

LANSERIA COMMERCIAL CROSSING

FINAL BASIC ASSESSMENT REPORT IN SUPPORT OF A WASTE MANAGEMENT LICENSE APPLICATION

PROPOSED WASTE WATER TREATMENT PACKAGE PLANT FOR THE LANSERIA COMMERCIAL CROSSING DEVELOPMENT

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(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.

SECTION A: ACTIVITY INFORMATION

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

NO

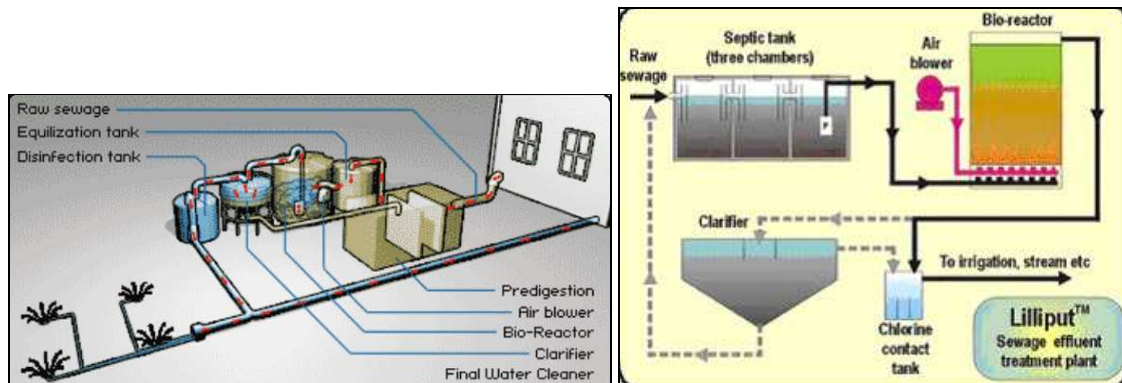
If YES, please complete the form entitled "Details of specialist and declaration of interest" for appointment of a specialist for each specialist thus appointed. *Any specialist reports must be contained in Appendix D.*

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail:

Activity Description			
<p>The following activities as per Government Notice No. R.718 of 3 July 2009 under the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) applies to this application:</p> <ul style="list-style-type: none"> Category A - No. 11: "The treatment of effluent, wastewater or sewage with an annual throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres". <p>The construction of a Waste Water Treatment Packaged Plant (WWTPP) on Portion 75 of the farm Nietgedacht 535JQ <u>or</u> on Portion 163 of the farm Nootgedacht 534 JQ for the proposed Lanseria Commercial Crossing development. The WWTPP will be in the form of a Lilliput system.</p> <ul style="list-style-type: none"> Category A - No. 18 "The construction of facilities for activities listed in Category A of the Schedule (not in isolation to associated activity). <p>The construction of infrastructure/facilities in respect of the WWTPP.</p>			
Project description			
<p>There is currently no existing bulk sewerage infrastructure in the vicinity of the development. Johannesburg Water proposes to construct a new Waste Water Treatment Works (WWTW) to the east of Lanseria (north of the proposed development) as part of their Master Plan; the proposed development will ultimately connect to this future sewage infrastructure. The interim solution to manage sewage generation on site is proposed to be a Lilliput® WWTPP with two possible location alternatives.</p> <p>The WWTPP is proposed to be located in the north eastern corner of Development Phase 1 or in the north western corner of Development Phase 3. The WWTPP will treat sewage on site and discharge treated water (to approved Department of Water Affairs standards) into holding tanks to be used for irrigation of landscaped areas within the development and/or discharged into the proposed stormwater attenuation system.</p> <p>The WWTPP will be constructed above-ground. The alternatives for the WWTPP are:</p>			
Portion 75 of the farm Nietgedacht 535 JQ		Portion 163 of the farm Nootgedacht 534 JQ	
Latitude	Longitude	Latitude	Longitude
25°58' 10.38"	27°55' 50.67"	25°58' 22.42"	27°55 ' 27.90"
25°58' 10.37"	27°55' 51.35"	25°58' 22.43"	27°55 ' 28.58"
25°58' 10.96"	27°55' 52.34"	25°58' 22.03"	27°55 ' 28.57"
25°58' 10.98"	27°55' 50.66"	25°58' 22.04"	27°55 ' 28.58"
<p>Information on the Lilliput® WWTPP has been taken from the Lilliput® website http://www.lilliputsewagesystems.com/. The WWTPP is described below as per the website and a visual indication of the process is provided in the figures below.</p>			

