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# DRAFT BASIC ASSESSMENT REPORT

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## THE PROPOSED CONSTRUCTION OF A WATER PIPE LINE FROM BLOEM SPRUIT WWTW TO MOCKES DAM, BLOEMFONTEIN

**Applicant:** Mangaung Metro Municipality  
**MDA Ref No:** 40673  
**Date:** April 2015



Town & Regional Planners,  
Environmental & Development  
Consultants

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**DRAFT BASIC ASSESSMENT REPORT - PIPELINE FROM WWTWs TO MOCKES DAM**

(For official use only)

**File Reference Number:**

**Application Number:**

**Date Received:**


Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

**Kindly note that:**

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. 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.
3. Where applicable **tick** the boxes that are applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. 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.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority.
7. No faxed or e-mailed reports will be accepted.
8. The report must be compiled by an independent environmental assessment practitioner.
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

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### SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

	NO
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If YES, please complete the form entitled "Details of specialist and declaration of interest"

for appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

#### 1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail<sup>1</sup>:

The proposed project entails the construction of a pipeline and pump station to transfer treated water from the existing waste water treatment plants to Mockes dam. The water released in Mockes dam will gravitate to Maselspoort dam and will be utilised for the purpose of recycling. This form part of the Renoster Spruit Water Recycling project by the applicant, i.e. the Manguang Metro Municipality. Please note that the initial location for the pump station was at the Renoster Spruit. However, the applicant decided to construct the pump station within the existing boundaries of the North Eastern Waste Water Treatment Works. Thus, the pump station itself does not trigger a listed activity.

The listed activities (GN 544 of 18 June 2010) that are being applied for as part of this Basic Assessment includes the following:

- **Activity 9(i):** The construction of facilities or infrastructure exceeding 1 000 m in length for the bulk transportation of water, sewage or storm water with an internal diameter of 0.36 m or more, excluding where:
  - (a) such facilities or infrastructure are for bulk transportation of water, sewage or storm water drainage inside a road reserve; or
  - (b) where such construction will occur within urban areas but further than 32 m from a watercourse, measured from the edge of the watercourse.

**Proposed project:** The proposed pipeline will have an internal diameter of more than 36 cm. Construction of pipelines and infrastructure for the bulk transportation of water within 32 m of a watercourse will also occur.

<sup>1</sup> Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

- **Activity 9(ii):** The construction of facilities or infrastructure exceeding 1 000 m in length for the bulk transportation of water, sewage or storm water with a peak throughput of 120 l per second or more, excluding where:

- (a) such facilities or infrastructure are for bulk transportation of water, sewage or storm water drainage inside a road reserve; or
- (b) where such construction will occur within urban areas but further than 32 m from a watercourse, measured from the edge of the watercourse.

**Proposed project:** The proposed pipeline will have a peak throughput of more than 120 l/sec. Construction of pipelines and infrastructure for the bulk transportation of water within 32 m of a watercourse will occur.

- **Activity 11(xi):** The construction of infrastructure or structures covering 50 m<sup>2</sup> or more where such construction occurs within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

**Proposed project:** Construction of a pipeline near / through water courses.

- **Activity 18(i):** The infilling or depositing of any material of more than 5 m<sup>3</sup> into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 m<sup>3</sup> from a watercourse but excluding where such infilling, depositing, dredging, excavation, removal or moving:

- (a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or
- (b) occurs behind the development setback line.

**Proposed project:** Pipeline excavations through / near to a watercourses (such as the Renoster Spruit, Mockes dam and Maselspoort) will occur.

## 2. FEASIBLE AND REASONABLE ALTERNATIVES

**“alternatives”**, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;

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- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe 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 in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether 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. 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.

**Paragraphs 3 – 13 below should be completed for each alternative.**

Background to the proposed project:

It is known that Bloemfontein experience water shortages from time to time. This is due to the fact that its chief water source, the Welbedacht dam is silted up, leaving only a small percentage of its original carrying capacity. A major pipeline also reached the end of its design life and bursts regularly.

In addition, water is typically released four times a year from Rustfontein dam to feed the water need in Bloemfontein. Such water releases usually occurs during the late winter and spring periods, before the onset of the rainy season. These water releases are costly and therefore alternative water resources had to be investigated.

Therefore, Mangaung Metro Municipality has adopted a strategy to utilise local resources to its full potential by re-circulating as much water as possible, instead of transferring water from the Novo Transfer system. Every drop of water that is purified by recirculation will ensure less water to be transferred from the Welbedacht dam (Caledon River) or possibly the planned Gariep dam scheme (Caledon and Orange Rivers).

The construction of the proposed pipeline will enable the municipality to transport treated waste water that conforms to the DWS standards from the existing sewage plants to Mockes dam. From here, the water will flow to Maselspoort dam and treated at the Maselspoort Water Treatment Works (WTW) to potable water standards, when required.

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This will ensure that the applicant will have sufficient volumes of water available during the dry season, without the costly water releases from Rustfontein dam. It should be noted that surplus water released into Mockes dam will not be treated at the Maselspoort WTW for potable water purposes. Rather, the surplus water will be released into the Modder River, corresponding to the current operating procedures.

