



Basic Assessment Report in terms of the NEMA Environmental Impact Assessment Regulations, 2010

AUGUST 2010

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by DEA&DP in terms of the EIA Regulations, 2010 and must be completed for all Basic Assessment applications.
2. This report must be used in all instances for Basic Assessment applications for an environmental authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended, and the Environmental Impact Assessment Regulations, 2010, and/or a waste management licence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) (NEM: WA), and/or an atmospheric emission licence in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM: AQA).
3. This report is current as of 2 August 2010. It is the responsibility of the Applicant / EAP to ascertain whether subsequent versions of the report have been published or produced by the competent authority.
4. The required information must be typed within the spaces provided in the report. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. It is in the form of a table that will expand as each space is filled with typing.
5. Incomplete reports will be rejected. A rejected report may be amended and resubmitted.
6. The use of "not applicable" in the report must be done with circumspection. Where it is used in respect of material information that is required by the Department for assessing the application, this may result in the rejection of the report as provided for in the regulations.
7. **While the different sections of the report only provide space for provision of information related to one alternative, if more than one feasible and reasonable alternative is considered, the relevant section must be copied and completed for each alternative.**
8. Unless protected by law all information contained in, and attached to this report, will become public information on receipt by the competent authority. If information is not submitted with this report due to such information being protected by law, the applicant and/or EAP must declare such non-disclosure and provide the reasons for the belief that the information is protected.
9. This report must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. No faxed or e-mailed reports will be accepted. **Please note that for waste management licence applications, this report must be submitted for the attention of the Department's Waste Management Directorate (tel: 021-483-2756 and fax: 021-483-4425) at the same postal address as the Cape Town Office Region A.**
10. Unless indicated otherwise, two electronic copies (CD/DVD) and three hard copies of this report must be submitted to the Department.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE REGION A (Cape Winelands, City of Cape Town: Tygerberg and Oostenberg Administrations)	CAPE TOWN OFFICE REGION B (West Coast, Overberg, City of Cape Town: Helderberg, South Peninsula, Cape Town and Blaauwberg Administrations)	GEORGE OFFICE (Eden and Central Karoo)
<p>Department of Environmental Affairs and Development Planning Attention: Directorate: Integrated Environmental Management (Region A2) Private Bag X 9086 Cape Town, 8000</p> <p>Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town</p> <p>Queries should be directed to the Directorate: Integrated Environmental Management (Region A2) at: Tel: (021) 483-4793 Fax: (021) 483-3633</p>	<p>Department of Environmental Affairs and Development Planning Attention: Directorate: Integrated Environmental Management (Region B) Private Bag X 9086 Cape Town, 8000</p> <p>Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town</p> <p>Queries should be directed to the Directorate: Integrated Environmental Management (Region B) at: Tel: (021) 483-4094 Fax: (021) 483-4372</p>	<p>Department of Environmental Affairs and Development Planning Attention: Directorate: Integrated Environmental Management (Region A1) Private Bag X 6509 George, 6530</p> <p>Registry Office 4th Floor, York Park Building 93 York Street George</p> <p>Queries should be directed to the Directorate: Integrated Environmental Management (Region A1) at: Tel: (044) 805 8600 Fax: (044) 874-2423</p>

View the Department's website at <http://www.capegateway.gov.za/eadp> for the latest version of this document.

DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	16/3/1/1/A2/30/3070/13
File reference number (Waste):	Not Applicable
File reference number (Other):	Not Applicable

PROJECT TITLE

Proposed Construction of Stormwater Ponds and the Introduction of Wetland Habitats on Portions 74 and 86 of Farm 609, Philippi

DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Environmental Assessment Practitioner (EAP):	<i>Frontline Safety Health & Environmental Consultants</i>		
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EAP Qualifications	<i>Msc (UCT)</i>		
EAP Registrations/Associations	<i>IAIAsa Member</i>		

Details of the EAP's expertise to carry out Basic Assessment procedures

<i>Name</i>	<i>Justin Gichobi</i>
<i>Responsibility on project</i>	<i>Project consultant and report compilation</i>
<i>Qualifications</i>	<i>Ba. Hons (UWC, 2004) Msc (UCT, 2007)</i>
<i>Experience in years</i>	<i>8</i>
<i>Experience</i>	<i>Justin Gichobi has worked as an environmental assessment practitioner as well as an Environmental Control Officer since 2006. He has been involved in a number of projects covering a range of environmental disciplines, Basic Assessments, Environmental Impact Assessments and Environmental Management Programmes (construction and operation phases). He has experience in a wide range of projects relating to infrastructure projects, housing and industrial developments. Justin has experience also in environmental monitoring and auditing, public participation, environmental education and training.</i>

EXECUTIVE SUMMARY OF THE CONTENT OF THE BASIC ASSESSMENT REPORT

1. BACKGROUND

The Edith Stevens pond lies opposite the property on which the proposed activity will be undertaken. The pond is connected to the lotus canal by three 2.4m x 1.8m portal box culverts. It is required that two additional 2.4m x 1.8m box culverts be installed to allow adequate flow into the pond.

At 19.37mAMSL water flows into the existing western detention pond south of vanguard drive referred to as the vanguard drive pond. There are currently three 1.2m x 0.6m box culverts under Vanguard Drive which link the two ponds, the total required capacity is three 3.0m x 1.2m which will be achieved through a combination of the existing culverts and proposed additional capacity under Vanguard Drive. To provide a stormwater balancing system able to accommodate the 1: 50 year flood event, the capacity of the Vanguard Drive pond must be increased from its current capacity of approximately 15,000m³ to 74,000m³.

Downstream of the ponds is the Vygekraal Road culvert which restricts flow. The stormwater conveyance facilities downstream of Vygekraal Road are at capacity and pass through dense residential areas with little or no room for expansion, therefore the flow restriction at Vygekraal Road must be maintained to avoid the increased flood risk to these properties. The flow restriction is maintained by controlling the head in the canal to 20.5mAMSL. Without the suggested upgrades, during the 50 year event water levels in the canal would rise causing inundation of the adjacent roads, increase flows passing downstream and potential flooding upstream.

The primary intentions of the proposed upgrades are to accommodate a 1:50 year storm event, and to ensure residents residing outside of the 50 year flood line are no longer affected, and to reduce the risk of flooding on transportation routes such as Duinefontein Road and Lansdowne Road. Without these ponds key transportation routes such as Duinefontein Road and Lansdowne road would be at risk from flooding. Residents residing close to the canal edge would also be at risk from flooding upstream and downstream of the site. The location of the site is critical as it is currently connected to the Edith Stevens stormwater pond via culverts under Vanguard drive and the two facilities currently function in unison. The project will increase the capacity of the current Philippi pond and the size of its links between the Edith Stevens pond and the lotus canal.

The City of Cape Town therefore intends to transform portions of even 74 and 86 of Farm 609 Philippi in order to accommodate the construction of stormwater ponds and the introduction of wetland habitat into the area. The proposal entails the upgrading of existing stormwater ponds and culverts connected to the Lotus Canal. The pond will require additional linkages in the form of culverts crossing under roads. The stormwater ponds/wetlands are required to avoid flooding downstream and upstream and also to manage the volume of stormwater as per the requirements of the Stormwater Master Plan for the area.

The project proposal includes a number of development components. These components include; erection of a perimeter fence to prevent any further dumping, earthworks, soft landscaping and construction of additional culverts providing a connection between the pond and the channel.

The subject property is located directly to the south of Vangaurd Drive and to the east of Papkuilsvleiweg road within the suburb of Philippi. Other than the degraded wetland on site, no river systems are located within 500m of the Site. The natural vegetation on site is generally in very poor condition and so little vegetation remains that it is largely impossible to say what the exact nature of the original vegetation might have been like. Various wetland vegetation characterised as either wetland or terrestrial species dominated by alien and invasive species, with very few indigenous floral species. The approximated co-ordinates of the site are Latitude: 34°0' 17.46"S and Longitude: 18°33' 1.09"E. The site lies within the Urban Edge of the Cape metropole (see Figure 1).



Figure 1: Location of the Site

2. LEGISLATION

The National Environmental Management Act No. 107 of 1998, as amended in June 2010, and the Environmental Impact Assessment Regulations, provides for the control of activities that may have an impact on the environment. The proposed development will constitute the following listed activities as defined in terms of Government Notice No. R.544 of 2010 that reads as follows:

Activity 39: The expansion of (i) canals; (ii) channels; (iii) bridges; (iv) weirs; (v) bulk storm water outlet structures; (vi) marinas; within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, where such expansion will result in an increased development footprint but excluding where such expansion will occur behind the development setback line.

Activity 41: The expansion of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, where the combined capacity will be increased by 50000 cubic metres or more.

The listed activities above requires a basic environmental assessment to be undertaken and Frontline Safety Health and Environmental Consultants was commissioned to undertake this EIA for the proposed development. This draft Basic Assessment Report (BAR) serves as the documentation in support of an assessment level study that forms part of a basic Environmental Impact Assessment (EIA) for the proposed construction of stormwater ponds and the introduction of wetland habitats on Portions 74 and 86 of Farm 609, Philippi. The competent authority that will be responsible for decision-making regarding the proposed activity is the Department of Environmental Affairs and Development Planning (DEA&DP).

In view of the above, this Executive Summary includes the main findings of the Draft (BAR) prepared for the proposed activity. The Draft BAR is being distributed for a 40-day review / comment period from 3 March to 14 April 2014. The intention is to provide Interested and Affected Parties (I&APs) and authorities the opportunity to comment on the proposed project and the Draft BAR.

3. ALTERNATIVES AND PREFERRED LAYOUT PLAN

The term “Alternatives”, in relation to a proposed activity, is defined as different means of meeting the general purposes and requirements of the activity. In this report, two types of alternatives are described; the No Go Option and Layout alternatives.

3.1 The No-Go Option

The No-Go Option will be considered and evaluated as an alternative. Also referred to as the “Do-Nothing option” this refers to the upgrade of the stormwater ponds being not undertaken. This alternative implies that the site will remain as it is; that is, degraded and that no development occurs. In this scenario, the potential positive environmental and social impacts will not occur and the status quo will be maintained.

However, should the proposed activity not proceed, the property will remain in its present degraded state with undesirable visuals. Residents of Philippi will have to live with the potential risk of flooding. And the ecological benefits of introducing wetland habitats would not be realised. In addition, no job opportunities will be created during the construction or operational phases.

3.2 Alternative 1

In this Alternative, the upgrades to the stormwater facility can be achieved through implementing an engineering solution satisfying the civil engineering requirements of the project.

The shortcomings of this alternative is that though the ponds would provide maximum storage of stormwater, minimal environmental benefit would be accrued as the pond will largely remain dry throughout the year.

3.3 Alternative 2

The approach to achieving the stormwater storage requirements and reducing some maintenance requirements of the system is achieved through over excavation. This creates an excavation below the water table to approximately 18.37 m AMSL.

The disadvantage of this alternative relates to the construction costs. In addition, this type of over excavation facility has known risks of invasive plant species as demonstrated by the presence of *Eichhornia crassipes* (Water Hyacinth) in the adjacent Edith Stevens pond.

3.4 Alternative 3 Preferred Alternative

Whilst the stormwater capacity requirements are achieved, this alternative sees the introduction of wetland habitat and seasonally wet and dry areas. In this alternative, the proposed upgrade aims to have a dual function by providing the necessary stormwater infrastructure whilst increasing biodiversity in the area (see Figure 2 below).

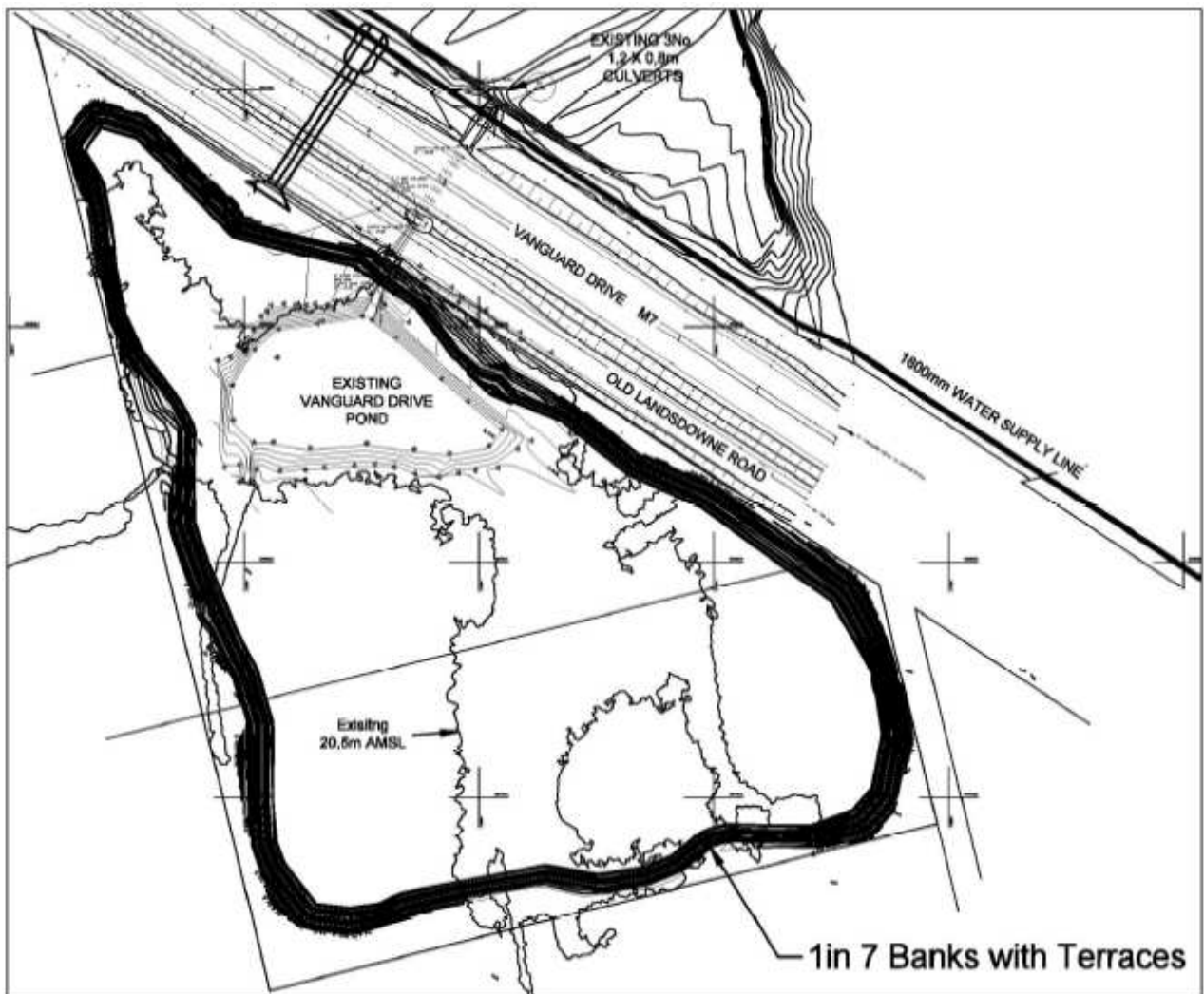


Figure 2: Layout Plan of the preferred alternative

Based on the above disadvantages of Alternatives 1 and 2, only the preferred Alternative 3 is

deemed feasible and assessed further (See Figure 2 above).