The Lilliput® Process: An overview of the Lilliput® WWTPP:



Raw sewage will be pre-digested in a ‘full kit’ surface plant, in Lilliput® tanks, by anaerobic bacteria, converting most of the complex organic matter into simple but toxic chemicals. At times of surge flow excess effluent will be returned to the septic tank to ensure complete treatment. A clarifier will be used to extract excess solids and return them to the septic tank. The final stage of treatment is disinfection, which ensures that any pathogens are removed. The Lilliput® WWTPP has been designed to treat the sewage to an environmentally acceptable level.

1. Process scope

The Lilliput® WWTPP Models SBC12000 upwards is designed to treat domestic sewage from a cluster of housing units through the development spectrum to include townships and cities.

2. Process description

The sewage from the septic tanks (pre-digestion) is pumped at a constant rate to the Lilliput® bio-reactor. The effluent enters the bio-reactor below the AWW MARK TWO fixed-growth media where it mixes with an air diffuser. The effluent then rises through the media where the microbial population attached to the media removes and aerobically degrades the organic material contained in the aerated effluent. A degree of nitrification takes place in the upper layers of the media. Once it has passed through the media, the treated effluent is pumped through a disinfecting chlorine contactor and discharged to the evaporation dam. The range can incorporate all their components into a single unit, such as containerised applications or in modular form to suit topographical and/or aesthetic requirements. Trickling introduction of effluent, with natural up-drafts and a residency of only five (5) minutes is achieved.

Parameters influencing the plants’ production are indicated below:

Parameter	Unit	Typical Value
Population	Pe	10
Flow (ADWF)	l/d	2000
Oxygen absorbed	mg/l	80
Chemical Oxygen Demand (COD)	mg/l	800
NH ₃	mg/l	40

3. Physical components

- **Up-flow Submerged Reactor:** This aerobic biological treatment unit is based on the Submerged Fixed Film principle. The plant utilises random-packed AWW MARK TWO biofilter media which has a high surface to volume ratio to permit a high biomass-density;
- **Disinfection:** Disinfection is achieved by in-line chlorination or ozonation of the treated effluent; and
- **Bio-enhancement option:** The introduction of the Alpha Biotech bio-enhancing catalyst material. The incorporation of the biocatalyst enhances the rates and degree of biodegradation of solids in the septic tank. The Alpha Biotech catalyst has been successfully applied to sewage treatment. Sludge production is reduced, COD removal in the septic tank is enhanced and plant performance is generally enhanced, particularly in periods of abnormal load peaking.

The Lilliput® WWTPP is not anticipated to cause damage to the environment.

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;
- (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.

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.

Alternative:	Latitude (S):		Longitude (E):	
Alternative S1 ¹ (Portion 75 of farm Nietgedacht 535 JQ)	25°	58' 10.69"	27°	55' 51.00"
Alternative S2 (Portion 163 of farm Nooitgedacht 534 JQ)	25°	58' 22.73"	27°	55' 28.24"
Alternative S3 (if any) N/A	°	'	°	'

In the case of linear activities: **N/A**

4. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	Size of the activity:
Alternative A1 ² (preferred activity alternative)	1000 m ²
Alternative A2 (if any) N/A	m ²
Alternative A3 (if any) N/A	m ²

or, for linear activities: **N/A**

¹ “Alternative S..” refer to site alternatives.

² “Alternative A..” refer to activity, process, technology or other alternatives.

5. SITE ACCESS

Does ready access to the site exist?
If NO, what is the distance over which a new access road will be built

YES	<input type="checkbox"/>
m	<input type="text"/>

Describe the type of access road planned:

N/A

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. **Also refer to Appendix C for details of the facilities.**

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.

