfill site. This will be managed through the EMPr.

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

The construction waste will be disposed off at a suitably licensed disposal facility. The nearest licensed landfill site is Hatherley, Contact: +27(0)12 801 4812 / 082 612 0295 corner Solomon Mahlangu Drive North (Hans Strijdom Drive) Nelmapius, Pretoria. Safe disposal certificates shall be obtained and kept on site for the duration of the construction phase.

Also there is the Garstkloof Garden Waste and Building Rubble Landfill Site is located near Elardus Park. Waste removal trucks use this dumping site on a daily basis.

Will the activity produce solid waste during its operational phase?

YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
m ³	

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

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

No solid waste will be produced during the operational phase of the proposed project.

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

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

The City of Tshwane local Municipality will have to confirm with Hatherley, if they will be able to take the waste generated during construction.

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

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

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 most significant hazardous waste streams will be cement and used motor oils from construction vehicles. Designated hazardous store areas will be set up and the hazardous waste will be disposed of at the appropriate hazardous landfill site, which nearest licensed hazardous landfill site is Holfontein in Portion 24, Farm Holfontein, 71 IR Springs.

Liquid effluent (other than domestic sewage)

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

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

YES	NO X
-----	-------------

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 X
-----	-------------

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

Yes	NO X
-----	-------------

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.

N/A

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

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

YES	NO X
-----	-------------

If yes, provide the particulars of the facility:

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

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

The contractor should ensure that the right amount of material is used during construction to ensure the optimal reuse and recycling of materials. The contractor should also provide recycle bins on site marked into the following categories:

Plastic;
Paper; and
Glass.

The developer should ensure that the right amount of material is used while construction takes place to ensure the optimal reuse and recycling of materials.

Please refer to the EMPr (Appendix H) for suggested recycling measures

Liquid effluent (domestic sewage)

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

YES	NO X
-----	-------------

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 X
-----	-------------

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

Chemical toilets are going to be used and the sewage waste will be collected by the Contractor on weekly basis for disposal on a hazardous waste site closest to the proposed site.

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:

Emissions will be generated during the construction phase. Emissions generated will be in the form of dust, carbon dioxide and other vehicle emissions generated by diesel powered machinery and trucks during the construction process i.e. tip trucks, TLB's, excavators and dust from the movement of the construction vehicles. These emissions will be composed primarily of CO₂ and will be of a low concentration

2. WATER USE

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

Municipal X	Directly from water board	groundwater	river, stream, dam or lake	other	the activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

liters

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

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

YES X	NO
--------------	----

If yes, list the permits required

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

A Water Use License will be submitted after the Basic Assessment Report (this report) has been reviewed and the project granted Environmental Authorisation by GDARD.

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 eg. Municipality / Eskom / Renewable energy source

Generators

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

Generators

4. ENERGY EFFICIENCY

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

No particular considerations of energy saving/ conservation were deemed applicable in this project. However, great emphasis was placed on environmental conservation brought about by expanding community that required an upgrade for bulk water management. The proposed pipes will have suitably designed opening sizes so as to prevent flooding which adversely impact on adjacent properties, the environment and water quality.

The scope of work will be structured in a way that, where possible, the use of labour intensive methods will be employed. Not only will it serve the local community but it also saves the use of Pneumatic Equipment that requires a lot of energy input

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

The activity involves the construction of a bulk pipeline system; as such there are no alternative energy sources available during construction. Once the construction has been completed no further energy will be required.

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.

Issues raised by Stakeholders:

1. Mr Kobus (Woodland Boulevard Estate Manager)

- Duration of Construction
- Traffic Impact on Philadelphia Road
- Access to the tank situated on Philadelphia road

Issues raised by Landowners:

2. Mr Harald E Dybwad (Landowner)

- To note: there is a 200mm underground water line running from Mooikloof Ridge, along Blesbok and Eland Street, Installed at the cost of Rietfontein 375 Residents.

Copies attached as Appendix E4

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):

All concerns were brought under the attention of the engineers/ project Managers and where possible, will be addressed at the Public meeting that is yet to be scheduled.

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

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

The purpose of impact assessment is to assign relative significance to predicted impacts associated with the project, and to determine the manner in which impacts are to be avoided, mitigated or managed. The potentially significant environmental impacts were identified based on the nature of the receiving environment, a review of the proposed activities, and the issues raised in the public participation process.

The potential impacts of the proposed development were identified through a site visit, the Environmental Assessment Practitioners experience and expertise in the field and specialist studies.