4. IMPACTS ASSESSED

- ❖ Impacts on Biodiversity: Vegetation
- ❖ Impacts on Biodiversity: Loss of Wetland Habitat and Ecological Structure
- ❖ Impacts on Biodiversity: Wetland Ecological and Socio-cultural Services
- ❖ Impacts on Wetland Hydrological Function and Sediment Balance During the Design and Construction Phase
- ❖ Traffic Issues: Inconvenience to Road Users
- ❖ Construction Dust Impacts
- ❖ Construction Noise Impacts
- ❖ Potential Visual Impacts of the Development
- ❖ Social impacts: Employment Opportunities

5. ENVIRONMENTAL IMPACT STATEMENT

The potential construction and operational phase impacts of the proposed project are summarised in Tables 1 and 2.

Table 1: Impacts related the construction phase

Impact	Significance Without Mitigation	Significance With Mitigation
Impacts on Biodiversity: Vegetation	Low (Negative)	Medium (Positive)
Impacts on Biodiversity: Loss of Wetland Habitat and Ecological Structure	Medium (Negative)	Medium-Low (Negative)
Impacts on Biodiversity: Wetland Ecological and Socio-cultural Services	Medium-High (Negative)	Very Low (Negative)
Impacts on Wetland Hydrological Function and Sediment Balance During the Design and Construction Phase	Medium-High (Negative)	Medium Low (Negative)
Traffic Issues: Inconvenience to Road Users	Low (Negative)	Very Low (Negative)
Construction Dust Impacts	Low (Negative)	Very Low (Negative)
Construction Noise Impacts	Medium Low (Negative)	Low (Negative)
Potential Visual Impacts of the Development	Low to medium (Negative)	Very Low (Negative)
Employment Opportunities	Low (Negative)	Low (positive)

Table 2: Impacts related to the operational phase

Impact	Constructed Stormwater Facilities and Introduction of Wetland Habitat		No-Go Option	
	Significance Without	Significance With	Significance Without	Significance With

	Mitigation	Mitigation	Mitigation	Mitigation
Impacts on Biodiversity: Vegetation	Medium High (Negative)	High (Positive)	Medium High (Negative)	Medium (Negative)
Impacts on Biodiversity: Loss of Wetland Habitat and Ecological Structure	Medium (Negative)	Low (Negative)	Low (Negative)	Low (Negative)
Impacts on Biodiversity: Wetland Ecological and Socio-cultural Services	Medium (Negative)	Very Low (Negative)	Low (Positive)	Low (Positive)
Impacts on Wetland Hydrological Function and Sediment Balance During the Design and Construction Phase	Medium (Negative)	Low (Negative)	No Impact	No Impact
Operation Noise Impacts	Low (Negative)	Very Low (Negative)	No Impact	No Impact
Potential Visual Impacts During the Operation Phase	Low to Medium (Negative)	Very Low (Negative)	Medium (Negative)	Low (Negative)
Employment	Low (Negative)	Low (positive)	No Impact	No Impact
Infrastructure/Service Impacts	High (Positive)	N/A	No Impact	No Impact

6. CONCLUSION AND RECOMMENDATIONS

Due to the low significance of potential negative impacts associated with the proposed development, only a few recommended mitigation measures have been identified as important. The mitigation measures are considered to be feasible.

General recommendations:

- ❖ An Environmental Management Plan (EMP) must be kept at the site for the duration of the construction and operation phases of the project.
- ❖ The EMP must be included in the tender document and in all contract documentation for all phases of implementation.
- ❖ The Applicant must ensure compliance with the EMP and appointment of an ECO during the construction phase.

Specific recommendations:

Specialist Input:

- ❖ The Applicant must ensure compliance with the recommendation so of the Wetland Assessment and Botanical Baseline Survey during the design, construction and operational phases.

Employment:

- ❖ Without compromising construction activities and schedules, local BEE service providers and local labour from the surrounding community should be employed as far as possible.

- ❖ Those successful in obtaining employment should be provided with the appropriate training.

Noise:

- ❖ The Contractor shall be familiar with and adhere to any regulations and by-laws regarding the generation of noise and hours of operation.
- ❖ Working hours as specified in the EMP must be adhered to. Avoid construction activities outside of “normal working hours”.
- ❖ The provisions of SABS 1200A Sub clause 4.1 regarding “built-up areas” shall apply to all areas within audible distance of residents.

Dust:

- ❖ The Contractor shall ensure that exposed soil and material stockpiles are adequately protected against the wind.
- ❖ The Contractor must ensure that the generation of dust is minimised by implementing a dust control programmes.

Visual Impacts:

- ❖ Visual screening with shade cloth and fencing if need be.
- ❖ Building Aesthetics should be observed when designing building structures so as to compliment and visually enhance the surrounding area.

Heritage Impacts:

It was recommended that if any heritage resources, including graves or human remains, are encountered they must be immediately reported to the provincial Heritage Resources Authority of the Western Cape.

7. THE WAY FORWARD

The Draft BAR has been compiled to communicate the assessment of the potential environmental impacts of the proposed project, and to inform I&APs of the proposed project and obtain their feedback. Therefore this draft BAR is available for a 40-day commenting period. Members of the public are invited to submit their comments between 3 March 2014 to 14 April 2014 to Frontline Safety Health and Environmental Consultants.

For comments to be included in the Final BAR they should reach the offices of Frontline Safety Health and Environmental Consultants **no later than 14 April 2014** at the following contact details:

Musturah Parker

Frontline Safety Health & Environmental Consultants

P.O Box 1527

Sanlamhof , 7532

Tel: (021) 914 7080 Fax: 086 605 6469

Email: info@frontlinesafety.co.za

All comments received will be collated in a Comments and Responses Report and included in the final BAR to be submitted to DEA&DP for consideration and decision-making. After DEA&DP has reached a decision, all I&APs on the project database will be notified of the decision. A statutory appeal period will follow the issuing of the decision.

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SECTION A: ACTIVITY INFORMATION

1. PROJECT DESCRIPTION

(a) Is the project a new development?	YES	NO
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(b) Provide a detailed description of the development project and associated infrastructure.

The Edith Stevens pond lies opposite the property on which the proposed activity will be undertaken. The pond is connected to the lotus canal by three 2.4m x 1.8m portal box culverts. It is required that two additional 2.4m x 1.8m box culverts be installed to allow adequate flow into the pond.

At 19.37mAMSL water flows into the existing western detention pond south of vanguard drive referred to as the vanguard drive pond. There are currently three 1.2m x 0.6m box culverts under Vanguard Drive which link the two ponds, the total required capacity is three 3.0m x 1.2m which will be achieved through a combination of the existing culverts and proposed additional capacity under Vanguard Drive. To provide a stormwater balancing system able to accommodate the 1: 50 year flood event, the capacity of the Vanguard Drive pond must be increased from its current capacity of approximately 15,000m³ to 74,000m³.

Downstream of the ponds is the Vygekraal Road culvert which restricts flow. The stormwater conveyance facilities downstream of Vygekraal Road are at capacity and pass through dense residential areas with little or no room for expansion, therefore the flow restriction at Vygekraal Road must be maintained to avoid the increased flood risk to these properties. The flow restriction is maintained by controlling the head in the canal to 20.5mAMSL. Without the suggested upgrades, during the 50 year event water levels in the canal would rise causing inundation of the adjacent roads, increase flows passing downstream and potential flooding upstream.

The primary intentions of the proposed upgrades are to accommodate a 1:50 year storm event, and to ensure residents residing outside of the 50 year flood line are no longer affected, and to reduce the risk of flooding on transportation routes such as Duinefontein Road and Lansdowne Road.

Without these ponds key transportation routes such as Duinefontein Road and Lansdowne road would be at risk from flooding. Residents residing close to the canal edge would also be at risk from flooding upstream and downstream of the site. The location of the site is critical as it is currently connected to the Edith Stevens stormwater pond via culverts under Vanguard drive and the two facilities currently function in unison. The project will increase the capacity of the current Philippi pond and the size of its links between the Edith Stevens pond and the lotus canal.

The proposed development therefore entails the transformation of portions of even 74 and 86 of Farm 609 Philippi to accommodate the construction of stormwater ponds and the introduction of wetland habitat into the area. The proposal entails the upgrading of existing stormwater ponds and culverts connected to the Lotus Canal. The pond will require additional linkages in the form of culverts crossing under roads. The stormwater ponds/wetlands are required to avoid flooding downstream and upstream and also to manage the volume of stormwater as per the requirements of the Stormwater Master Plan for the area.

The project proposal includes a number of development components. These components include; erection of a perimeter fence to prevent any further dumping, earthworks, soft landscaping and construction of additional culverts providing a connection between the pond and the channel.

(c) List all the activities assessed during the Basic Assessment process:

GN No. R. 544 Activity No(s):	Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 1 (GN No. R. 544)	Describe the portion of the development as per the project description that relates to the applicable listed activity.
39	<i>The expansion of (i) canals; (ii) channels; (iii) bridges; (iv) weirs; (v) bulk storm water outlet structures; (vi)</i>	<i>The property on which the proposed activity shall be undertaken has a wetland (See Locality Map). It is envisaged the upgrade of</i>

	<i>marinas; within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, where such expansion will result in an increased development footprint but excluding where such expansion will occur behind the development setback line.</i>	<i>the stormwater facilities to lie within 32 metres of the water feature, measured from its edge.</i>
41	<i>The expansion of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, where the combined capacity will be increased by 50000 cubic metres or more.</i>	<i>The proposed stormwater facilities /ponds are envisaged to have a capacity of more than 50000 cubic meters in volume.</i>
GN No. R. 546 Activity No(s):	Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 3 (GN No. R. 546)	Describe the portion of the development as per the project description that relates to the applicable listed activity.
	<i>Not Applicable</i>	

If the application is also for activities as per Listing Notice 2 and permission was granted to subject the application to Basic Assessment, also indicate the applicable Listing Notice 2 activities:

GN No. R. 545 Activity No(s):	If permission was granted in terms of Regulation 20, describe the relevant Scoping and EIA Activity(ies) in writing as per Listing Notice 2 (GN No. R. 545)	Describe the portion of the development as per the project description that relates to the applicable listed activity.
	<i>Not Applicable</i>	

Waste management activities in terms of the NEM: WA (Government Gazette No. 32368):

GN No. 718 - Category A Activity No(s):	Describe the relevant <u>Category A</u> waste management activity in writing.
	<i>Not Applicable</i>

Please note: If any waste management activities are applicable, the **Listed Waste Management Activities Additional Information Annexure** must be completed and attached to this Basic Assessment Report as **Appendix I**.

If the application is also for waste management activities as per Category B and permission was granted to subject the application to Basic Assessment, also indicate the applicable Category B activities:

GN No. 718 – Category B Activity No(s):	Describe the relevant <u>Category B</u> waste management activity in writing.
	<i>Not Applicable</i>

Atmospheric emission activities in terms of the NEM: AQA (Government Gazette No. 33064):

GN No. 248 Activity No(s):	Describe the relevant atmospheric emission activity in writing.
	<i>Not Applicable</i>

(d) Please provide details of all components of the proposed project and attach diagrams (e.g. architectural drawings or perspectives, engineering drawings, process flow charts etc.).

Buildings	YES	NO ✓
Provide brief description:		
<i>Not Applicable</i>		
Infrastructure (e.g. roads, power and water supply/ storage)	YES	NO ✓
Provide brief description:		
<i>Not Applicable</i>		
Processing activities (e.g. manufacturing, storage, distribution)	YES	NO ✓
Provide brief description:		
<i>Not Applicable</i>		
Storage facilities for raw materials and products (e.g. volume and substances to be stored)		
Provide brief description	YES	NO ✓

<i>Not Applicable</i>		
Storage and treatment facilities for solid waste and effluent generated by the project		
Yes	No	✓
Provide brief description		
<i>Not Applicable</i>		

Other activities (e.g. water abstraction activities, crop planting activities)		
Yes	No	✓
Provide brief description		
<i>Not Applicable</i>		

2. PHYSICAL SIZE OF THE ACTIVITY

Size of the property:	
(a) Indicate the size of the property (cadastral unit) on which the activity is to be undertaken.	<i>Approximately 70000m²</i>

Size of the facility:	
(b) Indicate the size of the facility (development area) on which the activity is to be undertaken.	<i>Approximately 90000m²</i>

Size of the activity:	
(c) Indicate the physical size (footprint) of the activity together with its associated infrastructure:	<i>Will not exceed 200000m²</i>
(d) Indicate the physical size (footprint) of the activity:	<i>It is envisaged that the footprint of the activity will not exceed the zoning restrictions as per the applicable zoning scheme for the area.</i>
(e) Indicate the physical size (footprint) of the associated infrastructure:	<i>It is envisaged that the footprint of the associated infrastructure will not exceed the zoning restrictions as per the applicable zoning scheme for the area.</i>

and, for linear activities:

Length of the activity:	
(f) Indicate the length of the activity:	<i>Not Applicable</i>

3. SITE ACCESS

(a) Is there an existing access road? <i>Direct access to the site is from Vanguard Drive M7</i>	YES ✓	NO
(b) If no, what is the distance over which a new access road will be built?	m	

(c) Describe the type of access road planned:

<i>Not Applicable</i>

Please Note: indicate the position of the proposed access road on the site plan.

4. DESCRIPTION OF THE PROPERTY ON WHICH THE ACTIVITY IS TO BE UNDERTAKEN AND THE LOCATION OF THE ACTIVITY ON THE PROPERTY

(a) Provide a description of the property on which the activity is to be undertaken and the location of the activity on the property.

<i>The subject property is located directly to the south of Vanguard Drive and to the east of Papkuilsvleiweg road within the suburb of Philippi. Other than the degraded wetland on site, no river systems are located within 500m of the Site. However an artificial canal is located approximately 425m to the north of the subject property.</i>
--

The natural vegetation on site is generally in very poor condition and so little vegetation remains that it is largely impossible to say what the exact nature of the original vegetation might have been like. Various wetland vegetation characterised as either wetland or terrestrial species dominated by alien and invasive species, with very few indigenous floral species. The property has been heavily degraded over the years through various forms of farming and excavation as well as recently being used as an illegal dump site. A survey carried out by the botanist Nick Helm (See Appendix G2) identified no flora worth preserving or that could not easily be re-introduced as part of the project.

- (b) Please provide a location map (see below) as **Appendix A** to this report which shows the location of the property and the location of the activity on the property; as well as a site map (see below) as **Appendix B** to this report; and if applicable all alternative properties and locations.