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 350 000.00
What is the expected yearly income that will be generated by or as a result of the activity?	N/A
Will the activity contribute to service infrastructure? For the proposed development only.	YES
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development phase of the activity?	Minimal
What is the expected value of the employment opportunities during the development phase?	Unknown
What percentage of this will accrue to previously disadvantaged individuals?	± 75%
How many permanent new employment opportunities will be created during the operational phase of the activity?	None
What is the expected current value of the employment opportunities during the first 10 years?	N/A
What percentage of this will accrue to previously disadvantaged individuals?	N/A

9(b) Need and desirability of the activity

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

NEED:	
1.	Was the relevant provincial planning department involved in the application? NO
2.	Does the proposed land use fall within the relevant provincial planning framework? N/A
3.	If the answer to questions 1 and / or 2 was NO, please provide further motivation/ explanation: <p style="text-align: center;">The proposed Lilliput Waste Water Treatment Package Plant is required to treat effluent for the Proposed Lanseria Commercial Crossing Development. There is currently no existing bulk sewerage infrastructure in the vicinity of the site.</p> <p style="text-align: center;">Johannesburg Water (the authority responsible for the provision of sewage infrastructure) indicated that a temporary solution would have to be installed until the Master Plan is implemented and the necessary infrastructure put in place. Johannesburg Water recommended an on-site WWTPP as an appropriate interim solution.</p>
DESIRABILITY:	
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: N/A
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

BASIC ASSESSMENT REPORT

9.	If the answer to any of the question 5-8 was YES, please provide further motivation/ explanation.	
	N/A	
BENEFITS:		
1.	Will the land use / development have any benefits for society in general?	YES
	Explain:	
2.	<p>The Lilliput WWTPP in itself will benefit the society and is needed in order for the Proposed Lanseria Commercial Crossing Development to take place, which in turn will create jobs and serve the society from a service and retail perspective. The proposed Lanseria Commercial Crossing Development falls within the major metropolitan node identified by the City of Johannesburg and Mogale City Local Municipality (i.e. higher intensive office, retail and other business uses, commercial uses and light industrial uses) and will further motivate and support development of service infrastructure within the area, which will in the future promote the development of this strategic node.</p>	
3.	Will the land use / development have any benefits for the local communities where it will be located?	NO
	Explain:	
4.	<p>The proposed Lilliput WWTPP will benefit the greater public/ society. The Proposed Lanseria Commercial Development will serve the community from a service, retail, business and commercial development perspective. Jobs will be created, and the local communities will benefit from the increased local economic development. It must be reiterated that there is currently no bulk sewage services in place in the vicinity of the development.</p>	

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: Waste Act, 2008 (Act No. 59 of 2008)	DEA	2008
National Water Act, 1998 (Act No. 36 of 1998) – Integrated Water Use License in terms of Section 21 water uses has been applied for.	DWA	1998
National Environmental Management Act, 1998 (Act No. 107 of 1998) – in terms of the process to be undertaken for a Waste Management License.	DEA	1998

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	
Minimal	

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

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

Construction waste will be collected in a skip and transported to a registered waste disposal facility.

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

Luipaardsvlei Landfill site

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

NO
m³

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

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

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

NO

If yes, 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

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

m³

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

YES

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.

Please note that effluent will only be treated and NOT generated by the WWTPP.

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

NO

If yes, provide the particulars of the facility:

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

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

N/A

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

	NO
YES	NO

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

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:

N/A

11(d) Generation of noise

Will the activity generate noise?

	NO
YES	NO

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

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:

No noise will be generated by the WWTPP.

12. WATER USE

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

municipal	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

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. **The WULA will be submitted to the Department of Water Affairs before or on 15th February 2013. Proof of the submission will be forwarded to the Department in due course.**

13. ENERGY EFFICIENCY

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

The Lilliput WWTPP requires minimal energy (only 220 volt power supply).

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

N/A

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 NO

*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:

Portion 75 of the Farm Nietgedacht 535 JQ Farm 73

OR

Portion 163 of the Farm Nooitgedacht 534 JQ

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

Town/ District

Portion 75 of the Farm Nietgedacht 535 JQ Farm 73 - City of Johannesburg

Portion 163 of the Farm Nooitgedacht 534 JQ - Mogale City Local Municipality

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:

Portion 75 of the Farm Nietgedacht 535 JQ Farm 73: Undetermined

Portion 163 of the Farm Nooitgedacht 534 JQ: Agricultural

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.