In the Basic Assessment Report, the potential impacts are broadly identified and outlined. An assessment of the potential impacts is provided, identifying the impacts that are potentially significant and recommending management and mitigation measures to reduce the impacts.

In general, it is recognized that every development has the potential to pose various risks to the environment as well as to the residents or businesses in the surrounding area. Therefore, it is important that these possible risks are taken into account during the planning phase of the development. Risks and key issues were identified and addressed through an internal process based on similar developments, and an environmental evaluation.

Previous experience has shown that it is often not feasible or practical to only identify and address possible impacts. The rating and ranking of impacts is often a controversial aspect because of the subjectivity involved in attaching values to impacts.

In the impact assessment stage of a Basic Assessment, identified issues are analysed and expected impacts are defined. This analysis identifies:

- (i) The types of impact - provides a brief description of the impact
- (ii) Intensity of the impact - This provides an order of magnitude of whether or not the intensity (magnitude/size/frequency) of the impact would be high, medium, low or negligible (no impact).

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

<ul style="list-style-type: none"> • High. • Medium. • Low. <p>Negligible (no impact). relevant, with respect to potential legal infringement) will be described as:</p> <ul style="list-style-type: none"> • Low - where the impact will not have a significant influence on the environment, and, thus, will not be required to be significantly accommodated in the project design. • Medium - where it could have an adverse influence on the environment, which would require modification of the project design or alternative mitigation actions. • High - where it could block the project regardless of any possible mitigation <p>(iii) Determines the overall significance of the impact.</p> <p>The significance of the identified impacts on components of the affected environment (and where relevant, with respect to potential legal infringement) will be described as:</p> <ul style="list-style-type: none"> • Low - where the impact will not have a significant influence on the environment, and, thus, will not be required to be significantly accommodated in the project design. • Medium - where it could have an adverse influence on the environment, which would require modification of the project design or alternative mitigation actions. • High - where it could block the project regardless of any possible mitigation
--

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

Proposal (Preferred)

Although 1 Technology alternative was considered for the purposes of this basic assessment, please note that this alternative occurs in a similar environmental/geographic settings. Therefore the impacts on the receiving environment remain the same.

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<p>Impacts on stormwater: Runoff of stormwater containing contaminants, silt, sand and litter during construction may contaminate the surrounding environment.</p>	High (Negative)	<p>1. The site must be managed in a manner that prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids, silt or chemicals</p> <p>2. No stockpiles or construction materials may be stored or placed within any drainage line that may be in close proximity of storm water drains.</p> <p>2. Temporary cut-off drains and berms may be required to capture storm water and promote infiltration.</p> <p>3. No stockpiles or construction materials may be stored or placed in close proximity to storm water drains.</p>	Low (Negative)
<p>Impacts of hazardous chemicals/fuels Mixing of concrete and spillage of diesel/oil due to poorly maintained equipment and machinery can</p>	Medium (Negative)	<p>1. Concrete and other materials must not be mixed directly on the ground on site, or during rainfall events when the potential for transport to the stormwater system</p>	Low (Negative)

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

<p>contaminate ground and water resources.</p> <p>Inappropriate hazardous material storage can lead to spillages and contamination of ground water.</p>		<p>is the greatest</p> <ol style="list-style-type: none"> 2. Any hazardous or dangerous goods utilized during the construction phase must be stored on an impermeable surface that is bunded, fenced, locked and covered. 3. Drip trays must be placed under leaking machineries to avoid contamination 4. A spillkit must be clearly marked and visible when utilizing hazardous or dangerous materials to ensure all spills can be immediately cleaned. 5. Spillkits must be regularly checked and maintained. 6. Remediation of spillages must be conducted on a continual basis and within 24h of spillage; 7. Contaminated soil will be considered to be hazardous waste and disposed of accordingly. 	
<p>Soil erosion: Construction earthworks may cause soil erosion.</p>	<p>Low (Negative)</p>	<ol style="list-style-type: none"> 1. Construction activities should preferably take place during the dry winter months. 2. Stockpiles must be covered in excess windy conditions. 3. Dust suppression is necessary for stockpiles older than a month. 4. Stockpiles should not be higher than 2 m to avoid compaction. 5. Ensure that excavated and stockpiled material is stored and bermed on higher lying areas of the site and not in any areas where water would naturally accumulate. 6. The duration of exposed soil must be kept to a minimum and rehabilitation must be initiated as soon as construction is completed. 7. Ensure that cleared areas are stabilised to prevent and control erosion and/or sedimentation. Only vegetation that needs to be removed for the construction of the bulk water pipes should be removed in a phased and controlled manner. 8. Following the completion of construction activities the disturbed areas should be ripped, scarified, landscaped to the original landscape profile, and re-vegetated with suitable indigenous grass species that will aid in soil stabilisation. 	<p>Low (Negative)</p>
<p>Impacts on ground water: Groundwater contamination due to</p>	<p>Medium</p>	<ol style="list-style-type: none"> 1. Construction vehicles are to be maintained in good working order, 	<p>Low</p>