It should be noted that Maselspoort WTW currently receives bulk water from Mockes dam that receives water from the Modder River. This river is augmented by continuous effluent from Thaba Nchu and Botshabelo Waste Water Treatment Works (WWTW). The Modder River flow is also augmented by the Novo Transfer Scheme and is also supported by natural storm water runoff during summer rains. Thus, the proposed project will add to the volume of treated water within the Maselspoort dam / Modder River.

Please note that the proposed pipeline will only transport treated waste water that conforms to the DWS standards for water to be discharged after treatment at a waste water treatment plant. Please refer to Appendix G<sub>1</sub> for more information regarding the DWS standards for such water.

### **Locality:**

The proposed pipeline will connect the existing WWTWs to Maselspoort and Mockes dam.

### **Type and Technology:**

The latest Type and Technology alternatives will be incorporated as part of the proposed project.

### **Design and Layout:**

The proposed pipeline will be constructed within the existing road reserves, as far as possible.

The proposed project will also optimise energy solutions to ensure that less pumping is required.

Please refer to Appendix A for more information on the proposed layout.

**NOTE: Please take note of the description of the preferred as well as alternatives investigated:**

**Alternative 1**<sub>Preferred:</sub>

Please refer to the previous paragraph for more information on the preferred alternative.

**Alternative 2**<sub>Locality:</sub>

No locality alternatives were investigated as the proposed pipeline should link the existing WWTWs with Mockes dam and Maselspoort.

**Alternative 3**<sub>Type and Technology:</sub>

No type and technology alternatives were investigated.

**Alternative 4**<sub>Design and Layout:</sub>

A shorter route from the WWTWs to Mockes dam and Maselspoort was investigated as this will lead to a shorter pipeline to be constructed.

However, this route is through many agricultural holdings and farmland.

This said, the existing infrastructure on each of the properties within the alternative route should be taken into consideration.

New servitudes should be registered.

Thus, this option will be costly and time consuming.

Therefore, no alternative Design and Layout Alternatives can be seen as feasible and / or reasonable alternatives.

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**3. 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 degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

<b>Alternative:</b> Alternative 1 <small>Preferred:</small>	<b>Latitude (S):</b>	<b>Longitude (E):</b>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 40px; text-align: center;">0</td> <td style="width: 10px; text-align: center;">'</td> <td style="width: 40px; text-align: center;">0</td> <td style="width: 10px; text-align: center;">'</td> </tr> </table>	0	'	0	'	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 40px; text-align: center;">0</td> <td style="width: 10px; text-align: center;">'</td> </tr> </table>	0	'
0	'	0	'					
0	'							

**In the case of linear activities:**

<b>Alternative:</b> Alternative 1 <small>Preferred:</small>	<b>Latitude (S):</b>	<b>Longitude (E):</b>																		
<ul style="list-style-type: none"> <li>• Starting point of the activity</li> <li>• Middle/Additional point of the activity</li> <li>• End point of the activity</li> </ul>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 40px; text-align: center;">29°</td> <td style="width: 40px; text-align: center;">7'30.24"</td> <td style="width: 40px; text-align: center;">26°</td> <td style="width: 40px; text-align: center;">16'53.18''</td> </tr> <tr> <td style="width: 40px; text-align: center;">29°</td> <td style="width: 40px; text-align: center;">5'20.98"</td> <td style="width: 40px; text-align: center;">26°</td> <td style="width: 40px; text-align: center;">21'16.02"</td> </tr> <tr> <td style="width: 40px; text-align: center;">29°</td> <td style="width: 40px; text-align: center;">27'34.06"</td> <td style="width: 40px; text-align: center;">26°</td> <td style="width: 40px; text-align: center;">3'21.98"</td> </tr> </table>	29°	7'30.24"	26°	16'53.18''	29°	5'20.98"	26°	21'16.02"	29°	27'34.06"	26°	3'21.98"	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 40px; text-align: center;">26°</td> <td style="width: 40px; text-align: center;">16'53.18''</td> </tr> <tr> <td style="width: 40px; text-align: center;">26°</td> <td style="width: 40px; text-align: center;">21'16.02"</td> </tr> <tr> <td style="width: 40px; text-align: center;">26°</td> <td style="width: 40px; text-align: center;">3'21.98"</td> </tr> </table>	26°	16'53.18''	26°	21'16.02"	26°	3'21.98"
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For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

**NOTE:**  
Please refer to Appendix A for a list of coordinates.

**4. PHYSICAL SIZE OF THE ACTIVITY**

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

<b>Alternative:</b> Alternative 1 <small>Preferred</small>	<b>Size of the activity:</b>	
or, for linear activities:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 100px; text-align: center;">m<sup>2</sup></td> </tr> </table>	m <sup>2</sup>
m <sup>2</sup>		

<b>Alternative:</b> Alternative 1 <small>Preferred</small>	<b>Length of the activity:</b>	
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 100px; text-align: center;">23 900 m</td> </tr> </table>	23 900 m
23 900 m		

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

<b>Alternative:</b> Alternative 1 <small>Preferred</small>	<b>Size of the site/servitude:</b>	
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 150px; text-align: center;">478 000 m<sup>2</sup>, if a servitude of 10 m on each side is</td> </tr> </table>	478 000 m <sup>2</sup> , if a servitude of 10 m on each side is
478 000 m <sup>2</sup> , if a servitude of 10 m on each side is		



taken into  
consideration.