Locality map:	<p>The scale of the locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following:</p> <ul style="list-style-type: none"> an accurate indication of the project site position as well as the positions of the alternative sites, if any; road names or numbers of all the major roads as well as the roads that provide access to the site(s) a north arrow; a legend; the prevailing wind direction (during November to April and during May to October); and 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). <p>See Appendix A: Locality Map</p>
Site Plan:	<p>Detailed site plan(s) must be prepared for each alternative site or alternative activity. The site plan must contain or conform to the following:</p> <ul style="list-style-type: none"> The detailed site plan must be at a scale preferably at a scale of 1:500 or at an appropriate scale. The scale must be indicated on the plan. The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be indicated on the site plan. The position of each element of the application as well as any other structures on the site must be indicated on the site plan. Services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the development must be indicated on the site plan. Servitudes indicating the purpose of the servitude must be indicated on the site plan. Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): <ul style="list-style-type: none"> Rivers. Flood lines (i.e. 1:10, 1:50, year and 32 meter set back line from the banks of a river/stream). Ridges. Cultural and historical features. Areas with indigenous vegetation (even if it is degraded or infested with alien species). Whenever the slope of the site exceeds 1:10, then a contour map of the site must be submitted. <p>See Appendix B: Site layout Plans</p>

- (c) For a linear activity, please also provide a description of the route.

Not Applicable

Indicate the position of the activity using the latitude and longitude of the centre point of the site. The co-ordinates must be in degrees, minutes and seconds. The minutes should be given to 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.	Latitude (S):			Longitude (E):		
	34°	0′	17.46″	18°	33′	1.09″

- (d) or:

For linear activities: Not Applicable	Latitude (S):			Longitude (E):		
• Starting point of the activity	°	′	″	°	′	″
• Middle point of the activity	°	′	″	°	′	″
• End point of the activity	°	′	″	°	′	″

Please Note: For linear activities that are longer than 500m, please provide an addendum with co-ordinates taken every 100 meters along the route.

6. SITE PHOTOGRAPHS

Colour photographs of the site and its surroundings (taken of the site and from the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached as **Appendix C** to this report. It should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.

See *Appendix B: Site Photographs*

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Site/Area Description

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

1. GRADIENT OF THE SITE

Indicate the general gradient of the sites (highlight the appropriate box).

Flat✓	Flatter than 1:10	1:10 – 1:4	Steeper than 1:4
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2. LOCATION IN LANDSCAPE

(a) Indicate the landform(s) that best describes the site (highlight the appropriate box(es)).

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain✓	Undulating plain/low hills	Dune	Sea-front
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(b) Please provide a description of the location in the landscape.

The site is very flat, with very small remnants of natural dunes rising to about 4m above the ground.

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

(a) Is the site(s) located on or near any of the following (highlight the appropriate boxes)?

Shallow water table (less than 1.5m deep)	YES✓	NO	UNSURE
Seasonally wet soils (often close to water bodies)	YES✓	NO	UNSURE
Unstable rocky slopes or steep slopes with loose soil	YES	NO✓	UNSURE
Dispersive soils (soils that dissolve in water)	YES	NO✓	UNSURE
Soils with high clay content	YES	NO✓	UNSURE
Any other unstable soil or geological feature	YES	NO✓	UNSURE
An area sensitive to erosion	YES	NO✓	UNSURE
An area adjacent to or above an aquifer.	YES✓	NO	UNSURE
An area within 100m of the source of surface water	YES✓	NO	UNSURE

(b) If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department. (Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

(c) Please indicate the type of geological formation underlying the site.

Granite	Shale✓	Sandstone✓	Quartzite	Dolomite	Dolorite	Other (describe)
Please provide a description.						
<i>The site consists of a greyish, sandy and excessively drained soils. The soils are deep, probably slightly alkaline sands of relatively recent Witzand formation.</i>						

4. SURFACE WATER

(a) Indicate the surface water present on and or adjacent to the site and alternative sites (highlight the appropriate boxes)?

Perennial River	YES✓	NO	UNSURE
Non-Perennial River	YES✓	NO	UNSURE
Permanent Wetland	YES✓	NO	UNSURE
Seasonal Wetland	YES✓	NO	UNSURE
Artificial Wetland	YES✓	NO	UNSURE
Estuarine / Lagoonal wetland	YES	NO✓	UNSURE

(b) Please provide a description.

There is a permanent wetland and several seasonal wetlands present on the site. According to a recent wetland assessment the wetland feature associated with the subject property most likely formed part of a larger seasonal floodplain wetland. However, excavation activities associated with the road development, impoundment and canalization of flow has resulted in areas within the subject property that can presently be considered permanent wetland zones with the remainder of the subject property being seasonally saturated (see Appendix G1 for Wetland Assessment Report).

5. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as **Appendix D** to this report.

(a) Highlight the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category).

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR) ✓	<p><i>About half the site has been mapped as a Critical Biodiversity Area (CBA) 2 in the City of Cape Town's Biodiversity Network (Holmes et al 2012), with a further 20% or so being mapped as Other Ecological Support Area (OESA).</i></p> <p><i>There are only very small patches of what might be considered largely natural terrestrial vegetation on site, and the remainder of the terrestrial portions are secondary or heavily degraded (See Figure 2 of the Botanical baseline survey in Appendix G2).</i></p>

(b) Highlight and describe the habitat condition on site.

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes etc).
Natural	10%	<i>There are only very small patches (<0.5ha in total) of natural terrestrial vegetation on site. Indigenous shrubs are almost totally absent from the site, with the exception of the resilient resprouter Searsia laevis (dune taaibos), which is itself restricted to a few remnant patches.</i>
Near Natural (includes areas with low to moderate level of alien invasive plants)	20%	<i>Small portions of the property with Near Natural are deemed to be of Low to Medium botanical conservation value</i> <i>No rare or locally endemic plant species (Species of Conservation Concern) were observed, and none are likely to occur here in viable numbers.</i>
Degraded (includes areas heavily invaded by alien plants)	60%	<i>According to the Botanical baseline survey (Appendix G2) most of the remainder of the terrestrial portions are secondary or heavily degraded.</i> <i>Alien invasive herbs are common, including Echium plantagineum (Patterson's curse), Raphanus rapistrum (wild mustard) and Plantago lanceolata (ribwort).</i>
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	10%	<i>Some parts (such as the infilled areas, the horse track, the dams and agricultural areas) are heavily degraded and essentially totally transformed, with negligible botanical diversity or value.</i>

(c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems							
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline		
	Endangered								
	Vulnerable								
	Least Threatened ✓								
		YES ✓	NO	UNSURE	YES	NO ✓	YES	NO ✓	

(d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

According to the botanical baseline survey (Appendix G2) there is substantial variation in vegetation and habitat pattern across the site. Some parts (such as the infilled areas, the horse track, the dams and agricultural areas) are heavily degraded and essentially totally transformed, with negligible botanical diversity or value. These areas are of Low botanical conservation value. All other areas are deemed to be of Low to Medium botanical conservation value, although some of these areas may have a higher ecological value – such as for birds, wetlands or invertebrates.

Alien invasive herbs are common, including Echium plantagineum (Patterson's curse), Raphanus rapistrum (wild mustard) and Plantago lanceolata (ribwort). No rare or locally endemic plant species (Species of Conservation Concern) were observed, and none are likely to occur here in viable numbers. The vegetation on site is of Low or Low to Medium conservation value in a regional context. None of the areas on site are particularly worth conserving from a botanical point of view, although it must be noted that they may have ecological value – notably in terms of birds, frogs and general wetland ecology.

There are no significant constraints to the proposed development from a botanical perspective. None of the areas on site are particularly worth conserving from a botanical point of view, although it must be noted that they may have ecological value – notably in terms of birds, frogs and general wetland ecology.

According to the Wetland Assessment (Appendix G1), the wetland feature within the subject property can be defined as a unchannelled valley bottom feature and not an isolated wetland depression as indicated by the National Freshwater Ecosystem Priority Areas database (NFEPA; 2011) and Prioritisation of City Wetlands Map. Wetland resources within the subject property has been significantly transformed due to alien and weedy grass encroachment as well as earth moving activities resulting in change in the natural hydrological regime. The results obtained by the Wet-Health as well as wetland function and service provision³ assessment were indicative of the degree to which transformation has occurred.

The study concluded that the earth canals and impoundment can be considered permanent wetland and the remainder of the subject property seasonal wetland due to the presence of facultative floral species as well as gleyed soil. The entire area earmarked for the development of the attenuation facility can therefore be considered wetland.

6. LAND USE OF THE SITE

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

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism & Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical center	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes or more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture√ (The site is grazed by livestock on a regular basis)	River, stream or wetland√	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archeological site
Other land uses (describe):	The site is currently used as a dumping ground of building rubble and is also used as an exercise track for horses.			

(a) Please provide a description.

Large amounts of building rubble have been dumped in various places. The property is used also for grazing livestock on a regular basis, and a small portion of the property (about 8% of the site) is used as an exercise track for horses.

7. LAND USE CHARACTER OF SURROUNDING AREA

(a) Highlight the current land uses and/or prominent features that occur within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site.

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

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial ✓
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism & Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical center	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes or more) ✓	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture ✓	River, stream or wetland ✓	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archeological site
Other land uses (describe):				

(b) Please provide a description, including the distance and direction to the nearest residential area and industrial area.

The area surrounding the proposed facility is mainly industrial and agricultural. The Site is bound by an industrial along the northwestern edge, while the Philippi agricultural area abuts the southwestern edge. There is an informal settlement (Sweet Home) within 600m south east of the site, and a medium density residential (Highlands Estate) approximately 700m south west of the property (see Figure B7.1 below).



Figure B7.1: Location of the Industrial and Agricultural areas

8. SOCIO-ECONOMIC ASPECTS

Describe the existing social and economic characteristics of the community in order to provide baseline information.

The area in which the site falls is classified by the City of Cape Town as Ward 80, which comprise the areas of Philippi.

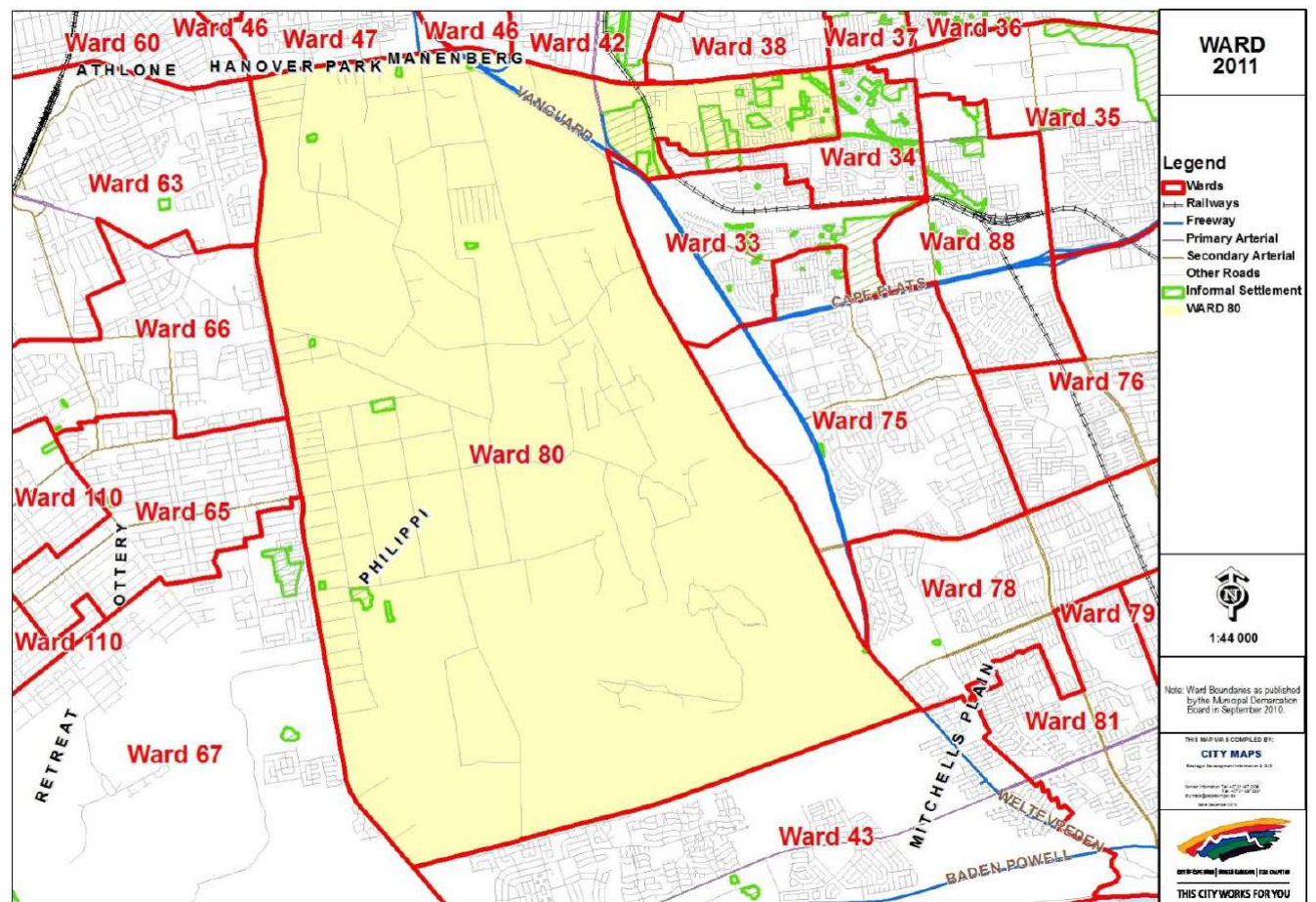


Figure B2: Location of Ward 80

(Source: City of Cape Town: http://www.capetown.gov.za/en/stats/Documents/2011%20Census/Wards/2011_Census_CT_Ward_080_Profile.pdf)

According to the 2011 Census, the population of Ward 080 was 46 151, an increase of 58% since 2001, and the number of households was 15 833, an increase of 69% since 2001

The population is predominantly Black African (80%), of which 34% of households live in formal dwellings. The majority of the area is partially serviced (piped water inside dwelling – 43%, weekly refuse removal – 67%, sanitation – 59%, 64% of households use electricity for lighting in their dwelling).

In terms of work status, the ward has 62% of the labour force (aged 15 to 64) employed. 78% of households have a monthly income of R3 200 or less.