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<p>construction earthworks.</p>		<p>to reduce the probability of leakage of fuels and lubricants. 2. All cement mixing must occur on impervious surfaces and within controlled bermed areas. 3. Oil residue must be treated with oil absorbent such as Drizit or similar and this material removed to a licensed waste disposal site. 4. Contractor/s must provide regularly serviced portable chemical toilets for construction workers at a distance no more than 200 m from the place of construction. 5. No materials may be discharged from the construction camps. 6. Drip trays will be placed underneath vehicles and machinery waiting for maintenance, repair or standing for long periods of time; 7. Remediation of spillages must be conducted on a continual basis and within 24h of spillage; 8. Hazardous substances shall be stored in bunded areas 9. Hazardous waste shall be stored in designated areas.</p>	
<p>Impacts on surface water: Construction of the proposed pipeline will result in the clearance of vegetation within the proposed pipeline footprint. Removal of vegetation and disturbance of the soil profile will expose soils to erosion by wind and water. The eroded surfaces could enter the stream and downstream wetlands, increasing sedimentation which could lead to changes in vegetation composition and aquatic fauna.</p>	<p>Medium (Negative)</p>	<p>1.Construction, as far as practical, should also be timed to coincide with the dry season where erosion due to rainfall run-off is minimised; 2.Rehabilitation of disturbed areas should be undertaken throughout the construction process whenever activities in a certain section of the pipe route have been completed; 3. Silt fences will be placed along the stream during construction and wetlands to prevent the movement of sediment into the watercourse 4.Prevent any sediment caught in the silt fences from entering any watercourse</p>	<p>Low (Negative)</p>
<p>Impacts on flora: Destruction of Pristine Habitat, Impact on surrounding habitat and species, Increase in local/regional, transformation/habitat isolation.</p>	<p>Medium (Negative)</p>	<p>1. Educate workers on minimizing damage to vegetation during construction 2. Only vegetation that must be removed for the construction of the pipeline should be removed and the footprint must be kept as small as possible. 3. Alien vegetation must be cleared from the footprint of the pipeline prior to construction; 4. Sensitive vegetation (wetlands and primary grasslands) that</p>	<p>Low (Negative)</p>

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		<p>should not be impacted by construction activities should be cordoned off throughout the construction periods to restrict the movement of vehicles and any other development into such areas; and</p> <p>5. Ensure natural indigenous vegetation is used for rehabilitation purposes.</p>	
<p>Waste Management Construction rubble left onsite may attract vermin, encourage the growth of opportunistic alien vegetation and become unsightly</p> <p>Littering on site may attract vermin, pollute the surrounding areas and become unsightly</p> <p>Hazardous waste e.g. used oils, offcuts, empty bitumen containers etc., could pollute surface and groundwater resources if not properly contained</p>	<p>Medium (Negative)</p>	<p>1. Littering will not be permitted on the site and general housekeeping will be enforced. General waste bins must be readily available for litter disposal and general housekeeping. The EMPr must be followed during construction.</p> <p>2. All solid waste generated during the construction process must be placed in a designated waste collection area within the construction camp and must not be allowed to blow around the site, be accessible to animals, or be placed in piles adjacent the waste skips / bins. All solid waste must then be disposed of at the nearest licensed landfill and safe disposal certificates obtained. Separate waste skips/ bins for the different waste streams must be available on site.</p> <p>3. The waste containers must be appropriate to the waste type contained therein and where necessary should be lined and covered. This will be managed through the site specific EMPr and monitored by the ECO.</p> <p>4. No waste (hazardous or general) will be disposed of in the pipeline trenches</p> <p>5. All excess material and rubble must be removed from the site so not to restrict the rehabilitation process.</p> <p>6. Adequate toilet facilities must be provided for all staff members as standard construction practice.</p> <p>7. Monitor the sewerage facilities near the site for spillages, and handle any spillages as hazardous waste;</p> <p>8. Chemical toilets must be placed within the construction camp and not in close proximity to the river/wetlands. The chemical toilets to be provided must be from a registered company and all sewage must be disposed of at an</p>	<p>Low (Negative)</p>