## 5. SITE ACCESS

Does ready access to the site exist?

YES	
m	

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

Describe the type of access road planned:

The existing asphalt road will be used to gain access to the site, as far as possible.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

## 6. SITE OR ROUTE PLAN

A detailed site or route 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:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 for gentle slopes the 1 metre 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
- 6.11 the positions from where photographs of the site were taken.

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**7. SITE PHOTOGRAPHS**

Colour photographs from the centre 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 Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

**8. FACILITY ILLUSTRATION**

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C 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.

**9. ACTIVITY MOTIVATION**

**9(a) Socio-economic value of the activity**

What is the expected capital value of the activity on completion?	R 250 000 000
What is the expected yearly income that will be generated by or as a result of the activity?	Unknown. The proposed project is a service delivery project.
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development phase of the activity?	Unknown, depends on contractor
What is the expected value of the employment opportunities during the development phase?	Unknown, depends on contractor
What percentage of this will accrue to previously disadvantaged individuals?	Approximately 80%
How many permanent new employment opportunities will be created during the operational phase of the activity?	Unknown
What is the expected current value of the employment opportunities during the first 10 years?	Unknown
What percentage of this will accrue to previously disadvantaged individuals?	Approximately 80%

**9(b) Need and desirability of the activity**

Motivate and explain the need and desirability of the activity (including demand for the activity):

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<b>NEED:</b>			
1.	Was the relevant provincial planning department involved in the application?	YES	
2.	Does the proposed land use fall within the relevant provincial planning framework?	YES	
3.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		
	<b>NOTE:</b> The pipeline is required to transport treated effluent from the existing WWTWs to the Maselspoort WTW in order to recycle the water.		

<b>DESIRABILITY:</b>			
1.	Does the proposed land use / development fit the surrounding area?	YES	
2.	Does the proposed land use / development conform to the relevant structure plans, SDF and planning visions for the area?	YES	
3.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES	
4.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
5.	Will the proposed land use / development impact on the sense of place?		NO
6.	Will the proposed land use / development set a precedent?		NO
7.	Will any person's rights be affected by the proposed land use / development?		NO
8.	Will the proposed land use / development compromise the "urban edge"?		NO
9.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		
	<b>NOTE:</b> The applicant (Mangaung Metro Municipality) strives to provide residents in the area with good service in general. The proposed pipeline should be constructed in order to provide basic services to the residents and community members in general as it will imply that additional treated water will be available for further treatment at the Maselspoort WTW.		

<b>BENEFITS:</b>			
1.	Will the land use / development have any benefits for society in general?	YES	
2.	Explain:		
	The proposed project will enable the municipality to provide		

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	basic services (potable water) to the Bloemfontein residents.		
3.	Will the land use / development have any benefits for the local communities where it will be located?	YES	
4.	Explain:		
	The proposed project will enable the municipality to provide basic services (potable water) to Bloemfontein residents.		

**10. 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, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act, 1998 (Act 107 of 1998)	DESTEA	1998
National Water Act, 1998 (Act 36 of 1998)	DWS	1998
National Heritage Resources Act (Act No 25 of 1999)	SAHRA	1999
Environmental Conservation Act (Act 73 of 1989)	DESTEA	1989
National Environmental Management Biodiversity Act, 2004 (Act 10 of 2004)	DESTEA	2004

**11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT**

**11(a) Solid waste management**

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

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

Unknown m <sup>3</sup>
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How will the construction solid waste be disposed of (describe)?

The contractor will be responsible for the disposal of waste generated during the construction phase.  
The contractor will remove the construction waste and dispose thereof at an authorized landfill site.

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

Authorised solid waste disposal sites in Bloemfontein.  
Hazardous waste (if any) should be disposed of at an authorized hazardous landfill site such as Holfontein.

Will the activity produce solid waste during its operational phase? 

	NO
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If yes, what estimated quantity will be produced per month? 

m <sup>3</sup>
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How will the solid waste be disposed of (describe)?

N/A

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

N/A

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

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

	NO
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If yes, inform the competent authority and request a change to an application for scoping and EIA.

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

	NO
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If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

**11(b) Liquid effluent**

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

	NO
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If yes, what estimated quantity will be produced per month?

	m <sup>3</sup>
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Will the activity produce any effluent that will be treated and/or disposed of on site?

	NO *Note: The proposed pipeline will transport treated effluent that will adhere to the DWS regulations from WWTWs. The water will be discharged in the Moches dam, to be treated to potable water quality at Maselspoort, when required.
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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.

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

	NO *Note: The
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pipeline will transport treated effluent that will adhere to the DWS regulations from WWTWs. The water will be discharged in the Moches dam, to be treated to potable water quality at Maselspoort WTW, when required.

If yes, provide the particulars of the facility:

NOTE: Although the proposed project will not produce any effluent to be treated on / off site, the proposed activities will, during its operational phase, transport treated waste water to Mockes dam, and may be treated to potable water quality at Maselspoort WTW.