9. HISTORICAL AND CULTURAL ASPECTS

(a) Please be advised that if section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), is applicable to your proposed development, then you are requested to furnish this Department with written comment from Heritage Western Cape as part of your public participation process. Section 38 of the Act states as follows: "38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-

- (i) exceeding 5 000 m² in extent; or
(ii) involving three or more existing erven or subdivisions thereof; or
(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or
(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,
- must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development."
- (b) The impact on any national estate referred to in section 3(2), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii), of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), must also be investigated, assessed and evaluated. Section 3(2) states as follows: "3(2) Without limiting the generality of subsection (1), the national estate may include—
- (a) places, buildings, structures and equipment of cultural significance;
(b) places to which oral traditions are attached or which are associated with living heritage;
(c) historical settlements and townscapes;
(d) landscapes and natural features of cultural significance;
(e) geological sites of scientific or cultural importance;
(f) archaeological and palaeontological sites;
(g) graves and burial grounds, including—
(i) ancestral graves;
(ii) royal graves and graves of traditional leaders;
(iii) graves of victims of conflict;
(iv) graves of individuals designated by the Minister by notice in the Gazette;
(v) historical graves and cemeteries; and
(vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
(h) sites of significance relating to the history of slavery in South Africa;
(i) movable objects, including—
(i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
(ii) objects to which oral traditions are attached or which are associated with living heritage;
(iii) ethnographic art and objects;
(iv) military objects;
(v) objects of decorative or fine art;
(vi) objects of scientific or technological interest; and
(vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996)."

Is section 38 of the National Heritage Resources Act, 1999, applicable to the development?		YES	NO✓
		UNCERTAIN	
If YES, explain:	Not Applicable		
Will the development impact on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999?		YES	NO✓
		UNCERTAIN	
If YES, explain:	Not Applicable		
Will any building or structure older than 60 years be affected in any way?	YES	NO✓	UNCERTAIN
If YES, explain:	Not Applicable		

Please Note: If uncertain, the Department may request that specialist input be provided.

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

(a) Please list all legislation, policies and/or guidelines that have been considered in the preparation of this Basic Assessment Report.

LEGISLATION	ADMINISTERING AUTHORITY	TYPE Permit/ license/ authorisation/comment / relevant consideration (e.g. rezoning or consent use, building plan approval)	DATE (if already obtained):
<i>National Environmental Management Act (Act 107 of 1998)</i>	<i>Western Cape DEA&DP</i>	<i>Environmental Authorisation</i>	<i>To be obtained</i>
<i>Environment Conservation Act (Act No. 73 of 1989)</i>	<i>Cape Nature</i>	<i>Comment</i>	<i>To be obtained</i>
<i>National Water Act, 1998 (Act 36 of 1998)</i>	<i>Department of Water Affairs</i>	<i>Comment</i>	<i>To be obtained</i>

POLICY/ GUIDELINES	ADMINISTERING AUTHORITY
<i>DEA&DP Guidelines on Public Participation, 2010</i>	<i>Provincial Department of Environmental Affairs and Development Planning</i>
<i>Western Cape Provincial Spatial Development Framework (2009)</i>	<i>Western Cape DEA&DP</i>
<i>Metropolitan Spatial Development Framework (MSDF)</i>	<i>The City of Cape Town</i>
<i>Cape Flats District Plan</i>	<i>The City of Cape Town</i>
<i>The City of Cape Town's Biodiversity Network</i>	<i>The City of Cape Town</i>

(b) Please describe how the legislation, policies and/or guidelines were taken into account in the preparation of this Basic Assessment Report.

LEGISLATION / POLICY / GUIDELINE	DESCRIBE HOW THE LEGISLATION / POLICY / GUIDELINE WERE TAKEN INTO ACCOUNT (e.g. describe the extent to which it was adhered to, or deviated from, etc).
<i>NEMA Environmental Impact Assessment Regulations (EIA), 2010</i>	<i>All the provisions of the EIA Regulations were taken into account and adhered to during the compilation of the Draft BAR.</i>
<i>National Environmental Management Act (Act 107 of 1998)</i>	<i>All the provisions of the NEMA were taken into account and adhered to during the compilation of the Draft BAR.</i>
<i>Cape Flats District Plan - SDP & EMF Technical Report, 2012</i>	<i>The proposed activity falls under the Floodplain and River Corridor Management Policy (2009) and the management of Urban Stormwater Impacts Policy (2009) of the District Plan for the Cape Flats.</i>
<i>Constitution of the Republic of South Africa (Act 108 of 1996)</i>	<i>Bill of rights (S2) Environmental Rights (S24) – The right to an environment which is not harmful to health and well being Access to information (S32)</i>

Please note: Copies of any permit(s) or licences received from any other organ of state must be attached to this report as Appendix E.

SECTION C: PUBLIC PARTICIPATION

The public participation process must fulfil the requirements outlined in NEMA, the EIA Regulations, and if applicable the NEM: WA and/or the NEM: AQA. This Department's *Guideline on Public Participation* (August 2010) and *Guideline on Exemption Applications* (August 2010), both of which are available on the Department's website (<http://www.capegateway.gov.za/eadp>), must also be taken into account.

Please highlight the appropriate box to indicate whether the specific requirement was undertaken or whether there was a deviation that was agreed to by the Department.

1. Were all potential interested and affected parties notified of the application by –			
(a) fixing a notice board 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 to be undertaken; and	YES✓	DEVIATED	
(ii) any alternative site mentioned in the application;	YES	DEVIATED	
(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;	YES	N/A✓	
(ii) the occupiers of the site where the activity is to be undertaken and to any alternative site where the activity is to be undertaken;	YES✓	DEVIATED	
(iii) owners and occupiers of land adjacent to the site where the activity is to be undertaken and to any alternative site where the activity is to be undertaken;	YES✓	DEVIATED	
(iv) the municipal councillor of the ward in which the site and alternative site is situated and any organisation of ratepayers that represent the community in the area;	YES✓	DEVIATED	
(v) the municipality which has jurisdiction in the area;	YES✓	DEVIATED	
(vi) any organ of state having jurisdiction in respect of any aspect of the activity; and	YES✓	DEVIATED	
(vii) any other party as required by the competent authority;	YES✓	DEVIATED	
I placing an advertisement in -			
(i) one* local newspaper; and	YES✓	DEVIATED	
(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;	YES	DEVIATED	N/A
(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.	YES	DEVIATED	N/A

* **Please note:** In terms of the NEM: WA and NEM: AQA a notice must be placed in at least two newspapers circulating in the area in which the activity applied for is to be carried out.

2. Provide a list of all the state departments that were consulted:
<i>CoCT Environmental Resource Management</i>
<i>Western Cape Department of Education</i>
<i>Western Cape Department of Transport and Public Works</i>
<i>Department of Water Affairs</i>
<i>Heritage Western Cape</i>
<i>CapeNature</i>

3. Please provide an overall summary of the Public Participation Process that was followed. (The detailed outcomes of this process must be included in a comments and response report to be attached to the final Basic Assessment Report (see note below) as **Appendix F**).

Public participation will be undertaken in which members of the public will be invited to partake in the EIA process. The steps that will be undertaken during the public participation process are as follows:

- ❖ *A preliminary I&AP database was compiled that consisted occupiers of the property, owners and occupiers of land adjacent to the site, the municipal councillor, local ratepayers association, municipal officials and relevant State Departments as part of the Public Participation Process;*
- ❖ *Notification of I&AP's by:*
 - *Fixing a notice board at the site at a place conspicuous to the public;*
 - *Advertising the project in a local newspaper (An advertisement announcing the*

proposed project and the availability of the Draft Basic Assessment Report (BAR) for comment was placed in the local newspaper);

- ❖ *Written notification to I&AP's, and relevant State Departments in the form of information sheet (executive summary of the draft BAR) will also be distributed to identified I&APs for comment, via fax, post or e-mail;*
- ❖ *A copy of the Draft Basic Assessment Report including all alternatives being considered will be made available in the local library and/or another appropriate venue for viewing and commenting purposes;*
- ❖ *Allowing a 40 day commenting period, during which I&AP's can send comments to Frontline Safety Health Environmental Consultants at the contact details provided;*

All comments received on the information sheet and draft BAR will be addressed and captured in a Comments and Responses report that will be appended to the final BAR.

Please note:

Should any of the responses be "No" and no deviation or exemption from that requirement was requested and agreed to /granted by the Department, the Basic Assessment Report will be rejected.

A list of all the potential interested and affected parties, including the organs of State, notified and a list of all the register of interested and affected parties, must be submitted with the final Basic Assessment Report. The list of registered interested and affected parties must be opened, maintained and made available to any person requesting access to the register in writing.

The draft Basic Assessment Report must be submitted to the Department before it is made available to interested and affected parties, including the relevant organs of State and State departments which have jurisdiction with regard to any aspect of the activity, for a 40-day commenting period. With regard to State departments, the 40-day period commences the day after the date on which the Department as the competent/licensing authority requests such State department in writing to submit comment. The applicant/EAP is therefore required to inform this Department in writing when the draft Basic Assessment Report will be made available to the relevant State departments for comment. Upon receipt of the Draft Basic Assessment Report and this confirmation, this Department will in accordance with Section 24O(2) and (3) of the NEMA request the relevant State departments to comment on the draft report within 40 days.

All comments of interested and affected parties on the draft Basic Assessment Report must be recorded, responded to and included in the Comments and Responses Report included as **Appendix F** to the final Basic Assessment Report. If necessary, any amendments in response to comments received must be effected in the Basic Assessment Report itself. The Comments and Responses Report must also include a description of the public participation process followed.

The final Basic Assessment Report must be made available to registered interested and affected parties for comment before submitting it to the Department for consideration. Unless otherwise indicated by the Department, a final Basic Assessment Report must be made available to the registered interested and affected parties for comment for a minimum of 21-days. Comments on the final Basic Assessment Report does not have to be responded to, but the comments must be attached to the final Basic Assessment Report.

The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants must also be submitted as part of the public participation information to be attached to the final Basic Assessment Report as **Appendix F**.

Proof of all the notices given as indicated, as well as of notice to the interested and affected parties of the availability of the draft Basic Assessment Report and final Basic Assessment Report must be submitted as part of the public participation information to be attached to the final Basic Assessment Report as **Appendix F**.

SECTION D: NEED AND DESIRABILITY

Please Note: Before completing this section, first consult this Department's Guideline on Need and Desirability (August 2010) available on the Department's website (<http://www.capegateway.gov.za/eadp>).

1. Is the activity permitted in terms of the property's existing land use rights?	YES✓	NO	Please explain
<i>The proposed development is permitted in terms of the property's existing land use rights.</i>			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES✓	NO	Please explain
<p><i>The activity is in line with the PSDF, whose purpose is to: be the spatial expression of the Provincial Growth and Development Strategy (PGDS); guide municipal Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs); and help prioritise and align investment and infrastructure plans of other provincial departments, as well as national departments' and parastatals' plans and programmes in the Province, among other objectives.</i></p> <p><i>According to the then Provincial Minister of Environment, Planning and Economic Development (2005), the PSDF not only provides a new spatial pattern for the future development of the Province and it is necessary that development applications that are aligned with this policy document and which are further aligned with other policies, strategies and legislation, should be rewarded by fast tracking</i></p>			
(b) Urban edge / Edge of Built environment for the area	YES✓	NO	Please explain
<p><i>The proposed stormwater facilities fall within the urban edge. The proposed activity is in line with the main function of the urban edge: a tool to limit sprawl and the outward growth of urban areas, in favour of densification and infill development, to ensure more efficient use of resources and land within the urban area. The proposed activity is in line with the objective of establishing a strong urban edge that would create an urban environment offering a wide range of services.</i></p>			
(c) Integrated Development Plan and Spatial Development Framework of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES✓	NO	Please explain
<p><i>The Metropolitan Spatial Development Framework (MSDF) seeks to redress the city's sprawling growth patterns by focusing on development intensification along a series of activity corridors. According to the Metropolitan Spatial Development Framework guidelines on urban integration (1996), planning and development should seek to integrate urban areas by promoting new development in areas close to existing economic, social and other infrastructure, such as the proposed stormwater facilities in Philippi.</i></p> <p><i>The proposal is in tandem with the Cape Flats District Plan (September, 2012). The proposed activity is in tandem with the Floodplain and River Corridor Management Policy (2009), whose key features entail the recognition of the hydrological processes of aquatic ecosystems; protection of the 50 / 100 year flood zone as required; retain functional and ecological integrity of aquatic ecosystems; establishment of buffers along rivers and around wetlands; and ensuring developments are set back beyond the greater of the applicable flood zone or ecological buffer</i></p> <p><i>The proposal is in line also to the Cape Flats District Plan (September, 2012) as cited in the Management of Urban Stormwater Impacts Policy (2009). The Policy focuses on how to minimise water quality and quantity impacts of stormwater from developments; achieve stormwater water quality targets; and implementing the principles of Water Sensitive Urban Design (WSUD) and Sustainable Urban Drainage Systems(SUDS).</i></p> <p><i>The District plan comprises 5 broad types of categories: The proposed activity falls under the last category vis a vis the precautionary areas and utility service infrastructure installations.</i></p>			

(d) Approved Structure Plan of the Municipality	YES✓	NO	Please explain
<p><i>The purpose of the municipal structure plan is to promote the order of the area and the welfare of its community by co-ordinating various developments (i.e. listing general guidelines for the spatial development) and creating an urban structure (i.e. to create an urban structure that is both aesthetic and functional).</i></p> <p><i>The proposed activity is in line with the approved structure plan of the local municipality and has positive environmental impacts in the form of better positioning in terms of good urban planning as it complements the rural context and activities in proximity.</i></p>			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	NO✓	Please explain
<p><i>According to the Cape Flats District Plan (September, 2012), the pollution and degradation of rivers, wetlands and groundwater systems within the Cape Flats District, and the Western Cape in general, are critical issues. All of the rivers in the Cape Flats District, but particularly the Big and Little Lotus Rivers, have lost most of their natural riparian habitat and their environmental functioning has been seriously compromised. Rivers have been degraded by pollution from agricultural and urban stormwater run-off, treated effluent from WWTWs and new industrial areas, extensive canalization as well as infestation by invasive alien fish and vegetation.</i></p>			
(f) Any other Plans (e.g. Guide Plan)	YES✓	NO✓	Please explain
<p><i>Cape Peninsula Metropolitan Guide Plan (1988): The Urban Structure Plan (1988) also referred to as the "Cape Metropolitan Area Guide Plan Volume 1: Peninsula" provides "guidelines for the future spatial development of the Cape Peninsula" by the designation of broad land uses for all land within the City area. In terms of the broad land uses, the proposed activity will comply with the guidelines set out in the Urban Structure Plan.</i></p>			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES✓	NO	Please explain
<p><i>The proposed activity is in line with Environmental Attribute focusing on Flood Risk Areas 2 and 3 of the Cape Flats District Plan (September, 2012). Under this category, essential engineering and utility services relating to outfall sewers, stormwater systems and underground services are highly desired since these kinds of developments, land uses or activities may not have significant impacts on the environment.</i></p>			
4. Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occur here at this point in time?	YES✓	NO	Please explain
<p><i>The proposed development is considered desirable. The proposed development will significantly improve the current character of the disused property.</i></p>			
5. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES✓	NO	Please explain
<p><i>The community living in proximity needs the activity and the associated infrastructure to be undertaken as matter of priority. The stormwater ponds/wetlands are required to avoid flooding downstream and upstream and also to manage the volume of stormwater as per the requirements of the Stormwater Master Plan for the area. The primary intentions of the proposed upgrades are to accommodate a 1:50 year storm event, and to ensure residents residing outside of the 50 year flood line are no longer affected, and to reduce the risk of flooding on transportation routes such as Duinefontein Road and Lansdowne Road.</i></p> <p><i>Without these ponds key transportation routes such as Duinefontein Road and Lansdowne road would be at risk from flooding. Residents residing close to the canal edge would also be at risk from flooding upstream and downstream of the site. The location of the site is critical as it is currently connected to the Edith Stevens stormwater pond via culverts under Vanguard drive and the two facilities currently function in unison. The project will increase the capacity of the current Philippi pond and the size of its links between the Edith Stevens pond and the lotus canal.</i></p>			