Is a change of land-use or a consent use application required? YES NO
 Must a building plan be submitted to the local authority? YES NO

An application for Township Establishment, which includes the subdivision and re-zoning of the properties to "Special land-use", is currently underway.

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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:

Locality map:

- 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 S1:

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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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)?

Aspect	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	NO	NO	YES	NO
Dolomite, sinkhole or doline areas	NO	NO	YES	NO
Seasonally wet soils (often close to water bodies)	NO	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	NO	NO	YES	NO
Dispersive soils (soils that dissolve in water)	NO	NO	YES	NO

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Soils with high clay content (clay fraction more than 40%)		NO		NO	YES	NO
Any other unstable soil or geological feature		NO		NO	YES	NO
An area sensitive to erosion		NO		NO	YES	NO

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:

Natural veld – good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

An Ecological Specialist Study and report was undertaken for the greater area and is attached in Appendix D.

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

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:

<p>5.1 Natural area 5.2 Low density residential 5.3 Medium density residential 5.4 High density residential 5.5 Informal residential^A 5.6 Retail commercial & warehousing 5.7 Light industrial 5.8 Medium industrial^{AN} 5.9 Heavy industrial^{AN} 5.10 Power station 5.11 Office/consulting room 5.12 Military or police base/station/compound 5.13 Spoil heap or slimes dam^A 5.14 Quarry, sand or borrow pit</p>	<p>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^A 5.22 Train station or shunting yard^N 5.23 Railway line^N 5.24 Major road (4 lanes or more)^N 5.25 Airport^N 5.26 Harbour 5.27 Sport facilities 5.28 Golf course</p>	<p>5.29 Polo fields 5.30 Filling station^H 5.31 Landfill or waste treatment site 5.32 Plantation 5.33 Agriculture 5.34 River, stream or wetland 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)</p>
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If any of the boxes marked with an "N" are ticked, how this impact will/ be impacted upon by the proposed activity?

5.24 Major road (4 Lanes or More) - The N14 is a class 1 National Highway running in an east to west direction along the southern boundary of the site. The freeway has an access interchange with the R512 and links the area to Krugersdorp to the west and Pretoria to the east. The WWTTP is limited to site and will not impact on existing traffic patterns during the construction or operational phases.

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.

5.30 Filling station - The development of the WWTTP will not have an impact on the existing filling station in the vicinity.

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 archaeological or palaeontological sites, on or close (within 20m) to the site?

YES

If YES, explain:

The Heritage specialist identified 66 ancestral graves on the property. The Applicant has undertaken a process of exhuming and reburial on alternate land on behalf of family members. Exhumation applications have been submitted to the relevant Departments and the Applicant received the necessary exhuming permits. Refer to Appendix D

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:

Refer to the Heritage Impact Assessment that was conducted for the proposed Lanseria Commercial Crossing Development, Attached in Appendix D.

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

NO

YES

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;
- (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**.

Please note that no comments have been received on the Draft Basic Assessment Report.

6. AUTHORITY PARTICIPATION

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:

- **National Department of Environmental Affairs (DEA);**
- **Department of Water Affairs (DWA);**
- **City Of Johannesburg Metropolitan Municipality (COJ);**
- **Mogale City Local Municipality;**
- **West Rand District Municipality;**
- **South African Heritage Resource Agency (SAHRA);**
- **Gauteng Department of Agriculture and Rural Development (GDARD); and**
- **Councillors from each of the above municipalities.**

List of authorities from whom comments have been received:

Please note that no comments have been received on the Draft Basic Assessment Report.

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*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. - Attached in **Appendix E**.*

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 sub-regulation 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):

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.

Please note that no comments have been received on the Draft Basic Assessment Report.

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 **Appendix E**):

Please note that no comments have been received on the Draft Basic Assessment Report.

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.

The impacts and impact rating for both the locational alternatives are similar and thus only the preferred location (i.e. north-eastern corner of Development Phase 1) is described below in detail. Those impacts that are different as a result of the WWTPP being located in the north-western corner of Development Phase 3 (Portion 163 of the farm Nooitgedacht 534 JQ) are then highlighted in the second table.