Facility name:	Mockes dam		
Contact person:	Victor Mapeshoane		
Postal address:	Mangaung Metro Municipality P.O. Box 3704 Bloemfontein		
Postal code:	9300		
Telephone:		Cell:	083 662 3395
E-mail:	Victor.mapeshoane@mangaung.co.za	Fax:	

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

The applicant (Mangaung Metro Municipality) strives to provide residents in the area with good service in general. The proposed pipeline should be constructed in order to provide basic sanitary services to the residents and community members in general as it will imply that treated water will be available for further treatment (to potable water quality) at the Maselspoort WTW.

If yes, provide the particulars of the facility:

Facility name:	Maselspoort WTW
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Contact person:	Victor Mapeshoane		
Postal address:	Mangaung Metro Municipality P.O. Box 3704 Bloemfontein		
Postal code:	9300		
Telephone:		Cell:	083 662 3395
E-mail:	Victor.mapeshoane@mangaung.co.za	Fax:	

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

**NOTE:**  
The proposed project will ensure that treated water will be available for further treatment (to potable water quality) at the Maselspoort WTW.  
  
Temporary chemical toilets will be used during the construction phase for workers employed during the construction phase. These will be managed by a specialist chemical toilet provider company.

**11(c) Emissions into the atmosphere**

Will the activity release emissions into the atmosphere? 

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

	NO
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If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

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

The emissions associated with the project during the construction phase will mostly be exhaust emission and dust. Dust will be controlled during the construction phase, when necessary. The vehicles travelling to and from the proposed site will contribute to the emissions released into the atmosphere during the operational phase of the proposed project. However, these emissions are not controlled by any legislation.

**11(d) Generation of noise**

Will the activity generate noise? 

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

	NO
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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 noise in terms of type and level:

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Nuisance noise may be generated during the construction period. However, the significance thereof will be low and limited to areas under construction.

Additionally, the section at Mockes dam will contribute to the ambient noise levels during the operational phase as water is released into the dam. This is due to the proposed energy breaker system that will be constructed to limit possible erosion as the system will control the force of the water being released into the dam. Note that mitigation measures to limit the noise associated with the energy breaker system will be implemented.

Please refer to Appendix C for an example of a similar energy breaker system.

**12. WATER USE**

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

<b>municipal</b>	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:

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

YES	
-----	--

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

**NOTE:**

Proof of submission of the required application to DWS will be attached to the Final Basic Assessment Report.

**13. ENERGY EFFICIENCY**

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

The pipeline will be designed such that the water in the pipeline will move by means of gravity, as far as possible, to minimise the requirement of pump stations, thus minimising energy usage.

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

N/A



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**SECTION B: SITE/AREA/PROPERTY DESCRIPTION**

**Important notes:**

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No.   
(e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? 

YES	<input type="text"/>
-----	----------------------

If YES, please complete the form entitled "Details of specialist and declaration of interest"

for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:

Please refer to list attached, as part of **Appendix A**.

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

--

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:

Mostly within the existing road reserve.  
Alternatively, agriculture (farms),  
or municipal infrastructure (such as at Maselspoort and Mockes dam)

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Please refer to Appendix A for a list of current land-use zonings.

Is a change of land-use or a consent use application required?

	NO
	NO

Must a building plan be submitted to the local authority?

## DRAFT BASIC ASSESSMENT REPORT - PIPELINE FROM WWTWs TO MOCKES DAM

Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative 1** Preferred:

Flat	<b>1:50</b>	-	1:20	-	1:15 – 1:10	1:10	-	1:7,5 – 1:5	<b>Steeper than 1:5</b>
	<b>1:20</b>		1:15			1:7,5			

#### NOTE:

Most of the pipeline route has a general gradient of 1:50-1:20. Certain sections near the dams and other waterways have a gradient Steeper than 1:5.

### 2. LOCATION IN LANDSCAPE

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

- 2.1 Ridgeline
- 2.2 Plateau
- 2.3 Side slope of hill/mountain
- 2.4 Closed valley
- 2.5 **Open valley**
- 2.6 **Plain**
- 2.7 Undulating plain / low hills
- 2.8 Dune
- 2.9 Seafront

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**3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

Is the site(s) located on any of the following (tick the appropriate boxes)?

	<b>Alternative 1 Preferred:</b>	
Shallow water table (less than 1.5m deep)		NO
Dolomite, sinkhole or doline areas		NO
Seasonally wet soils (often close to water bodies)	YES (at waterways)	
Unstable rocky slopes or steep slopes with loose soil		NO
Dispersive soils (soils that dissolve in water)		NO
Soils with high clay content (clay fraction more than 40%)		NO
Any other unstable soil or geological feature		NO
An area sensitive to erosion	YES (at waterways)	

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

**4. GROUNDCOVER**

Indicate the types of groundcover present on the site:

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

Natural veld - good condition <sup>E</sup>	<b>Natural veld with scattered aliens<sup>E</sup></b>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

**NOTE:**

The construction of the proposed pipeline has been rated as being acceptable.

According to Mucina & Rutherford (2006) the area consists of Highveld Alluvial Vegetation (AZa 5) and Bloemfontein Dry Grassland (Gh5). Of these vegetation types the Highveld Alluvial Vegetation is considered to be of Least Concern but the Bloemfontein Dry Grassland is listed as a Threatened

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Ecosystem with a status of Vulnerable (VU). Large portions of this grassland have been transformed by dryland crop cultivation and urbanisation.