<i>The development will create employment opportunities during the construction and operational phases. There is a relatively high unemployment rate in the nearby Sweet Home informal settlement and this activity will provide much needed employment opportunities for unskilled and / or semi-skilled workers.</i>			
6. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix E .)	YES	NO√	Please explain
<i>Not Applicable. The proposed activity forms part of service infrastructure in the Philippi area.</i>			
7. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix E .)	YES√	NO	Please explain
<i>The proposed activity provided for in the infrastructure planning the Cape Flats District Plan (September, 2012). Under the district plan, essential engineering and utility services relating to outfall sewers, stormwater systems and underground services are highly desired since these kinds of developments, land uses or activities may not have significant impacts on the environment. In addition, there will the implication be on the infrastructure planning of the municipality are that additional and efficient services will be rendered.</i>			
8. Is this project part of a national programme to address an issue of national concern or importance?	YES	NO√	Please explain
<i>However, the proposed project addresses an issue of local and provincial concerns. According to the Cape Flats District Plan (September, 2012), the pollution and degradation of rivers, wetlands and groundwater systems within the Cape Flats District, and the Western Cape in general, are critical issues. All of the rivers in the Cape Flats District have lost most of their natural riparian habitat and their environmental functioning has been seriously compromised. Rivers have been degraded by pollution from agricultural and urban stormwater run-off, treated effluent from WWTWs and new industrial areas, extensive canalization as well as infestation by invasive alien fish and vegetation.</i>			
9. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES√	NO	Please explain
<i>The proposed activity is considered favourable for this location. The project entails the upgrade of existing facilities.</i>			
10. How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	YES	NO√	Please explain
<i>The proposed development will have a minimal impact on the environment as no botanically sensitive species or ecosystems and no heritage worthy resources are found on site or in the general area. It is envisaged that the development will impact positively by introducing wetland habitats on already degraded property.</i>			
11. How will the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc)?	YES	NO√	Please explain
<i>The development is not expected to impact negatively on the community's health and wellbeing. However, the activity will create some noise during the construction phase of the development. Minimal traffic noise associated with this type of development will result. The impact is expected to be low. No odours or other nuisance which may have an impact on people's health and well-being is expected.</i>			
<i>On completion, the proposed activity will have a limited positive impact on the visual character of the area. The presence of construction plant during the construction and operation phase will have a negative visual impact. The visual impact during the construction phase is expected to have a low-medium impact. With a design that takes cognizance of aesthetic and visual aspects, the overall visual impact during the operation phase is expected to have low negative impacts.</i>			

12. Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?	YES	NO✓	Please explain
<i>The site is deemed ideal for the proposed development which will provide much needed improvement of service infrastructure to the area. Therefore, no unacceptable loss of other land use opportunities is expected.</i>			
13. What will the cumulative impacts (positive and negative) of the proposed land use associated with the activity applied for, be?	YES✓	NO	Please explain
<i>Key positive cumulative impacts expected from the implementation of the proposed development include the improvement and provision of service infrastructure and the reduction of the possibility of flooding in the Philippi area.</i>			
14. Is the development the best practicable environmental option for this land/site?	YES✓	NO	Please explain
<i>Considering the dire need for upgrading the stormwater facilities in the area, the current state of the disused nature of the site, it would be best to upgrade the stormwater ponds on this piece of land, than to develop the facilities on a better quality piece of land that has high conservation value and or other functional advantages.</i>			
15. What will the benefits be to society in general and to the local communities?			Please explain
<i>Benefits for society in general</i> <ul style="list-style-type: none"> ❖ Mitigate negative effects of the degraded property (issues such as illegal dumping, crime, squatting, and maintenance costs). <i>Benefits for the local community</i> <ul style="list-style-type: none"> ❖ The activity will produce additional employment opportunities, and will create jobs during the construction phase of the activity. This is of importance as there is a relatively high level of unemployment in the nearby residential areas, especially in the Sweet Home informal settlement in proximity. ❖ The activity will reduce the possibility of flood risk in the Philippi area. 			
16. Any other need and desirability considerations related to the proposed activity?			Please explain
<i>Based on the benefits be to the environment, the society in general and to the local communities, the proposed activity should be prioritised in terms of approvals.</i>			
(17) Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account:			
<i>The general objectives of Integrated Environmental Management have been taken into account through the following:</i> <ul style="list-style-type: none"> • The actual and potential impacts of the activity on the environment, socio-economic conditions and cultural heritage have been identified, predicted and evaluated, as well as the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impact, maximizing benefits and promoting compliance with the principles of environmental management. i.e. all potential impacts of the receiving environment including socio-economic conditions and cultural resources, including the No-Go option have been identified and assessed. • Adequate and appropriate opportunity for public participation will be ensured through the public participation process. • A Draft Environmental Management Programme (EMP) will be compiled and submitted together with the BAR. The construction phase EMP will discuss the Environmental Management Procedures best suited to the proposed development. 			

(18) Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account:

The principles of environmental management as set out in section 2 of NEMA have been taken into account. The principles pertinent to this activity include:

- *There will be no significant disturbance of ecosystems or loss of biodiversity*
- *No landscapes or sites of cultural importance will be disturbed*
- *The public participation process ensures that participation of I&APs in environmental governance is promoted*
- *All comments received by I&APs will be addressed to ensure that the interests, needs and values of I&APs are taken into account*
- *People and their needs have been placed at the forefront while serving their physical, psychological, developmental, cultural and social interests*
- *Development must be socially, environmentally sustainable. Where disturbance of ecosystems, loss of biodiversity, pollution and degradation, and landscapes and sites that constitute the nation's cultural heritage cannot be avoided, are minimised and remedied.*
- *The interests, needs and values of all interested and affected parties have been taken into account in any decisions through the Public Participation Process.*
- *The social, economic and environmental impacts of the activity have been considered, assessed and evaluated*

SECTION E: ALTERNATIVES

Please Note: Before completing this section, first consult this Department's *Guideline on Alternatives* (August 2010) available on the Department's website (<http://www.capegateway.gov.za/eadp>).

"Alternatives", in relation to a proposed activity, means different means of meeting the general purposes 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.

The NEMA prescribes that the procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment must, *inter alia*, with respect to every application for environmental authorisation –

- ensure that the general objectives of integrated environmental management laid down in NEMA and the National Environmental Management Principles set out in NEMA are taken into account; and
- include an investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity.

The general objective of integrated environmental management is, *inter alia*, to "identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management" set out in NEMA.

1. In the sections below, please provide a description of any identified and considered alternatives and alternatives that were found to be feasible and reasonable.

Please note: Detailed written proof the investigation of alternatives must be provided and motivation if no reasonable or feasible alternatives exist.

- (a) Property and location/site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The proposed activity entails the upgrading of existing service infrastructure. Site alternatives are therefore not being assessed in this report.

- (b) Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The upgrading of existing service infrastructure is considered the best option for the site due to the nature of land use surrounding the site.

The only feasible alternative to the proposed development which could result in lower impacts is the No Go Option. If this option is implemented, the benefits of the proposed project would not be realised.

- (c) Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Three development layout plans (Alternative 1, Alternative 2 and Alternative 3) will be considered.

Alternative 1 (Appendix B1)

In this Alternative, the upgrades to the stormwater facility can be achieved through implementing an engineering solution satisfying the civil engineering requirements of the project.

The shortcomings of this alternative is that though the ponds would provide maximum storage of stormwater, minimal environmental benefit would be accrued as the pond will largely remain dry throughout the year.

Alternative 2 (Appendix B2)

The approach to achieving the stormwater storage requirements and reducing some maintenance requirements of the system is achieved through over excavation. This creates an excavation below the water table to approximately 18.37 m AMSL.

*The disadvantage of this alternative relates to the construction costs. In addition, this type of over excavation facility has known risks of invasive plant species as demonstrated by the presence of *Eichhornia crassipes* (Water Hyacinth) in the adjacent Edith Stevens pond.*

Alternative 3 Preferred Alternative (Appendix B3)

Whilst the stormwater capacity requirements are achieved, this alternative sees the introduction of wetland habitat and seasonally wet and dry areas.

In this alternative, the proposed upgrade aims to have a dual function by providing the necessary stormwater infrastructure whilst increasing biodiversity in the area.

Based on the above disadvantages of Alternatives 1 and 2, only the preferred Alternative 3 is deemed feasible and assessed further.

(d) Technology alternatives (e.g. to reduce resource demand and resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Technology alternatives are not being assessed in this report.

(e) Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Operational alternatives are not being assessed in this report.

(f) the option of not implementing the activity (the No-Go Option):

The No-Go Option will be considered and evaluated as an alternative. Also referred to as the “Do-Nothing option” this refers to the upgrade of the stormwater ponds being not undertaken. This alternative implies that the site will remain as it is; that is, degraded and that no development occurs. In this scenario, the potential positive environmental and social impacts will not occur and the status quo will be maintained.

However, should the proposed activity not proceed, the property will remain in its present degraded state with undesirable visuals. Residents of Philippi will have to live with the potential risk of flooding. And the ecological benefits of introducing wetland habitats would not be realised. In addition, no job opportunities will be created during the construction or operational phases.

The No-Go Option is thus not deemed feasible, but is nevertheless assessed, as required in terms of NEMA and its EIA Regulations.

(g) Other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Not Applicable

(h) Please provide a summary of the alternatives investigated and the outcomes of such investigation:

Please note: If no feasible and reasonable alternatives exist, the description and proof of the investigation of alternatives, together with motivation of why no feasible or reasonable alternatives exist, must be provided.

Three alternative layout plans (Alternative 1, 2 and 3) and the No Go option were considered. The outcomes of the investigation into these alternatives are summarised in Table E1 below.

Table E1: Advantages and Disadvantages of Alternative Layout Plan

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
<i>The No-Go Option</i>	<i>The potential negative environmental impacts during the construction phase would not occur</i>	<i>The property will remain in its present degraded state with undesirable visuals. Residents of Philippi will have to live with the potential risk of flooding. The ecological benefits of introducing wetland habitats would not be realised. No job opportunities will be created during the construction or operational phases.</i>
<i>Alternative 1</i>	<i>The upgrades to the stormwater facility can be achieved through implementing an engineering solution satisfying the civil engineering requirements of the project.</i>	<i>Though the ponds would provide maximum storage of stormwater, minimal environmental benefit would be accrued as the pond will largely remain dry throughout the year.</i>
<i>Alternative 2</i>	<i>The approach to achieving the stormwater storage requirements and reducing some maintenance requirements of the system is achieved through over excavation. This creates an excavation below the water table to approximately 18.37 m AMSL.</i>	<i>The construction costs would increase as result of over excavation. Over excavation has known risks of invasive plant species</i>
<i>Alternative 3 (Preferred)</i>	<i>In this alternative, the proposed upgrade aims to have a dual function by providing the necessary stormwater infrastructure whilst increasing biodiversity in the area. Whilst the stormwater capacity requirements are achieved, this alternative sees the introduction of wetland habitat and seasonally wet and dry areas. Over excavation risk of invasive plant species is minimized through landscaping and planting of indigenous plant species.</i>	<i>The construction costs would increase as result of over excavation.</i>

SECTION F: IMPACT ASSESSMENT, MANAGEMENT, MITIGATION AND MONITORING MEASURES

Please note: The information in this section must be duplicated for all the feasible and reasonable alternatives (where relevant).

1. PLEASE DESCRIBE THE MANNER IN WHICH THE DEVELOPMENT WILL IMPACT ON THE FOLLOWING ASPECTS:

(a) Geographical and physical aspects:

<p>Infrastructure/service impact(s): <i>Due to the nature of the proposed activity, it is likely to impact positively on the existing municipal services by upgrading the existing stormwater ponds.</i></p> <p>Traffic and access: <i>It is not anticipated that the development will significantly impact on the flow of traffic on Vanguard Drive and other roads in proximity.</i></p> <p>Visual Impacts: <i>The proposed development would have a short-term visual impact during the construction phase due to the presence of construction machinery, material stockpiles, and associated dust emissions. The construction phase visual impact would be reduced by incorporating measures for visual screening (e.g. using shade cloth in combination with fencing), and litter and dust control as outlined in the EMP</i></p> <p><i>With aesthetically and visually biased designs, the development may contribute positively towards the character of the surrounding area. The proposed development is expected to compliment and visually enhance the surrounding area.</i></p>

(b) Biological aspects:

Will the development have an impact on critical biodiversity areas (CBAs) or ecological support areas (CSAs)?	YES	NO✓
If yes, please describe:		
<i>According to the botanical baseline survey (Appendix G2) there is substantial variation in vegetation and habitat pattern across the site. Some parts are heavily degraded and essentially totally transformed, with negligible botanical diversity or value. These areas are of Low botanical conservation value.</i>		
Will the development have an impact on terrestrial vegetation, or aquatic ecosystems (wetlands, estuaries or the coastline)?	YES✓	NO
If yes, please describe:		
<i>There is a permanent wetland and several seasonal wetlands present on the site. The wetland feature within the subject property can be defined as a unchannelled valley bottom feature1 and not an isolated wetland depression as indicated by the National Freshwater Ecosystem Priority Areas database (NFEPA; 2011) and Prioritisation of City Wetlands Map. It is however considered possible that historically the feature did form part of an extensive floodplain wetland (extracted from Wetland Assessment Report – Appendix G1)</i>		
Will the development have an impact on any populations of threatened plant or animal species, and/or on any habitat that may contain a unique signature of plant or animal species?	YES	NO✓
If yes, please describe:		
<i>No populations of threatened fauna or flora have been identified on site. If correctly designed and rehabilitated, the attenuation facility can be created to sustain wetland habitat that will provide seasonal as well as permanent zones for various indigenous floral and faunal species. By so doing indigenous wetland habitat can be created within a region where a significant amount of wetlands are lost due to urban sprawl (extracted from Wetland Assessment Report – Appendix G1).</i>		
Please describe the manner in which any other biological aspects will be impacted:		

The activity will have very little to no negative impact on any biological aspects. The proposed facility can sustain wetland habitat that will provide seasonal as well as permanent zones for various indigenous floral and faunal species. There would be environmental benefit in introducing a wetland habitat into the pond area.