Table 1: Possible impacts associated with either locational alternatives for the WWTPP

Activity	Anticipated Impact	
Construction Phase (preferred alternative) Portion 75 of the Farm Nietgedacht 535 JQ		
Direct impacts:		
Flora	1	The entire site will be cleared of vegetation due to the development of the Lanseria Commercial Crossing. The majority of the vegetation where the two alternative WWTPP's are proposed are associated with historical disturbance, thus it is anticipated that the loss of vegetation will be minimal.
Fauna	2	Faunal displacement may occur due to habitat destruction during the construction of the WWTPP.
	3	Anthropogenic activities, such as agriculture, residential development, and informal settlements have left the site transformed. The migratory corridors have also been altered due to the construction of roads on all boundaries of the site. Thus, the impact on fauna will not be significant.
Noise	4	No noise will be generated by the WWTPP.
Indirect impacts:		
Groundwater	5	Should any spillages (e.g. hydrocarbon or hazardous chemicals) occur during the

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Activity	Anticipated Impact	
		construction of the WWTPP, and the spillages are not cleaned up immediately, the chemicals may percolate into the groundwater resource. Other wastes, not in designated storage areas, may also impact on the groundwater resources should any substances from the waste infiltrate the ground.
Stormwater	6	Stormwater flowing over the site may become contaminated should any spilled substances be present on the site. Unless erosion control measures are put in place, stormwater may cause erosion on the site. This may lead to the siltation of surface water resources "down stream" of the erosion sites. This will have a detrimental effect on the water quality.
Cumulative impacts:		
Groundwater	7	Implementation of the Environmental Management Programme (EMP) will minimise the possible contamination of groundwater resources during the construction of the proposed development and WWTPP. The cumulative impact of activities on site is not significant in terms of groundwater contamination.
Flora	8	The EIA undertaken for the Lanseria Commercial Crossing have addressed impacts associated with loss or disturbance of flora, which are not regarded as significant due to the already transformed nature of the site.
Fauna	9	The EIA undertaken for the Lanseria Commercial Crossing has addressed impacts associated with the displacement and disturbance of fauna. Fauna will be negatively impacted during the construction phase, but with the proper implementation of mitigation measures as per the EMP these impacts can be managed and not regarded as significant.
Socio-economic	10	The WWTPP will allow for the continuation of the Lanseria Commercial Crossing project which in turn will allow the socio-economic benefits, as described above, to continue.
Operational Phase		
Visual	11	It is not anticipated that the visual impact will be significant due to the limited number of visual receptors in the area and that the WWTPP will be viewed as part of the proposed development.
		The WWTPP will allow the continuation of the project which in turn will allow the socio-economic benefits, as described above, to continue.
		Should all infrastructure be installed correctly, it is not anticipated that any impact on the groundwater will be experienced

Table 2: Possible Impacts that differ with locational alternatives for the WWTPP

Activity	Anticipated Impact	
Operational Phase Alternative Portion 163 of the farm Nooitgedacht 534 JQ		
Visual	1B	The WWTPP will alter the current visual character of the area. There are a limited number of visual receptors (adjacent landowners) in the area; however, most of them will have a direct view of the WWTPP. The WWTPP does fit into the future development node of the area. The impact would be slightly more significant when placed in the north western corner of Development Phase 3, where it will be more visible from Malibongwe drive.

Note: Alternative Waste Water Treatment Options

The alternative to the on-site WWTPP is to construct a pump station (at the same location – in the north-eastern corner of Development Phase 1) connected to an outfall sewer line which will transport the sewage to the existing Zandspruit Pump Station, approximately 5km south-east of the proposed development. There are three (3) alternative routes for the proposed outfall sewer line. These were assessed together with the WWTPP in the Scoping and Environmental Impact Reporting process which is being run concurrently with this Basic Assessment process and which will be administered by the Gauteng Department of Agriculture and Rural Development (GDARD).

Thus, two alternative interim solutions to manage sewage generation on site are proposed. *The*

preferred alternative is unknown at this stage and will be dependent on whether or not proposed developments within the area come “on-line” when the Lanseria Commercial Crossing development is proposed to commence construction. Thus, it may be appropriate to implement the WWTPP alternative if Johannesburg Water’s bulk infrastructure plans have made sufficient headway (this Basic Assessment Application); however if other proposed developments are on a similar development programme as the Lanseria Commercial Crossing, then it may be more feasible and practical to collaborate and combine efforts to install the pump station and outfall sewer alternative (the selection of the outfall sewer route to the Zandspruit Pump Station would be dependent on the location of proposed developments within the area) (including within the Scoping and Environmental Impact Reporting Application).