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		<p>appropriate facility. Safe disposal certificates must be kept on record.</p> <p>9. All hazardous material must be carefully stored and then disposed of offsite at the licensed hazardous landfill site</p> <p>10. Machinery must be properly maintained to keep oil leaks in check</p>	
<p>Dust impacts on air quality: Dust (air) pollution caused by grading and levelling exposed land can cause a nuisance to neighbouring residential areas.</p>	<p>Medium (Negative)</p>	<p>1. Cleared surface must dampened whenever possible and especially in dry windy conditions to avoid excessive dust generation.</p> <p>2. A continuous dust monitoring process needs to be undertaken during construction.</p> <p>3. Speed restriction of 20km/h must be implemented for all construction vehicles.</p> <p>4. All vehicles transporting friable materials such a sand, rubble etc must be covered by a tarpaulin or wet down.</p> <p>5. Bare surfaces must be rehabilitated as soon as possible with indigenous vegetation that will be able to grow in the area.</p> <p>6. Any soil excavated, and not utilized for rehabilitation must be removed from site or covered and no large mounds of soil should be left behind after construction</p>	<p>Low (Negative)</p>
<p>Impact on aesthetic quality: Stockpiled materials; workforce; and construction sites.</p>	<p>Medium (Negative)</p>	<p>1. Ensure that no litter, refuse, waste, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent or surrounding properties including road verges, roads or public places and open spaces during or after the construction period. All waste/litter/rubbish etc must be disposed of at an approved dumping site as approved by the Council.</p> <p>2. No waste may remain on the construction site for more than two weeks.</p> <p>3. Supply sufficient garbage bins throughout the site and empty regularly.</p> <p>4. Ensure good housekeeping is implemented at all times.</p> <p>5. Keep the property neat and litter free at all times and maintain the landscaped areas.</p> <p>6. Bare surfaces must be rehabilitated as soon as possible with indigenous vegetation that will</p>	<p>Low (Negative)</p>

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		<p>be able to grow in the area;</p> <p>7. The area must be ripped and scarified to encourage vegetation growth;</p> <p>8. The landscape must be rehabilitated in such a way that it corresponds to the surrounding topography.</p>	
<p>Noise: Noise pollution caused during construction could potentially be a nuisance to neighbouring residential areas and businesses along the M30, Philadelphia road and Garsfontein</p>	<p>Medium (Negative)</p>	<p>1. Construction activities must be limited to normal working hours and according to municipal bylaws, i.e. working hours must be limited to weekdays only.</p> <p>2. If construction is required on the weekend; permission from adjacent landowners will be required prior to construction.</p>	<p>Low (Negative)</p>
<p>Traffic: Increase of construction vehicles in the area.</p>	<p>Medium (Negative)</p>	<p>1. Construction vehicle movement to and from site must be outside peak hour traffic (07:00am - 09:00am, & 16:00pm – 18:00pm.)</p> <p>2. Construction activities must not interfere with the flow of traffic or cause blockages.</p> <p>3. Should road or lane closures be required, prior notice must be given and permission requested from the responsible bodies (Authorities and landowners).</p>	<p>Low (Negative)</p>
<p>Heritage Impacts Impact on the turning over of buried artefacts</p>	<p>Low (Positive)</p>	<p>Construction is to occur within the existing road reserves and thus impacts on heritage resources are not anticipated. During the site inspections no obvious signs of cultural and/or historical sensitive features of significance were identified. Should heritage resources be discovered during construction, work will cease immediately and notification made to suitably qualified relevant authorities, namely SAHRA and PHRA-G.</p>	<p>Low (Positive)</p>
<p>Impacts on the wetland: Potential negative impacts on wetlands due to runoff from road surfaces, inappropriate vehicle usage, dumping of waste, discharge of solvents, and other industrial chemicals, deposition of wind-blown sand; disposal or discharge of human (including partially treated and untreated) sewage during the construction phase of the development, erosion (e.g. gully formation, bank collapse), development within water resources thereby diverting or impeding flow</p>	<p>High (Negative)</p>	<p>1. Rehabilitation / restoration of indigenous vegetative cover;</p> <p>2. Management of point discharges during construction activities;</p> <p>3. Alien plant control;</p> <p>4. Implementation of best management practices regarding stormwater and earthworks;</p> <p>5. Provision of adequate sanitation facilities located outside of the wetland/riparian area or its associated buffer zone during construction activities;</p> <p>6. Implementation of appropriate stormwater management around the excavation to prevent the</p>	<p>Medium (Negative)</p>