(c) Socio-Economic aspects:

What is the expected capital value of the activity on completion?	R29,000,000
What is the expected yearly income or contribution to the economy that will be generated by or as a result of the activity?	R0
Will the activity contribute to service infrastructure?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
How many new employment opportunities will be created in the construction phase of the activity?	40
What is the expected value of the employment opportunities during the construction phase?	R870,000
What percentage of this will accrue to previously disadvantaged individuals?	100%
How will this be ensured and monitored (please explain): Contractual participation goals for targeted labour are set within the CoCT contract document. The goal is set as a percentage of the total contract values and is assumed to be 3% in this case. The contractor is required to meet this goal to avoid financial penalties.	
The appointed main contractor would implement WCG's standard Procurement Policy. This would be specified in the tender documentation and monitored by WCG.	
How many permanent new employment opportunities will be created during the operational phase of the activity?	3
What is the expected current value of the employment opportunities during the first 10 years?	R1500000
What percentage of this will accrue to previously disadvantaged individuals?	100%
How will this be ensured and monitored (please explain): The contract document stipulates the training of local individuals in basic horticulture and wetland maintenance who will then continue to be employed by the CoCT to maintain the facility.	
Any other information related to the manner in which the socio-economic aspects will be impacted: Jobs will be created during the construction and operational phase thus uplifting the community. The proposed upgrading of stormwater ponds will ameliorate the risk of flooding in the Philippi area. Flooding has its own socio-economic negative impacts.	

(d) Cultural and historic aspects:

Both the subject property and the context are without any identified cultural significance. The proposed activity will not impact on any built or landscape heritage resources.

2. WASTE AND EMISSIONS

(a) Waste (including effluent) management

Will the activity produce waste (including rubble) during the construction phase?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	M³
Waste quantities will only be calculated at the design phase of the project, but it should be of insignificant amounts.	
Will the activity produce waste during its operational phase?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	M³

Where and how will the waste be treated / disposed of (describe)?

All solid waste (quantities are not known at this stage) generated during the construction phase will be removed by the contractor and disposed of at a registered landfill site.

If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type per phase of the development?

General refuse, rubble and soil stockpile are the main types of waste expected during the construction phase.

Has the municipality or relevant authority confirmed that sufficient capacity exist for treating / disposing of the waste to be generated by this activity(ies)? If yes, provide written confirmation from Municipality or relevant authority

YES

NO✓

Confirmation is being obtained from the relevant Municipal Department

Will the activity produce waste that will be treated and/or disposed of at another facility other than into a municipal waste stream?

YES

NO✓

If yes, has this facility confirmed that sufficient capacity exist for treating / disposing of the waste to be generated by this activity(ies)? Provide written confirmation from the facility and provide the following particulars of the facility:

YES

NO

Not applicable

Does the facility have an operating license? (If yes, please attach a copy of the license.)

YES

NO

Facility name:

Contact person:

Postal address:

Postal code:

Telephone:

Cell:

E-mail:

Fax:

Describe the measures that will be taken to reduce, reuse or recycle waste:

During the construction phase the Contractor shall be responsible for the establishment of a solid waste control and removal system (see Construction EMP in Appendix H). An integrated waste management approach shall be used, based on the principles of waste minimisation, reduction, reuse and recycling of materials.

(b) Emissions into the atmosphere

Will the activity produce emissions that will be disposed of into the atmosphere?

YES

NO✓

If yes, does it require approval in terms of relevant legislation?

YES

NO

Not Applicable

Describe the emissions in terms of type and concentration and how it will be treated/mitigated:

Not Applicable

3. WATER USE

Please indicate the source(s) of water 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 a groundwater source, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Not Applicable

m³

Please provide proof of assurance of water supply (eg. Letter of confirmation from municipality / water user associations, yield of borehole)

Does the activity require a water use permit / license from DWAF?

YES

NO✓

If yes, please submit the necessary application to Department of Water Affairs and attach proof thereof to this application.

Describe the measures that will be taken to reduce water demand, and measures to reuse or recycle water:

Not Applicable

4. POWER SUPPLY

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

Not Applicable

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

Not Applicable

5. ENERGY EFFICIENCY

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

Not Applicable

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

Not Applicable

6. DESCRIPTION AND ASSESSMENT OF THE SIGNIFICANCE OF IMPACTS PRIOR TO AND AFTER MITIGATION

Please note: While sections are provided for impacts on certain aspects of the environment and certain impacts, the sections should also be copied and completed for all other impacts.

- (a) **Impacts that may result from the planning, design and construction phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the planning, design and construction phase.**

Potential impact on biological aspects:	<i>Impacts on Biodiversity: Vegetation</i>
Nature of impact:	<p><u><i>Extracted from the Baseline Botanical Assessment (Appendix G2)</i></u></p> <p><i>The natural vegetation on site is generally in very poor condition and so little vegetation remains that it is largely impossible to say what the exact nature of the original vegetation might have been like. It is probable that the area was much like the adjacent Edith Stephens Wetland Park (Helme 2000) and thus a mix of Cape Flats Sand Fynbos and Cape Flats Dune Strandveld. The former is now regarded as Critically Endangered on a national basis (DEA 2011), and the latter as Endangered (DEA 2011).</i></p> <p><i>There are only very small patches of what might be considered largely natural terrestrial vegetation on site, and the remainder of the terrestrial portions is secondary or heavily degraded.</i></p> <p><i>There is substantial variation in vegetation and habitat pattern across the site. Some parts are heavily degraded and essentially totally transformed, with negligible botanical diversity or value. These areas are of Low botanical conservation value. All other areas are deemed to be of Low to Medium botanical conservation value, although some of these areas may have a higher ecological value – such as for birds, wetlands or invertebrates.</i></p> <p><i>Alien invasive herbs are common, including <i>Echium plantagineum</i> (Patterson's curse), <i>Raphanus rapistrum</i> (wild mustard) and <i>Plantago lanceolata</i> (ribwort).</i></p> <p><i>No rare or locally endemic plant species (Species of Conservation Concern) were observed, and none are likely to occur here in viable numbers.</i></p> <p><i>None of the areas on site are particularly worth conserving from a botanical point of view, although it must be noted that they may have ecological value – notably in terms of birds, frogs and general wetland ecology.</i></p>

Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Definite</i>
Degree to which the impact can be reversed:	<i>Reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Low (Negative)</i>
Cumulative impact prior to mitigation:	<i>Medium Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (Negative)</i>
Degree to which the impact can be mitigated:	<i>Not necessary as the impact is insignificant</i>
Proposed mitigation:	<p><u><i>Extracted from the Baseline Botanical Assessment, Appendix G2</i></u></p> <ul style="list-style-type: none"> • <i>There are no significant constraints to the proposed development from a botanical perspective.</i> • <i>Most of the habitats currently present on site could be recreated within or around the proposed development</i> • <i>The ecological value of the area could be enhanced by reintroduction of various appropriate plant species</i>
Cumulative impact post mitigation:	<i>Medium Low (Positive)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium (Positive)</i>

Potential impact on biological aspects:	<p><i>Impacts on Biodiversity: Loss of Wetland Habitat and Ecological Structure</i></p> <p><u><i>Extracted from the Wetland Assessment (Appendix G1)</i></u></p> <p><i>The wetland feature within the subject property can be defined as a unchannelled valley bottom feature and not an isolated wetland depression as indicated by the National Freshwater Ecosystem Priority Areas database (NFEPA; 2011) and Prioritisation of City Wetlands Map.</i></p> <p><i>Wetland resources within the subject property has been significantly transformed due to alien and weedy grass encroachment as well as earth moving activities resulting in change in the natural hydrological regime. The results obtained by the Wet-Health as well as wetland function and service provision³ assessment were indicative of the degree to which transformation has occurred.</i></p> <p><i>The study concluded that the earth canals and impoundment can be considered permanent wetland and the remainder of the subject property seasonal wetland due to the presence of facultative floral species as well as gleyed soil. The entire area earmarked for the development of the attenuation facility can therefore be considered wetland.</i></p> <p><i>Activities leading to the Loss of wetland habitat and ecological structure include:</i></p> <ul style="list-style-type: none"> • <i>Earth works associated with the construction of the attenuation facility</i> • <i>Site clearing and the removal of vegetation cover</i> • <i>Movement of construction vehicles through the subject property</i> • <i>Indiscriminate movement of vehicles within adjacent properties</i> • <i>Inadequate outlet structure resulting in desiccation of downstream wetland habitat</i>
Nature of impact:	

	<ul style="list-style-type: none"> • <i>Compacting of soil where construction activities have taken place</i> • <i>Dumping of building material or waste within the subject property</i> • <i>Inadequate management of edge effects such as alien vegetation proliferation and erosion during construction</i> • <i>Contamination of wetland soils and surface water</i> • <i>Contamination of wetland soils through diesel spillage or by cement mixing within the wetland feature</i> • <i>Indiscriminate fire</i>
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Definite</i>
Degree to which the impact can be reversed:	<i>Reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Low (Negative)</i>
Cumulative impact prior to mitigation:	<i>Medium Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<p><u><i>Extracted from the Wetland Assessment (Appendix G1)</i></u></p> <ul style="list-style-type: none"> • <i>The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas;</i> • <i>Edge effects of activities including erosion and alien/ weed control need to be strictly managed in these areas;</i> • <i>All vehicles should remain on designated roads with no indiscriminate driving through the subject property or adjacent properties;</i> • <i>All spills should be immediately cleaned up and treated accordingly;</i> • <i>Regularly inspect all construction vehicles for leaks. Re-fuelling must take place on a sealed surface area to prevent hydrocarbons reaching surface/subsurface water that could potentially flow to the wetland feature;</i> • <i>The relevant approvals must be obtained from DWA for any activities within the wetland area and associated buffer.</i> • <i>Design and implement a Rehabilitation and Management Plan with input from a qualified landscaping architect;</i> • <i>As part of the ecologically sensitive landscaping plan and rehabilitation attention should be afforded to the following:</i> <ul style="list-style-type: none"> ○ <i>Rip and profile areas within the wetland zone that have been compacted due to construction activities;</i> ○ <i>All alien vegetation should be removed during all phases of the development;</i> ○ <i>As far as possible alien vegetation should be removed manually, should machinery or vehicles be required the impacted areas should be ripped and profiled;</i> ○ <i>Care should be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used;</i> ○ <i>All alien or weed species removed should be disposed of at a registered waste disposal site;</i> ○ <i>After profiling, the feature should be lightly compacted and reseeded with indigenous vegetation species or species recommended by the landscape architect that will provide cover and bind soil;</i>

	<ul style="list-style-type: none"> ○ <i>Vegetation requirements:</i> <ul style="list-style-type: none"> ○ <i>It is not considered to be of very high importance to plant significant numbers of plants in the areas to be rehabilitated, rather a higher diversity of floral species (dependent on availability). Each year seed can be harvested to increase the density of the vegetation within rehabilitated areas;</i> ○ <i>If possible, species such as Cyperus species and Zantedeschia aethiopica (Arum lily) should be removed prior to construction and replanted during rehabilitation;</i> ○ <i>Give priority to perennial species that establish rapidly;</i> ○ <i>Select species adaptable to the broadest ranges of depth, frequency and duration of inundation (hydroperiod); and</i> ○ <i>Give priority to species that have already been used successfully in constructed stormwater wetlands and that are commercially available.</i> ○ <i>The landscaping plan should address rehabilitation to ensure ongoing wetland function if the preferred layout is selected;</i> ○ <i>Re-assessment and monitoring are considered very important to determine success of the rehabilitation and any follow-up measures required;</i> • <i>Sanitation facilities must be provided for the duration of the proposed development and all waste removed to an appropriate facility. These facilities must be located outside of the wetland feature and must be regularly serviced;</i> • <i>No temporary storage of building material should be allowed within permanently saturated areas;</i> • <i>All waste, with special mention of waste rock and spoils and remaining building material should be removed from the site on completion of the construction or maintenance.</i> • <i>Restrict activities to winter months in order to limit impact on aquatic species utilising wetlands as foraging and breeding habitat.</i>
Cumulative impact post mitigation:	<i>Medium-Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium-Low (Negative)</i>

Potential impact on biological aspects:	<i>Impacts on Biodiversity: Wetland Ecological and Socio-cultural Services</i>
Nature of impact:	<p><u><i>Extracted from the Wetland Assessment (Appendix G1)</i></u></p> <p><i>Inability to support wetland biodiversity due to disturbance of the wetland feature during the construction phase</i></p> <p><i>Loss of phosphate, nitrate and toxicant removal abilities due to disturbance of the wetland feature and removal of wetland vegetation during construction activities</i></p> <p><i>Loss of sediment trapping and stream flow regulation abilities</i></p>
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Highly Probable</i>
Degree to which the impact can be reversed:	<i>Reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Low (Negative)</i>
Cumulative impact prior to mitigation:	<i>Low (Negative)</i>

Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium-High (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<p><u>Extracted from the Wetland Assessment (Appendix G1)</u></p> <ul style="list-style-type: none"> • The footprint of construction related activities should be kept to a minimum; • Incorporate adequate erosion management measures in order to prevent erosion and the associated sedimentation of the wetland feature. Management measures may include berms, silt fences, hessian curtains and stormwater diversion away from areas susceptible to erosion. Care should however be taken so as to avoid additional disturbance during the implementation of these measures; • The boundaries of footprint areas are to be clearly defined and it should be ensured that all activities remain within defined footprint areas; and • Restrict activities to winter months in order to limit impact on aquatic species utilising wetlands as foraging and breeding habitat.
Cumulative impact post mitigation:	<i>Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Very Low (Negative)</i>

Potential impact on biological aspects:	<i>Impacts on Wetland Hydrological Function and Sediment Balance During the Design and Construction Phase</i>
Nature of impact:	<p><u>Extracted from the Wetland Assessment (Appendix G1)</u></p> <p>Activities leading to impact include:</p> <ul style="list-style-type: none"> • Poor design leading to extensive permanent open water • Inadequate design leading to prolonged inundation and loss of wetland vegetation • Design not catering for an extensive littoral zone • Earthworks in the vicinity of wetland areas • Inadequate outlet structure resulting in desiccation of downstream wetland habitat • Inadequate erosion control measures
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Definite</i>
Degree to which the impact can be reversed:	<i>Reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Medium High (Negative)</i>
Cumulative impact prior to mitigation:	<i>Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium-High (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<p><u>Extracted from the Wetland Assessment (Appendix G1)</u></p> <ul style="list-style-type: none"> • Incorporate adequate erosion management measures in order to prevent erosion and the associated sedimentation of the wetland feature. Management measures may include berms, silt fences, hessian curtains and stormwater diversion away from areas susceptible to erosion. Care should however be taken so as to avoid additional disturbance during the implementation of these measures; • The boundaries of footprint areas are to be clearly defined and

	<p><i>it should be ensured that all activities remain within defined footprint areas,</i></p> <ul style="list-style-type: none"> <i>Any discharge of runoff into the wetland system must be done in such a way as to prevent erosion. In this regard special mention is made of the use of energy dissipating structures in storm water discharge</i> <i>After profiling, the disturbed areas should be lightly compacted and reseeded with indigenous vegetation species that will provide cover and bind soil;</i> <i>Ecological design criteria must be implemented into the design of the attenuation pond.</i>
Cumulative impact post mitigation:	<i>Medium Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium Low (Negative)</i>