The Lilliput System is also an approved DWA solution to treating effluent in remote areas not connected to existing sewage infrastructure.

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.

The type/ nature of the impact was described above. The significance below has been determined according to the criteria attached in Appendix G.

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Table 3: Significance rating for Portion 75 of Farm Nietgedacht 535 JQ

Impact	Statement Description	Rating
Alternative A Construction Phase Alternative Portion 75 of the Farm Nietgedacht 535 JQ (preferred alternative)		
Direct Impacts		
1 (Fauna)	Extent	1
	Duration	2
	Severity	4
	Likelihood/Probability	5
	Significance	35 = Moderate
	Degree to which the impact can be reversed	80%
	Degree to which the impact may cause irreplaceable loss of resources	0%
	Degree to which the impact can be mitigated	80%
2 (Flora)	Extent	1
	Duration	1
	Severity	4
	Likelihood/Probability	4
	Significance	24 = Low
	Degree to which the impact can be reversed	100%
	Degree to which the impact may cause irreplaceable loss of resources	0%
	Degree to which the impact can be mitigated	100%
3 (Flora)	Extent	1
	Duration	4
	Severity	4
	Likelihood/Probability	3
	Significance	27 = Low
	Degree to which the impact can be reversed	100%
	Degree to which the impact may cause irreplaceable loss of resources	0%
	Degree to which the impact can be mitigated	80%
4 (Noise)	Extent	-
	Duration	-
	Severity	-
	Likelihood/Probability	-
	Significance	None
	Degree to which the impact can be reversed	N/A
	Degree to which the impact may cause irreplaceable loss of resources	N/A
	Degree to which the impact can be mitigated	N/A
Indirect Impacts		
5 (Groundwater)	Extent	3
	Duration	4
	Severity	4
	Likelihood/Probability	3
	Significance	33 = Moderate
	Degree to which the impact can be reversed	100%
	Degree to which the impact may cause irreplaceable loss of resources	50%
	Degree to which the impact can be mitigated	100%
6 (Stormwater)	Extent	1
	Duration	2
	Severity	4
	Likelihood/Probability	2
	Significance	14 = Low
	Degree to which the impact can be reversed	100 %
	Degree to which the impact may cause irreplaceable loss of	5 %

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Impact	Statement Description	Rating
	resources	
	Degree to which the impact can be mitigated	100 %
Cumulative Impacts		
7 (Groundwater)	Extent	3
	Duration	4
	Severity	3
	Likelihood/Probability	1
	Significance	10 = Low
	Degree to which the impact can be reversed	100 %
	Degree to which the impact may cause irreplaceable loss of resources	90 %
	Degree to which the impact can be mitigated	90 %
8 (Flora)	Extent	3
	Duration	4
	Severity	6
	Likelihood/Probability	1
	Significance	13 = Low
	Degree to which the impact can be reversed	90%
	Degree to which the impact may cause irreplaceable loss of resources	20%
	Degree to which the impact can be mitigated	100%
9 (Fauna)	Extent	3
	Duration	4
	Severity	2
	Likelihood/Probability	3
	Significance	27=Low
	Degree to which the impact can be reversed	100%
	Degree to which the impact may cause irreplaceable loss of resources	0%
	Degree to which the impact can be mitigated	100%
10 (Socio-economic)	Extent	-
	Duration	-
	Severity	-
	Likelihood/Probability	-
	Significance	High Positive
	Degree to which the impact can be reversed	N/A
	Degree to which the impact may cause irreplaceable loss of resources	N/A
	Degree to which the impact can be mitigated	N/A
Operational Impact		
11 (Visual)	Extent	1
	Duration	4
	Severity	2
	Likelihood/Probability	4
	Significance	28 = Low
	Degree to which the impact can be reversed	80 %
	Degree to which the impact may cause irreplaceable loss of resources	0 %
	Degree to which the impact can be mitigated	90 %