No rare or endangered species were identified, except *Crinum bulbispermum* (Orange River Lily, Listed as a Declining species in the National Red List). This lily occurs along the Modder River and two seasonal streams that will be crossed. Only a small portion of the population will be affected. It is recommended that all specimens which will be affected should be removed and transplanted adjacent to the pipeline in an area of suitable and of similar habitat. Permits must be obtained for the transplantation.

The pipeline will cross a few watercourses. To keep disturbance to a minimum, several mitigation measures must be implemented.

It is likely that some mammal species of conservational importance may occur within the area but it is unlikely that they would be directly affected by installation of the pipeline due to the small footprint, as long as hunting, capturing and trapping of animals is prohibited.

If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

### 5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

- 5.1 Natural area
- 5.2 Low density residential – no impact
- 5.3 Medium density residential
- 5.4 High density residential
- 5.5 Informal residential<sup>A</sup>
- 5.6 Retail commercial & warehousing
- 5.7 Light industrial
- 5.8 Medium industrial<sup>AN</sup>
- 5.9 Heavy industrial<sup>AN</sup>
- 5.10 Power station
- 5.11 Office/consulting room
- 5.12 Military or police base/station/compound
- 5.13 Spoil heap or slimes dam<sup>A</sup>
- 5.14 Quarry, sand or borrow pit

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- 5.15 Dam or reservoir
- 5.16 Hospital/medical centre
- 5.17 School
- 5.18 Tertiary education facility
- 5.19 Church
- 5.20 Old age home
- 5.21 Sewage treatment plant<sup>A</sup>
- 5.22 Train station or shunting yard<sup>N</sup>
- 5.23 Railway line<sup>N</sup>
- 5.24 Major road (4 lanes or more)<sup>N</sup>
- 5.25 Airport<sup>N</sup>
- 5.26 Harbour
- 5.27 Sport facilities
- 5.28 Golf course
- 5.29 Polo fields
- 5.30 Filling station<sup>H</sup>
- 5.31 Landfill or waste treatment site
- 5.32 Plantation
- 5.33 Agriculture – The proposed project will not have an influence on the current agricultural activities that is undertaken in the nearby areas.
- 5.34 River, stream or wetland – The pipeline will transport treated effluent to Mockes dam, crossing several streams and the Renoster Spruit.
- 5.35 Nature conservation area
- 5.36 Mountain, koppie or ridge
- 5.37 Museum
- 5.38 Historical building
- 5.39 Protected Area
- 5.40 Graveyard
- 5.41 Archaeological site
- 5.42 Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity?

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

If YES, specify:

|

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:

If YES, specify:

|

\_\_\_\_\_

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**6. CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including		NO
Archaeological or palaeontological sites, on or close (within 20m) to the site?		Uncertain
If YES, explain:		
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		
Briefly explain the findings of the specialist:	<p><b>NOTE:</b> Summary of Exemption of Phase 1 HIA: After a brief walk-through, it was established that potential archaeological impact resulting from the proposed development will be non-existent due to the disturbed nature of the road reserves. The soil overburden (residual deposits) is not paleontological vulnerable and the likelihood of paleontological impact on <i>in situ</i> bedrock sediments below the superficial overburden is considered to be low. It is recommended that the proposed development is exempted from a Phase 1 heritage impact assessment.</p>	
Will any building or structure older than 60 years be affected in any way?		NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		NO
If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.		

**SECTION C: PUBLIC PARTICIPATION**

**1. ADVERTISEMENT**

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  - (i) the site where the activity to which the application relates is or is to be undertaken; and
  - (ii) any alternative site mentioned in the application;

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- (b) giving written notice to—
  - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  - (v) the municipality which has jurisdiction in the area;
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
  - (i) one local newspaper; or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  - (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

## 2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
  - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
  - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
  - (iii) the nature and location of the activity to which the application relates;
  - (iv) where further information on the application or activity can be obtained; and
  - (iv) the manner in which and the person to whom representations in respect of the application may be made.

### **3. PLACEMENT OF ADVERTISEMENTS AND NOTICES**

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

### **4. DETERMINATION OF APPROPRIATE MEASURES**

The 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, ratepayers associations and traditional authorities where appropriate. 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.

### **5. COMMENTS AND RESPONSE REPORT**

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

### **6. AUTHORITY PARTICIPATION**

**Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.**

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.

List of authorities informed:



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**NOTE:** A copy of the dBAR was forwarded to the following parties, for comment:

- Municipal Manager: Mangaung Metro Municipality
- Ward Councillor: Ward 49400046 (Cllr Galekile Moses Bacela)  
Ward 49400018 (Cllr E.C. Tobie)
- Dept. of Agriculture
- Dept. of Water and Sanitation
- SAHRA
- Dept. of Police, Roads and Transport

List of authorities from whom comments have been received:

**NOTE:**

No comments were received from the above parties to date. Please note that all future comments will be attached to the Final Basic Assessment Report.

### 7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?

	NO
--	----

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

**NOTE:**

No comments were received from the above parties to date. Please note that all future comments will be attached to the Final Basic Assessment Report.

### SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, 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

List the main issues raised by interested and affected parties.

**Summary of comments received:**

- Why is the pipeline required?

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- What is the position of the proposed pump station?
- Will the pipeline be located within the road reserve?
- Size of the pipe and volume of water to be transported by the pipeline?
- Odour is of concern
- Require more detail on the proposed project.
- Advise how the water quality will be monitored and will this be sustainable?
- The proposed project is not socially or environmentally friendly and against the laws of South Africa.
- It will have a negative effect on the environment and people in the region.
- The proposed project will have a negative effect on the property value in the area.

The construction of a reticulation dam at Mockes dam is required.

Possible influence on the condition of fish in the waterways.

Possible increase in green algae.

A complete list of comments received is attached as **Appendix E4**.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

Please note that most of the comments received are regarding the water quality to be transported in the pipeline and discharged in Mockes dam. Thus, most of the comments are not directly linked to the listed activities, i.e. the construction of infrastructure for the transportation of water.

### **A summary of response to the comments received is as follows:**

1. The proposed pipe line is required for the bulk water transfer of treated water from the existing waste water treatment plants [(Bloem Spruit and North Eastern Waste Water Treatment Works (WWTWs)], to Mockes dam for the purpose of recycling. A previous feasibility study was conducted to investigate the economic and technical feasibility of recycling water from municipal waste water treatment works by recirculating the water via a new bulk water transfer scheme to Maselspoort Water Treatment Works (WTW) on the banks of the Modder River, thus to utilise the treated waste water that is currently discharged into the Renoster Spruit.

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2. In order to transfer water from the existing WWTWs, a pipeline and booster pump station are required to successfully transfer water to Maselspoort WTW. The water from Bloem Spruit WWTW will be able to gravitate directly to Moches dam or Maselspoort, thus no pumping will be required. Transferring water from the NE WWTW would require a low lift, high flow booster pump station, to be located in the NE WWTW facility.
3. The proposed pipe route is currently planned to be located within the existing road reserve for most of the pipeline route. The Maselspoort road will be crossed at the Renoster Spruit by means of pipe jacking underneath the existing road. The pipeline will cross the Renoster Spruit through the river bed upstream of the existing pipe bridge. This section of the pipeline will consist of 2 x 800mm diameter steel pipes to cross river below riverbed. The pipes will be concrete encased and the river embankment will be stabilised with Amor flex or similar material. 2/3 of river flow will be diverted with an earth embankment at a time during the construction phase.
4. Except for the section mentioned above, the proposed pipe is a 1,2 m diameter pipe line, of an approximate length of 24 km. An approximate 56 Mℓ/day will be transferred from Bloem Spruit WWTW and 45 Mℓ/day from the current NE WWTW. Future planning indicated that more water will be treated at the NE WWTW and provision to transfer 90Mℓ/day will be catered for. Provision will also be made to abstract water from the Renoster Spruit in future and / or during emergencies. Should water be abstracted from the Rensoter Spruit it would be equal to the volume discharged in to the Renoster Spruit at the Sterkwater WWTW. The current capacity is 20Mℓ/d and it is to be increased to 40Mℓ/d.
5. The current project will not release untreated water into the system – it will rather transfer treated water towards Moches dam treated at Maselspoort WTW. The water quality will be monitored regularly and will comply with the DWS standards for disposed water. As treated effluent is already released into the system, the applicant does not foresee that the proposed project will have a detrimental effect on the water quality.

Please refer to **Appendix E<sub>5</sub>** for more information on the response to comments received.

## **2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES**

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

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Alternative 1 <sup>Preferred</sup> Potential impacts and recommended mitigation measures to be implemented		
	Potential Impacts	Recommended Mitigation Measures
Planning and Design	<p><b>Direct Impacts</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Indirect Impacts</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Cumulative Impacts</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>No-go alternative</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• No environmental mitigation measures is required during the planning phase on the proposed site, as no mitigation measures are to be implemented on site during the planning phase.</li> <li>• However, the engineers, specialists and environmental consultants took the following into consideration, to be implemented during the construction / operational phase: <ul style="list-style-type: none"> <li>• Erosion control measures</li> <li>• Removal of vegetation</li> <li>• Protected vegetation</li> <li>• Removal of topsoil</li> <li>• Flooding</li> <li>• Pollution</li> </ul> </li> </ul>
Construction	<ul style="list-style-type: none"> <li>• Direct Impacts</li> <li>• Destruction of vegetation.</li> <li>• Noise elevation due to construction activities.</li> <li>• Nuisance dust generation.</li> <li>• Visual impact of rock and spoil material dumps from trench excavation all along the route.</li> <li>• Ponding of water during construction at waterways (due to blockage of waterways).</li> <li>• Damage to / loss of</li> </ul>	<ul style="list-style-type: none"> <li>• Vegetation clearance will be limited to the servitude area.</li> <li>• A permit for the removal of protected plant species will be obtained before the removal of these species (if any).</li> <li>• The pipeline footprint will be hydro seeded to reinstate vegetation growth, where required.</li> <li>• Establishment of alien vegetation will be monitored and alien species will be removed by hand or by an approved chemical before gestation thereof.</li> <li>• A permit should be obtained before</li> </ul>