Potential impacts on geographical and physical aspects:	<i>Traffic Issues: Inconvenience to Road Users</i>
Nature of impact:	<p><i>Construction would result in increased vehicle trips, which could have a negative impact on existing traffic movement on the Vanguard Drive</i></p> <p><i>Delays and/or detours to route traffic around the construction sites may cause inconvenience to road users.</i></p>
Extent and duration of impact:	<i>Local; Short term</i>
Probability of occurrence:	<i>Definite</i>
Degree to which the impact can be reversed:	<i>Fully reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Low (Negative)</i>
Cumulative impact prior to mitigation:	<i>Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (Negative)</i>
Degree to which the impact can be mitigated:	<i>Low</i>
Proposed mitigation:	<ul style="list-style-type: none"> <i>The Contractor must ensure that during the construction phase adequate traffic accommodation and safety measures (as appropriate) are put in place along the Norton Road and other roads in the vicinity of the site.</i> <i>Provide sufficient signage to warn road users of the presence of construction works and of traffic arrangements.</i>
Cumulative impact post mitigation:	<i>Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Very Low (Negative)</i>

Potential dust impacts	<i>Construction Dust Impacts</i>
Nature of impact:	<i>Dust would be generated during the stripping and excavation component of the proposed project.</i>
Extent and duration of impact:	<i>Local; Short term</i>
Probability of occurrence:	<i>Definite</i>
Degree to which the impact can be reversed:	<i>Fully reversible</i>
Degree to which the impact may cause	<i>Very low</i>

irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	<i>Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<ul style="list-style-type: none"> • <i>Shade cloth may be used to avoid windblown dust from soil stockpiles.</i> • <i>The Contractor must ensure that the generation of dust is minimised by implementing a dust control programme (e.g. watering).</i> • <i>The Contractor must ensure that exposed soil and material stockpiles are adequately protected against the wind (e.g. water spray vehicles, covering of material stockpiles, etc.).</i> • <i>The attached EMP will detail dust control measures. See Appendix H</i>
Cumulative impact post mitigation:	<i>Very Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Very Low (Negative)</i>

Potential noise impacts:	Construction Noise Impacts
Nature of impact:	<i>Noise originating from all forms of construction, additional vehicles the Vanguard Drive, construction vehicle and noise impact from machinery and plant during construction. Construction activities (e.g. construction vehicles, excavations, etc.) would increase noise levels in the area.</i>
Extent and duration of impact:	<i>Local; Short term</i>
Probability of occurrence:	<i>Probable</i>
Degree to which the impact can be reversed:	<i>Fully reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Negligible</i>
Cumulative impact prior to mitigation:	<i>Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium - Low (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<p><i>Noise mitigation measures are dealt with in the EMP. The following measures will be implemented amongst others:</i></p> <ul style="list-style-type: none"> • <i>Working hours will be restricted to daily normal working hours.</i> • <i>All noise and sounds generated by plant or machinery must adhere to SABS 0103 specifications for the maximum permissible noise levels for industrial areas.</i> • <i>All plant and machinery are to be fitted with adequate silencers.</i> • <i>No sound amplification equipment such as sirens, loud</i>

	<i>hailers or hooters may be used on site, after normal working hours, except in emergencies.</i>
Cumulative impact post mitigation:	<i>Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (Negative)</i>

Potential visual impacts:	Potential Visual Impacts Of The Development:
Nature of impact:	<i>Construction activities would also have a temporary visual impact due to the presence of heavy construction vehicles, material stockpiles as well as earthwork activities and associated dust emissions.</i>
Extent and duration of impact:	<i>Local; short-term</i>
Probability of occurrence:	<i>Highly probable</i>
Degree to which the impact can be reversed:	<i>Fully reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>None</i>
Cumulative impact prior to mitigation:	<i>Low</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low to Medium (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<ul style="list-style-type: none"> <i>Visual impact mitigation measures will be dealt with in the EMP</i> <i>The site must be clean and tidy at all times.</i> <i>No stockpiles may exceed 2m in height.</i> <i>Visual screening (e.g. using shade cloth to screen the construction site, equipment and materials). Ensure that exposed areas and material stockpiles are adequately screened.</i> <i>Implement litter control measures.</i>
Cumulative impact post mitigation:	<i>None</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Very Low (Negative)</i>

Potential impacts on the socio-economic aspects:	Employment Opportunities
Nature of impact:	<i>The proposed project would result in approximately 40 new employment opportunities during the construction phase. An expected value of R870,000 of employment opportunities will be created, with approximately most of which will accrue to previously disadvantaged individuals</i>
Extent and duration of impact:	<i>Local; Short term</i>
Probability of occurrence:	<i>Definite</i>
Degree to which the impact can be reversed:	<i>Fully reversible if No Go Option prevails</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>NA</i>

Cumulative impact prior to mitigation:	NA
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low (Negative)
Degree to which the impact can be mitigated:	NA
Proposed mitigation:	Without compromising construction activities and schedules, local SMME and BEE service providers and local labour should be employed, as far as possible.
Cumulative impact post mitigation:	Low (Positive)
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low (Positive)

- (b) **Impacts that may result from the operational phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the operational phase.**

Potential impact on biological aspects:	Impacts on Biodiversity: Vegetation
Nature of impact:	<u>Extracted from the Baseline Botanical Assessment (Appendix G2)</u> Most of the habitats currently present on site could be recreated within or around the proposed development, and in fact the ecological value of the area could be enhanced by reintroduction of various appropriate plant species.
Extent and duration of impact:	Local; Long term
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	Reversible
Degree to which the impact may cause irreplaceable loss of resources:	Low (Negative)
Cumulative impact prior to mitigation:	Medium (Positive)
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium High (Negative)
Degree to which the impact can be mitigated:	Not Applicable
Proposed mitigation:	<u>Extracted from the Baseline Botanical Assessment, Appendix G2</u> <ul style="list-style-type: none"> The ecological value of the area could be enhanced by reintroduction of various appropriate plant species Monitor disturbed areas and keep them free of invasive alien plant growth.
Cumulative impact post mitigation:	Medium High (Positive)
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	High (Positive)

Potential impact on biological aspects:	Impacts on Biodiversity: Loss of Wetland Habitat and Ecological Structure
Nature of impact:	<u>Extracted from the Wetland Assessment (Appendix G1)</u> Activities leading to the Loss of wetland habitat and ecological structure include: <ul style="list-style-type: none"> Dumping of building material or waste within the subject property Indiscriminate fire
Extent and duration of impact:	Local; Long term
Probability of occurrence:	Highly Likely

Degree to which the impact can be reversed:	<i>Reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Low (Negative)</i>
Cumulative impact prior to mitigation:	<i>Medium Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<u><i>Extracted from the Wetland Assessment (Appendix G1)</i></u> <ul style="list-style-type: none"> <i>Sanitation facilities must be provided for the duration of the proposed development and all waste removed to an appropriate facility. These facilities must be located outside of the wetland feature and must be regularly serviced;</i> <i>Prevent run-off from dirty water areas entering the wetland habitat;</i> <i>The rehabilitation area is located next to large roads and as a result it is expected that litter could be blown from surroundings, it is therefore considered important to regularly inspect the site for litter;</i> <i>No dumping of development waste material should be allowed within the subject property</i>
Cumulative impact post mitigation:	<i>-Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (Negative)</i>

Potential impact on biological aspects:	<i>Impacts on Biodiversity: Wetland Ecological and Socio-cultural Service Provision</i>
Nature of impact:	<u><i>Extracted from the Wetland Assessment (Appendix G1)</i></u> <ul style="list-style-type: none"> <i>Inability to support wetland biodiversity during the operation phase</i> <i>Loss of wetland biodiversity in the vicinity of maintenance activities</i> <i>Loss of phosphate, nitrate and toxicant removal abilities due to disturbance of the wetland feature and removal of wetland vegetation during maintenance activities</i> <i>Loss of sediment trapping and stream flow regulation abilities</i> <p><i>Activities leading to impact entails the inadequate management of edge effects such as alien vegetation proliferation and erosion within disturbed areas</i></p>
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Probable</i>
Degree to which the impact can be reversed:	<i>Reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Low (Negative)</i>
Cumulative impact prior to mitigation:	<i>Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium (Negative)</i>
Degree to which the impact can be mitigated:	<i>Not necessary as the impact is insignificant</i>
Proposed mitigation:	<u><i>Extracted from the Wetland Assessment (Appendix G1)</i></u> <ul style="list-style-type: none"> <i>Incorporate adequate erosion management measures in order to prevent erosion and the associated sedimentation of the wetland feature.</i> <i>Edge effects of activities including erosion and alien/ weed</i>

	<i>control need to be strictly managed in these areas.</i>
Cumulative impact post mitigation:	<i>Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Very Low (Negative)</i>

Potential impact on biological aspects:	<i>Impacts on Wetland Hydrological Function and Sediment Balance During the Operation Phase</i>
Nature of impact:	<i>Activities leading to impact entails maintenance activities</i>
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Probable</i>
Degree to which the impact can be reversed:	<i>Reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Medium (Negative)</i>
Cumulative impact prior to mitigation:	<i>Low (Negative)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Medium (Negative)</i>
Degree to which the impact can be mitigated:	<i>High</i>
Proposed mitigation:	<p><i><u>Extracted from the Wetland Assessment (Appendix G1)</u></i></p> <ul style="list-style-type: none"> <i>• Incorporate adequate erosion management measures in order to prevent erosion and the associated sedimentation of the wetland feature.</i> <i>• Any discharge of runoff into the wetland system must be done in such a way as to prevent erosion. In this regard special mention is made of the use of energy dissipating structures in storm water discharge</i> <i>• Desilt the attenuation pond as necessary.</i>
Cumulative impact post mitigation:	<i>Low (Negative)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (Negative)</i>

Potential noise impacts:	<i>Operation Noise Impacts</i>
Nature of impact:	<i>Noise originating from all forms of operation activities that would increase noise levels in the area.</i>
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Probable</i>
Degree to which the impact can be reversed:	<i>Fully reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Negligible</i>
Cumulative impact prior to mitigation:	<i>Low - negative</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low - negative</i>
Degree to which the impact can be mitigated:	<i>Not necessary as the impact is insignificant</i>
Proposed mitigation:	<ul style="list-style-type: none"> <i>• All noise and sounds generated during the operation phase must adhere to SABS 0103 specifications for the maximum permissible noise levels for industrial areas.</i> <i>• Operating activities (e.g. general maintenance) should, where possible, occur during “normal working hours”.</i>
Cumulative impact post mitigation:	<i>Very Low - negative</i>

Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Ver Low - negative</i>
Potential visual impacts:	<i>Potential Visual Impacts During the Operation Phase:</i>
Nature of impact:	<i>Operation activities would also have visual impact</i>
Extent and duration of impact:	<i>Local; Long-term</i>
Probability of occurrence:	<i>Highly probable</i>
Degree to which the impact can be reversed:	<i>Fully reversible</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>None</i>
Cumulative impact prior to mitigation:	<i>Low</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low to Medium</i>
Degree to which the impact can be mitigated:	<i>Low</i>
Proposed mitigation:	<ul style="list-style-type: none"> <i>The site must be clean and tidy at all times.</i> <i>Implement litter control measures.</i>
Cumulative impact post mitigation:	<i>None</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Very Low (Negative)</i>

Potential impacts on the socio-economic aspects:	<i>Employment Opportunities</i>
Nature of impact:	<i>The proposed project would result in approximately 3 new employment opportunities during the operation phase. An expected value of R1.5 Million of employment opportunities will be created during the first 10 years.</i>
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>Definite</i>
Degree to which the impact can be reversed:	<i>Fully reversible if No Go Option prevails</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>NA</i>
Cumulative impact prior to mitigation:	<i>NA</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (positive)</i>
Degree to which the impact can be mitigated:	<i>NA</i>
Proposed mitigation:	<ul style="list-style-type: none"> <i>Employees to be previously disadvantaged individuals</i> <i>Ensure appropriate training is provided, where necessary.</i>
Cumulative impact post mitigation:	<i>Low (positive)</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Low (positive)</i>

Potential impacts on the geographical and physical aspects:	<i>Infrastructure/Service Impacts</i>
Nature of impact:	<i>The development will provide additional municipal services.</i>
Extent and duration of impact:	<i>Local; Long term</i>
Probability of occurrence:	<i>N/A</i>

Degree to which the impact can be reversed:	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	<i>High (Positive)</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	N/A
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

- (c) **Impacts that may result from the decommissioning and closure phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase.**

Not Applicable. It is deemed unlikely that the proposed project would be decommissioned in the near future.

- (d) **Any other impacts:**

Impacts associated with the No-Go Option

Potential impacts:	<i>Impacts associated with the No-Go Option</i>
Nature of impact:	<i>The No-Go alternative is basically the option of not proceeding with the proposed upgrading of stormwater facilities and other related infrastructure, which would result in the site remaining in the degraded condition.</i>
Extent and duration of impact:	<i>Local to regional; permanent</i>
Probability of occurrence:	<i>Not Applicable</i>
Degree to which the impact can be reversed:	<i>Not Applicable</i>
Degree to which the impact may cause irreplaceable loss of resources:	<i>Not Applicable</i>
Cumulative impact prior to mitigation:	<i>Not Applicable</i>
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>High</i>
Degree to which the impact can be mitigated:	<i>Not Applicable</i>
Proposed mitigation:	<i>Consideration and approval of alternative with least negative impacts.</i>
Cumulative impact post mitigation:	<i>Not Applicable</i>
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	<i>Not Applicable</i>

7. SPECIALIST INPUTS/STUDIES AND RECOMMENDATIONS

Please note: Specialist inputs/studies must be attached to this report as **Appendix G**. Also take into account the Department's Guidelines on the Involvement of Specialists in EIA Processes available on the Department's website (<http://www.capegateway.gov.za/eadp>).

Specialist inputs/studies and recommendations:

7.1 Conclusion and recommendations of the Wetland Assessment Report (See Appendix G1)

- The wetland feature within the subject property can be defined as an unchannelled valley bottom feature and not an isolated wetland depression as indicated by the NFEPA (2011) and Prioritisation of City Wetlands Map. It is however considered possible that historically the feature did form part of an extensive floodplain wetland. The valley bottom was canalised upstream of the subject property and ponding was noted on both sides of Vanguard Drive and Old Lansdowne Road.
- Wetland resources within the subject property has been significantly transformed due to alien and weedy grass encroachment as well as earth moving activities resulting in change in the natural hydrological regime.
- The earth canals and impoundment can be considered permanent wetland and the remainder of the subject property seasonal wetland due to the presence of facultative floral species as well as gleyed soil. The entire area earmarked for the development of the attenuation facility can therefore be considered wetland.
- If correctly designed and rehabilitated, the attenuation facility can be created to sustain wetland habitat that will provide seasonal as well as permanent zones for various indigenous floral and faunal species. By so doing indigenous wetland habitat can be created within a region where a significant amount of wetlands are lost due to urban sprawl.