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Table 4: Significance rating for Portion 163 of Farm Nooitgedacht 534 JQ

Impact	Statement Description	Rating
	Operational Phase Alternative Portion 163 of the farm Nooitgedacht 534 JQ	
Operational Impact		
1B(Visual)	Extent	3
	Duration	4
	Severity	4
	Likelihood/Probability	3
	Significance	33 = Moderate
	Degree to which the impact can be reversed	100%
	Degree to which the impact may cause irreplaceable loss of resources	50%
	Degree to which the impact can be mitigated	100%

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Table 5: Total average significance rating for site alternative Portion 163 of the farm Nooitgedacht 534 JQ, Portion 75 of the farm Nietgedacht 535 JQ and No-go alternative

Impact	Statement Description	Rating
Preferred alternative Portion 75 of the farm Nietgedacht 535 JQ		
The alternative is rated as having a slightly lower average significance rating than the alternative site. This is mainly due to the location of the site, where there is fewer visual receptors in direct line of view.	Extent	1
	Duration	4
	Severity	2
	Likelihood/Probability	3
	Significance	21 = Low
	Degree to which the impact can be reversed	100%
	Degree to which the impact may cause irreplaceable loss of resources	50%
	Degree to which the impact can be mitigated	100%
Alternative Portion 163 of the farm Nooitgedacht 534 JQ		
This alternative is rated as having a slightly higher average significance rating than the preferred site (Portion 75 of Farm Nietgedacht 535 JQ). This is mainly due to the location of the site in close proximity to the R 512 Malibongwe drive where it will have a more significant impact from a visual perspective.	Extent	1
	Duration	4
	Severity	3
	Likelihood/Probability	3
	Significance	24 = Low
	Degree to which the impact can be reversed	100%
	Degree to which the impact may cause irreplaceable loss of resources	50%
	Degree to which the impact can be mitigated	100%
No-go alternative (compulsory)		
Should the WWTPP not be approved, the construction phase of the Lanseria Commercial Crossing Development will be delayed. Delaying the Lanseria Commercial Crossing Development will have negative socio-economic impacts negating all socio-economic benefits as described above.	Extent	4
	Duration	5
	Severity	6
	Likelihood/Probability	5
	Significance	75 = high
	Degree to which the impact can be reversed	0%
	Degree to which the impact may cause irreplaceable loss of resources	100%
	Degree to which the impact can be mitigated	unsure

SECTION E. 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

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

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:

- Two alternative interim solutions are proposed and both are authorised as the preferred alternative is unknown at this stage and will be dependent on whether or not proposed developments within the area come "on-line" when the Lanseria Commercial Crossing development is proposed to commence construction. Thus, it may be appropriate to implement the WWTPP alternative if Johannesburg Water's bulk infrastructure plans have made sufficient headway; however if other proposed developments are on a similar development programme as the Lanseria Commercial Crossing, then it may be more feasible and practical to collaborate and combine efforts to install the pump station and outfall sewer alternative (the selection of the outfall sewer route to the Zandspruit Pump Station would be dependent on the location of proposed developments within the area). **The Applicant must inform the Department of the alternative to be implemented prior to the commencement of construction on site.**
- Prior to authorisation of the development GDARD must be provided with a copy of the Waste Management License (WML), authorised by the DEA, for the proposed Lilliput/ similar Waste Water Treatment Package Plant (WWTPP).
- Conditions within the Integrated Water Use License to be issued by the Department of Water Affairs (DWA) must be complied with.
- The attached Environmental Management Programme (EMP) must be implemented and audited by an independent Environmental Control Officer (ECO) during the construction phase of the WWTPP.

Is an EMPr attached?

YES

*The EMPr must be attached as **Appendix F**.*

The BAR in support of the WML for the WWTPP for the Lanseria Commercial Crossing Development, forms part of a phased development. An EIA has been undertaken for the total development (The Lanseria Commercial Crossing). The Final EIR was submitted to the Gauteng Department of Agriculture and Rural Development on 23 January 2013. The EMPr that was compiled as part of this application is a comprehensive document. It is proposed that this EMPr (attached as **Appendix F**) serve as a binding document for the WWTPP application. This will avoid duplication and confusion once construction commences, since only one EMPr will be applicable.

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 E: Public Participation

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information