Alternative 1 <sup>Preferred</sup> Potential impacts and recommended mitigation measures to be implemented		
	Potential Impacts	Recommended Mitigation Measures
	<p>protected plant species.</p> <p><b>Indirect Impacts</b></p> <ul style="list-style-type: none"> <li>• Potential erosion of exposed soil.</li> <li>• Establishment of alien / invader vegetation on disturbed areas.</li> <li>• Dumping of construction rubble and general waste on site.</li> <li>• Spillage of material to be utilised during the construction phase as well as untreated sewage from the temporary toilets to be used during the construction phase, to the surrounding environment.</li> <li>• Surface and groundwater pollution due to spillage of potential hazardous substances such as hydraulic material and untreated sewage explained above.</li> <li>• Impact on waterways (including the natural habitat of the area), soil disturbances and including pollution.</li> <li>• Road safety at road crossings.</li> </ul>	<p>the removal and transplantation of protected plant species may be undertaken.</p> <ul style="list-style-type: none"> <li>• Storm water measures will be implemented in order to manage storm water and this will also prevent erosion.</li> <li>• All scour outlets will be provided with stone pitched channels.</li> <li>• River beds will be covered with gabion mattress including embankment stabilization above the excavation area (where required)</li> <li>• Amor Flex or similar material will be utilised where required.</li> <li>• The pipeline outfall at Mockes dam will end in a concrete stilling chamber, above the flood line and flow into the dam in a lined channel.</li> <li>• The pipeline at Maselspoort WTW will end in a concrete stilling chamber and feed directly into the WTW inlet.</li> <li>• Visual inspections for the occurrence of erosion should be undertaken on a weekly basis.</li> <li>• Speed limit will be enforced on the construction vehicles and these vehicles will only make use of</li> </ul>

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<b>Alternative 1<sup>Preferred</sup></b>		
<b>Potential impacts and recommended mitigation measures to be implemented</b>		
	<b>Potential Impacts</b>	<b>Recommended Mitigation Measures</b>
	<ul style="list-style-type: none"> <li>• Possible change of flow of water in waterways during the construction activities near / through the waterways.</li> </ul> <p><b>Cumulative Impacts</b></p> <ul style="list-style-type: none"> <li>• None.</li> </ul> <p><b>No-go alternative</b></p> <ul style="list-style-type: none"> <li>• The Mangaung Metro Municipality will not be able to provide Bloemfontein with recycled water, resulting in a possible water shortage and water restrictions on a regular basis.</li> </ul>	<ul style="list-style-type: none"> <li>designated roads / pathways.</li> <li>• Dust control measures will be implemented if nuisance dust generation occurs during the construction period.</li> <li>• No waste (general / construction / potential hazardous / etc.) may be dumped in the veld / water features.</li> <li>• Waste classification should be undertaken.</li> <li>• Suitable waste bins etc. will be available on site for the temporary disposal of waste.</li> <li>• Waste will be removed from site and disposed of at an authorised landfill site.</li> <li>• The necessary precautions with regard to road safety should be implemented for construction work within road crossings.</li> <li>• Construction activities in waterways should be undertaken in such a manner that no damming of water is required, where possible. 2/3 of the waterways may be diverted at a time, where required.</li> <li>• The necessary authorisations should be obtained from DWS, should the damming of water be required.</li> </ul>
<b>Op er</b>	This phase consists of the use of the proposed water	<ul style="list-style-type: none"> <li>• Maintenance and repair will be undertaken on the pipeline and</li> </ul>

Alternative 1 <sup>Preferred</sup> Potential impacts and recommended mitigation measures to be implemented	
Potential Impacts	Recommended Mitigation Measures
<p>pipeline.</p> <p><b>Direct Impacts</b></p> <ul style="list-style-type: none"> <li>• Deterioration of the pipe (and leakages) and other infrastructure in the long term.</li> </ul> <p><b>Indirect Impacts</b></p> <ul style="list-style-type: none"> <li>• Establishment of alien / invader species due to previous disturbance will also be associated with this phase.</li> <li>• Increase in noise levels at the outfall section at Mockes Dam, due to the energy breakers.</li> <li>• Increase in noise levels at the abstraction point, when operational.</li> <li>• Odour and pollution of the water features should the water not adhere to the water quality standards as stipulated by DWS.</li> <li>• Erosion due to sediment discharge into Mockes dam due to the outfall position and the speed of the released water.</li> <li>• Possible change in the morphology of the Mockes dam due to erosion of the</li> </ul>	<p>associated infrastructure, when necessary.</p> <ul style="list-style-type: none"> <li>• Establishment of alien vegetation will be monitored and alien species will be removed by hand or by an approved chemical before gestation thereof.</li> <li>• Proper mitigation measures, such as monitoring of the water quality on a regular basis, should be applied. This should be done in-house as well as by independent consultants.</li> <li>• Water to be transported in the pipeline should adhere to the DWS standards.</li> <li>• An emergency plan should be developed in case the water does not conform to the DWS standards.</li> <li>• Visual inspections should be undertaken at least every 6 months to investigate the occurrence of sedimentation and erosion.</li> <li>• Proper erosion mitigation measures should be implemented.</li> <li>• Position the outfall in such a way to prevent sediment discharge into Mockes dam.</li> <li>• Stabilise the banks of the dam, where necessary.</li> </ul>