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		<p>ingress of run-off into the excavation</p> <p>7. Prevention of erosion, and where necessary rehabilitation of eroded areas.</p> <p>8. No activities should take place in the watercourses and associated buffer zone. Where the above is unavoidable. Development is subjected to authorization by means of a water use license.</p> <p>9. Maintenance should not impact on natural vegetation</p> <p>10. Maintenance vehicles must stay on dedicated roads/ servitudes</p> <p>11. Make use of existing roads and tracks where feasible, rather than creating new routes through naturally vegetated areas.</p> <p>12. Prevent pedestrian and vehicular access into the wetland and buffer areas.</p>	
<p>Safety, Health and Security: Inadequate attention to fire safety awareness and fire safety equipment could result in unsafe working environment and loss of property</p> <p>Failure to provide adequate onsite sanitation and clean drinking water may result in runoff transferring contaminants into the surrounding environment.</p>	<p>Medium (Negative)</p>	<p>1. All flammable substances must be stored in dry area which do not pose an ignition risk to the said substances</p> <p>2. Ensure all construction vehicles and machinery is under the control of competent personnel.</p> <p>3. No open fires will be allowed on site unless in a demarcated area identified by the ECO</p> <p>4. Limit access to the construction site to the workforce only. Comply with the requirements of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993).</p> <p>5. Adequate sanitary and ablutions facilities must be provided for construction workers</p> <p>6. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.</p>	<p>Low (Negative)</p>
<p>Socio-economic Impacts Damage to surrounding neighbours' properties i.e.: houses, fence lines, and accesses.</p>	<p>Low (Negative)</p>	<p>1. Surrounding neighbours must be consulted prior to construction to discuss the construction process and opportunities regarding employment.</p> <p>2. Where necessary the servitude should be narrowed to accommodate existing houses and infrastructure that may be affected. However, properties are not expected to be impacted on as they are away from the construction site.</p>	<p>Low (Negative)</p>
<p>Impact on infrastructure services: The status of the infrastructure services will be impacted on through the proposed development.</p>	<p>Positive</p>	<p>1. There are no mitigation measures as the impact is positive.</p> <p>2. The proposed stormwater will</p>	<p>Positive</p>

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		improve the quality of water management especially during the rainy seasons.	
Social Impacts: Temporary job creation during the construction phase	Positive	1. There are no mitigation measures as the impact is positive. 2. Job opportunities can be created during the construction phase.	Positive
Operational Impacts			
Maintenance: Toxicants (such as heavy metals, hydrocarbons, surfactants and soil oils) spilled from vehicles may negatively impact the surrounding environment and biodiversity.	Low (Negative)	1. Mitigation measures for the construction phase will apply should the pipeline need to be re-excavated; 2. The pipeline should be monitored and managed effectively in order to ensure that the pipeline does not become blocked; and 3. As soon as blockages are detected the relevant municipal maintenance team should clear them.	Low (Negative)
Vehicles impacting on surface vegetation	Low (Negative)	1. Rehabilitated vegetation should not be impacted on by maintenance 2. Maintenance vehicles must remain on dedicated roads and servitudes 3. Maintenance activities should not take place within watercourses or buffer zones. Where unavoidable, the footprint needed for maintenance must be kept to a minimum. This is subjected to authorization by means of a water use license. 3. Where possible, maintenance within watercourses must be restricted to the drier winter months 4. Maintenance activities should not impact on rehabilitated areas and where soil or vegetation disturbances took place, this should be rehabilitated immediately 5. Ensure that maintenance work does not take place haphazardly, but, according to a fixed plan, from one area to the other Guidelines for implementing Clean Technologies Maintenance of buffer zones to trap sediments with associated toxins	Low (Negative)

Alternative in terms of the activity size as required in this section is not applicable as Technology alternatives (Steel Pipes Vs concrete) were considered. Therefore the impacts of the activity remain the same

Alternative 1

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Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:

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

- Wetland Assessment Report
- Heritage Assessment Report

4. 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.

The proposed reconstruction of the Bulk pipelines will be a permanent structure and as such there will be no decommissioning or closure phase.