**DRAFT BASIC ASSESSMENT REPORT - PIPELINE FROM WWTWs TO MOCKES DAM**

Alternative 1 <sup>Preferred</sup> Potential impacts and recommended mitigation measures to be implemented		
	Potential Impacts	Recommended Mitigation Measures
	<p>banks of the dam.</p> <p><b>Cumulative Impacts</b></p> <ul style="list-style-type: none"> <li>• Odour and pollution of the water features should the water not adhere to the water quality standards as stipulated by DWS. This may also have a negative effect on fish and other organisms in the water source.</li> </ul> <p><b>No-go alternative</b></p> <p>The Mangaung Metro Municipality will not be able to provide Bloemfontein with recycled water, resulting in a possible water shortage and water restrictions on a regular basis.</p>	
Decommissioning and Closure	<ul style="list-style-type: none"> <li>• Activities associated with the decommissioning phase will be limited to the rehabilitation of areas disturbed during the construction phase. All disturbed areas will be rehabilitated according to best practices.</li> </ul>	
	<p><b>Direct Impacts</b></p> <ul style="list-style-type: none"> <li>• No impact.</li> </ul> <p><b>Indirect Impacts</b></p> <ul style="list-style-type: none"> <li>• Potential erosion of exposed soil.</li> <li>• Potential dumping of waste on site.</li> <li>• Potential establishment of alien vegetation in</li> </ul>	<ul style="list-style-type: none"> <li>• All temporary infrastructure related to the construction phase will be removed from site.</li> <li>• Temporary concrete surfaces (if any) will be removed and compacted areas ripped.</li> <li>• The establishment of natural occurring vegetation will be encouraged in the servitudes.</li> </ul>

Alternative 1 <sub>Preferred</sub> Potential impacts and recommended mitigation measures to be implemented		
	Potential Impacts	Recommended Mitigation Measures
	<p>rehabilitated areas.</p> <p><b>Cumulative Impacts</b></p> <ul style="list-style-type: none"> <li>• None.</li> </ul> <p><b>No-go alternative</b></p> <ul style="list-style-type: none"> <li>• Slow rehabilitation of disturbed areas.</li> <li>• Erosion.</li> <li>• Occurrence of alien vegetation.</li> <li>• Unlawful waste disposal.</li> </ul>	<ul style="list-style-type: none"> <li>• No waste will be dumped on site and any waste occurring on site will be removed and disposed of according to best practices.</li> <li>• Establishment of extensive alien species will be monitored.</li> <li>• A rehabilitation plan will be developed, if it is decided to remove the proposed pipeline and associated infrastructure before the cessation of the operation aspects of the proposed project.</li> <li>• The rehabilitation plan will include management and mitigation measures to be implemented during the decommissioning of the project.</li> </ul>

### 3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity 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.

**NOTE:**

By implementing the recommendations of the ecological report, heritage report, this document and the EMPr, the impact of the pipeline's construction phase will be kept to a minimum.

**Alternative 1<sub>Preferred</sub>**

The same as above, including:  
The expected impacts relating to the proposed pipeline are mostly temporary (during the construction phase) and the mitigation measures referred to in the current document, the EMPr and Specialist Reports will ensure that the disturbance is kept to a minimum and ensure that adequate rehabilitation takes place.

**No-go alternative (compulsory)**

The no-go alternative is not seen as a reasonable / feasible alternative as this will place the Mangaung Metro Municipality in such a position that it will not be able to provide Bloemfontein with recycled water, resulting in a possible water shortage and water restrictions on a regular basis.

The proposed pipeline and associated infrastructure is considered essential to enable the Mangaung Metro Municipality to provide the Bloemfontein area with adequate basic services, as the proposed project entails the transportation of treated waste water, to be recycled at the Maselspoort WTW.

As the project is described as a basic service, the lack thereof will lead to major social and economic impacts that will indirectly cause severe environmental concerns. The impacts expected during the construction phase of the proposed project can be minimised through the recommended mitigation measures and therefore the no-go alternative is not ideal.

**SECTION E. RECOMMENDATION OF PRACTITIONER**

Are 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	
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

N/A
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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:

Refer to the EMPr in Appendix F for recommended mitigation measures.
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Is an EMPr attached?

YES	
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The EMPr must be attached as Appendix F.

## **SECTION F: APPENDIXES**

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix D<sub>1</sub>: Heritage Report

Appendix D<sub>2</sub>: Ecological Report

Appendix D<sub>3</sub>: Service Report / Design Report

Appendix E: Comments and responses report

Appendix E<sub>1</sub>: List of identified interested and affected parties

Appendix E<sub>2</sub>: Proof of notification

Appendix E<sub>3</sub>: List of registered parties

Appendix E<sub>4</sub>: List of comments received

Appendix E<sub>5</sub>: Response to comments received

Appendix E<sub>6</sub>: Proof of submission of dBAR to registered parties

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

Appendix G<sub>1</sub>: Consultation with DWS

Appendix G<sub>2</sub>: Specialist Declarations

Appendix G<sub>3</sub>: EAP Declaration