Proposal

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
N/A			

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

5. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Cumulative impacts can result from actions which may not be significant on their own but which are significant when added to the impact of other similar actions. The anticipated cumulative impacts of this development includes the following:

Ground Water Pollution/Increase run-offs and Surface water pollution

- The construction phase will result in increased infiltration of contaminants into the ground water and soil.
- The clearing of the site will result in exposed soil surfaces which may be prone to erosion, creation of dust and sedimentation of streams.
- Spillages of oil, lubricants and fuel from construction vehicles, plant and machinery has the potential to contaminate the soil and groundwater. Flora in these areas where contamination occurs will die.
- Cement mixing

Positive cumulative impacts that will result from the proposed development

Increased socio-economic upliftment as a result of the proposed development

- Constructing the proposed development will result in direct jobs being created during for the construction of the Bulk pipelines.
- The proposed development will lead to the increase the level local employment in the areas surrounding the development site.

6. 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

This report is intended to offer an objective assessment of the potential environmental impacts and issues / concerns raised during the environmental basic assessment process. The Impact Assessment section of this report indicates that the most significant environmental impacts associated with the proposed project can be Effectively mitigated to have a low significance impact rating.

It is the opinion of Envirolution Consulting (Pty) Ltd that the proposed project will not have a significant environmental impact and is therefore preferred. The most significant impact identified for the preferred alternative is that the northern extent of the proposed pipelines is located adjacent to an area classified as an important area. Farther south adjacent to the Mooikloof reticulation proposed pipeline are areas classified as ecological support areas. Rietvlei dam which is classified as a protected area is located to the west of the proposed lines.

The EMPr is designed to mitigate the expected pollution from the project and should be constantly be obeyed by the contractor to mitigate pollution of the ground water.

Responsible environmental management will be required on site, during the planning and construction phases of the development. These management measures should be guided by the Environmental Management Plan, attached as Appendix H.

Alternative 1

It is the opinion of the EAP that the proposed bulk pipelines should be constructed along the proposed alignments. This alternative technology would result in minor environmental and social impact that are the same as the preferred design.

Alternative 2

N/A

No-go (compulsory)

In terms of the "no-go" alternative, if approval of the activity is denied there will be no impacts as a result of construction activities. The existing pipeline will be over burdened, will continue to degrade and in turn can cause hazards such as recurring leaks and bust pipes.

If the no go alternative is pursued, the operational-related impacts will not be realised and new jobs will not be created. This alternative will not be feasible as the Applicant is providing a crucial service to the local community and the City of Tshwane Metropolitan Municipality.

Therefore the "no-go" alternative is not considered feasible.

7. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

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For alternative:

Impacts on the technology alternatives are similar as the anticipated environment impacts will be similar to the preferred option, but steel is still the most preferred.

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.

<p>Concrete Pipelines are designed mainly for high pressures. Concrete pipes and manholes are the most frequently used products for outfall sewers. They usually come heavy and in short lengths, this means there are more joints to make, making the pipe prone to leaks, this in turn is not cost effective. Concrete does not corrode.</p> <p>Steel Pipes are preferred for small diameter pipelines, also for sections of the bulk that are difficult to fabricate or to replace and application requiring durability, for example, stream crossings. The Steel material requires minimal maintenance and is virtually vandal proof, hence the proposed is most Preferred.</p>

8. 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
X	

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

N/A

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

<p>Enviroolution Consulting (Pty) Ltd recommends that the proposed project of the Mooikloof Ridge Bulk Pipeline, City of Tshwane, Gauteng be considered for approval subject to the following conditions:</p> <ul style="list-style-type: none"> • that the EMPr for this application be made a binding document for the contractors and managers on site. • That the applicant must apply for a Water use Licence from the Department of Water Affairs in areas where water resources are impacted (streams and wetland crossing) before commencement of the project; • That an independent ECO should be present during construction to monitor the implementation of the EMPr • Compliance with the mitigation measures outlined in this BA report and EMPr; • Continued consultation and engagement with all relevant stakeholders – especially property owners, neighbouring and local communities, and respective municipalities during labour recruitment and procurement for services and supplies during construction phase; • Monthly monitoring and evaluation of the construction sites for environmental compliance; • Compliance with all legal requirements in relation to environmental management and conditions of the authorisation issued by GDARD

9. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

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

EMPr attached

Yes

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

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

Appendix A: Site plan(s)

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

G1: Wetland Assessment Report and Rehabilitation

G2: Heritage Assessment Report

Appendix H: EMPr

Appendix I: GDARD Letter of Acknowledgement

Appendix J: Application Forms

Appendix K: Draft BAR Distribution List

Appendix L: 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; and