Table 7.1: A summary of impact significance before and after mitigation and rehabilitation

Impact	Phase	Unmanaged	Managed
Loss of wetland habitat and ecological structure	Construction	Medium High (-ve)	Medium Low (-ve)
	Operation	Medium Low (-ve)	Very Low (-ve)
Changes to wetland ecological and socio-cultural service provision	Construction	Medium Low (-ve)	Low (-ve)
	Operation	Low (-ve)	Very Low (-ve)
Impacts on wetland hydrological function and sediment balance	Construction	Medium High (-ve)	Medium Low (-ve)
	Operation	Medium Low (-ve)	Very Low (-ve)

- From the results of the impact assessment it was observed that 3 major impacts are likely to impact the feature on the subject property. All the impacts are likely to have an effect on the receiving environment if unmanaged.
- The majority of the impacts can be effectively mitigated by proper planning, management and implementation of an effective rehabilitation plan.
- It is the opinion of the wetland ecologists that the proposed attenuation facility development be considered favourably, provided that the recommendations as provided in the impact assessment are adhered to.

7.2 Conclusion and recommendations of the Baseline Botanical Assessment (Appendix G2)

- The natural vegetation on site is generally in very poor condition and so little vegetation remains that it is largely impossible to say what the exact nature of the original vegetation might have been like.
- There are only very small patches (<0.5ha in total) of what might be considered largely natural terrestrial vegetation on site, and the remainder of the terrestrial portions are secondary or heavily degraded.

- There is substantial variation in vegetation and habitat pattern across the site. Some parts (such as the infilled areas, the horse track, the dams and agricultural areas) are heavily degraded and essentially totally transformed, with negligible botanical diversity or value. These areas are of Low botanical conservation value. All other areas are deemed to be of Low to Medium botanical conservation value, although some of these areas may have a higher ecological value – such as for birds, wetlands or invertebrates (see Figure F7.1).



Figure F7.1: Botanical conservation value map of the site.

- Indigenous shrubs are almost totally absent from the site, with the exception of the resilient resprouter *Searsia laevigata* (dune taaibos), which is restricted to a few remnant patches.
- Grass species dominate the site, being a mix of alien and indigenous species.
- Species diversity is generally low. Very few indigenous bulb or herb species were noted on Site. Alien invasive herbs are common
- No rare or locally endemic plant species (Species of Conservation Concern) were observed, and none are likely to occur here in viable numbers.
- The vegetation on site is of Low or Low to Medium conservation value in a regional context.
- None of the areas on site are particularly worth conserving from a botanical point of view, although it must be noted that they may have ecological value – notably in terms of birds, frogs and general wetland ecology.
- The ecological context of the site (adjacent to Edith Stephen Wetland Park) is important, and it would be desirable to maintain some sort of green space rather than further industrial development in order to increase the viability of the Wetland Park
- There are no significant constraints to the proposed development from a botanical perspective.
- Most of the habitats currently present on site could be recreated within or around the proposed development, and in fact the ecological value of the area could be enhanced by reintroduction of various appropriate plant species.
- Input from an experienced freshwater biologist recommended (Wetland Assessment undertaken). It may also be worthwhile getting input from a faunal expert, particularly in relation to birds and frogs.
- If this project proceeds to the Impact Assessment stage inputs should be made then in terms of how to minimise the botanical and overall ecological impacts.

8. IMPACT SUMMARY

Please provide a summary of all the above impacts.

All construction-phase impacts (both positive and negative) would be limited to the short and long term. One positive impact is expected to result during the construction and operational phase, namely the provision of employment opportunities, introduction of wetland habitat and the reduction of the risks associated with flooding with a POSITIVE significance rating.

The negative impacts associated with Alternative 3 (preferred alternative) during the construction and operational phase have generally been rated as of LOW significance after mitigation (see Table 8.1 and Table 8.2 respectively).

Table 8.1: Impacts related the construction phase

Impact	Significance Without Mitigation	Significance With Mitigation
<i>Impacts on Biodiversity: Vegetation</i>	<i>Low (Negative)</i>	<i>Medium (Positive)</i>
<i>Impacts on Biodiversity: Loss of Wetland Habitat and Ecological Structure</i>	<i>Medium (Negative)</i>	<i>Medium-Low (Negative)</i>
<i>Impacts on Biodiversity: Wetland Ecological and Socio-cultural Services</i>	<i>Medium-High (Negative)</i>	<i>Very Low (Negative)</i>
<i>Impacts on Wetland Hydrological Function and Sediment Balance During the Design and Construction Phase</i>	<i>Medium-High (Negative)</i>	<i>Medium Low (Negative)</i>
<i>Traffic: Inconvenience to Road Users</i>	<i>Low (Negative)</i>	<i>Very Low (Negative)</i>
<i>Construction Dust Impacts</i>	<i>Low (Negative)</i>	<i>Very Low (Negative)</i>
<i>Construction Noise Impacts</i>	<i>Medium Low (Negative)</i>	<i>Low (Negative)</i>
<i>Potential Visual Impacts</i>	<i>Low to medium (Negative)</i>	<i>Very Low (Negative)</i>
<i>Employment Opportunities</i>	<i>Low (Negative)</i>	<i>Low (positive)</i>

Table 8.2: Impacts related to the operational phase

Impact	Constructed Stormwater Facilities and Introduction of Wetland Habitat		No-Go Option	
	Significance Without Mitigation	Significance With Mitigation	Significance Without Mitigation	Significance With Mitigation
<i>Impacts on Biodiversity: Vegetation</i>	<i>Medium High (Negative)</i>	<i>High (Positive)</i>	<i>Medium High (Negative)</i>	<i>Medium (Negative)</i>
<i>Impacts on Biodiversity: Loss of Wetland Habitat and Ecological Structure</i>	<i>Medium (Negative)</i>	<i>Low (Negative)</i>	<i>Low (Negative)</i>	<i>Low (Negative)</i>
<i>Impacts on Biodiversity: Wetland Ecological and Socio-cultural Services</i>	<i>Medium (Negative)</i>	<i>Very Low (Negative)</i>	<i>Low (Positive)</i>	<i>Low (Positive)</i>
<i>Impacts on Wetland Hydrological Function and Sediment Balance During the Design and Construction Phase</i>	<i>Medium (Negative)</i>	<i>Low (Negative)</i>	<i>No Impact</i>	<i>No Impact</i>
<i>Operation Noise Impacts</i>	<i>Low (Negative)</i>	<i>Very Low (Negative)</i>	<i>No Impact</i>	<i>No Impact</i>
<i>Potential Visual Impacts During the Operation Phase</i>	<i>Low to Medium (Negative)</i>	<i>Very Low (Negative)</i>	<i>Medium (Negative)</i>	<i>Low (Negative)</i>
<i>Employment</i>	<i>Low (Negative)</i>	<i>Low (positive)</i>	<i>No Impact</i>	<i>No Impact</i>
<i>Infrastructure/Service Impacts</i>	<i>High (Positive)</i>	<i>N/A</i>	<i>No Impact</i>	<i>No Impact</i>

9. OTHER MANAGEMENT, MITIGATION AND MONITORING MEASURES

(a) Over and above the mitigation measures described in Section 6 above, please indicate any additional management, mitigation and monitoring measures.

None

(b) Describe the ability of the applicant to implement the management, mitigation and monitoring measures.

Under South African environmental legislation, the Applicant is accountable for the potential impacts of the activities that are undertaken and is responsible for managing these impacts. The Applicant therefore has overall and total environmental responsibility to ensure that the implementation of the construction phase of this EMP complies with the relevant legislation and the conditions of the Environmental Authorisation.

All the mitigation measures proposed are deemed realistic and feasible to implement. Where necessary the mitigatory measures have been included in the EMP. The applicant has shown commitment to implement management, mitigation and monitoring measures specified in this document and in the EMP (see Appendix H).

Please note: A draft ENVIRONMENTAL MANAGEMENT PROGRAMME must be attached to this report as Appendix H.

SECTION G: ASSESSMENT METHODOLOGIES AND CRITERIA, GAPS IN KNOWLEDGE, UNDERLYING ASSUMPTIONS AND UNCERTAINTIES

(a) Please describe adequacy of the assessment methods used.

The Basic Assessment Report for the proposed activity is being undertaken with sustainable development as a goal. The Basic Assessment process, including the assessment of potential impacts, has been undertaken in compliance with the requirements of the NEMA EIA Regulations, 2010. The NEMA EIA Regulations Guideline Series (October 2011) was also consulted for guidance on various aspects of the Basic Assessment process, together with rigorous assessment and evaluation, including the assessment of impacts and the public participation process. The assessment looked at the impacts of the proposals on the environment and assesses the significance of these, as well as proposes mitigation measures, as required, to reduce anticipated impacts to acceptable levels.

All impacts have been systematically assessed and presented according to the 'Convention for assigning significance ratings to impacts' (see sub-section (b) below). Frontline Safety Health and Environmental Consultants is confident that all potential impacts have been identified and assessed as part of this assessment process and that this report should provide DEA&DP with sufficient information to make an informed decision on the application.

(b) Please describe the assessment criteria used.

The criteria are based on the EIA Regulations, published by the Department of Environmental Affairs and Tourism (April 1998) in terms of the Environmental Conservation Act No. 73 of 1989. The following criteria was used during the assessment of impacts for the proposed development:

EXTENT OF IMPACT BEING EITHER:

- **Immediate** (the site and immediate surrounds);
- **Local** (adjacent residential areas);
- **Regional** (Western Cape);
- **National** (Country wide);
- **International**;

DURATION OF IMPACT BEING EITHER:

- **Short term** (0-5 years);
- **Medium term** (5-15 years);
- **Long term** (operational life of the development);

INTENSITY OF IMPACT BEING EITHER:

- **Low** (where natural, cultural and social functions and processes are not affected);
- **Medium** (where the affected environment is altered but natural, cultural and social functions and processes can continue);
- **High** (where the affected environment is altered but natural, cultural and social functions and processes are altered to the extent that it will temporarily or permanently cease);

PROBABILITY OF IMPACT BEING EITHER:

- **Low probability** (possibility of impact occurring is low);
- **Probable** (where there is a distinct possibility that it will occur);
- **Highly probable** (where the impact is most likely to occur);
- **Definite** (where the impact will occur);

SIGNIFICANCE OF IMPACT:

- **Low** (where natural, cultural and social functions and processes are slightly affected);
- **Medium** (where the affected environment is altered but natural, cultural and social functions and processes can continue);
- **High** (where the affected environment is altered but natural, cultural and social functions and processes are altered to the extent that it will temporarily or permanently cease);

REVERSIBILITY RATING:

- **Irreversible** (the activity will lead to an impact that is permanent);
- **Partially reversible** (The impact is reversible to a degree e.g. acceptable re-vegetation measures can be implemented but the pre-impact species composition and/or diversity may never be attained. Impacts may be partially reversible within a short (during construction), medium (during operation) or long term (following decommissioning) timeframe);
- **Fully reversible** (The impact is fully reversible, within a short, medium or long term timeframe);

In all instances (-) indicates a perceived negative / adverse impact and (+) is a perceived positive / beneficial impact.

(c) Please describe the gaps in knowledge.

There are no known gaps in knowledge presented in this report. The guidelines and regulations set out in the NEMA were applied throughout the EIA process, together with rigorous assessment and evaluation. However, we acknowledge that in any circumstance there may be oversights and gaps in knowledge.

(d) Please describe the underlying assumptions.

The following assumptions are made:

- *The information provided by the applicant is assumed to be accurate and unbiased.*
- *There are no environmental sensitivities that were noted during the study of the site and therefore assumed it an appropriate piece of land for the proposed development*
- *The information on which the report is based (specialist studies/project information) is correct*
- *Future management of the site is essential and the mitigation measures recommended by the specialists will be implemented on a long-term basis. This has a major bearing on the reliability of the predictions of significance of impact*
- *The construction and management of this proposed stormwater ponds will be in line with the recommendations in this report, which will be enforced by the implementation of the construction phase EMP. Much of the long-term success lies in the effective implementation of the measures prescribed in the EMP*

Study assumptions and limitations are listed below:

- ❖ *The study assumes that the Environmental Assessment Practitioner has been provided with all relevant project description information by the Applicant and the rest of the project team and that it was correct, unbiased and valid at the time it was provided;*
- ❖ *There will be no significant changes to the project description or surrounding environment between the completion of the report and implementation of the proposed project that could substantially influence findings, recommendations with respect to mitigation and management, etc.;*
- ❖ *The study assumes that all mitigatory measures would be implemented as proposed in this report, which will be enforced by the implementation of detailed EMP; and*
- ❖ *There are no environmental sensitivities that were noted during the study of the site and therefore assumed it an appropriate piece of land for the proposed activity.*

(e) Please describe the uncertainties.

The project proposal for the proposed sports facility has not yet reached the design phase. Thus any information relating to this cannot be confirmed as yet. However, zoning restrictions will be taken into account during the design phase as per the applicable zoning scheme for the area.

It is uncertain whether the recommended mitigation measures will be implemented, monitored and managed correctly. The management and implementation of these mitigation measures must be monitored and managed correctly to ensure that all positive impacts identified are enhanced and negative impacts mitigated.

It is uncertain whether the recommended mitigation measures will be implemented, monitored and managed correctly. The management and implementation of these mitigation measures must be monitored and managed correctly to ensure that all positive impacts identified are enhanced and negative impacts mitigated.

SECTION H: RECOMMENDATION OF THE EAP

In my view (EAP), the information contained in this application form and the documentation attached hereto is sufficient to make a decision in respect of the activity applied for.	YES✓	NO
If "NO", list the aspects that should be further assessed through additional specialist input/assessment or whether this application must be subjected to a Scoping & EIR process before a decision can be made:		
<i>Not applicable</i>		
If "YES", please indicate below whether in your opinion the activity should or should not be authorised:		
Activity should be authorised:	YES✓	NO
Please provide reasons for your opinion		
<ul style="list-style-type: none"> ❖ <i>It will contribute towards providing much needed infrastructural facilities in the area. Furthermore, the development is not likely to result in significant negative impacts as the site is already a disturbed piece of land.</i> ❖ <i>As portions of the site are located in a sensitive natural environment, the preferred Alternative 3 would not result in unacceptable negative impacts on the biophysical and socioeconomic environment. The preferred Alternative thus includes all key mitigatory measures in order to lower the overall biophysical and socioeconomic impacts of the project to an acceptable significance level.</i> ❖ <i>The site is located in an area earmarked for stormwater detention ponds and the proposal is to undertake activities that blend with the area.</i> ❖ <i>From a heritage point of view, both the subject property and the context are without any identified cultural significance.</i> ❖ <i>The site has no viable alternative land use type and the impact assessment does not identify any overarching negative impacts that should prevent the application from being authorised.</i> 		
If you are of the opinion that the activity should be authorised, then please provide any conditions, including mitigation measures that should in your view be considered for inclusion in an authorisation.		
<p><i>This section identifies the recommended mitigation measures for the proposed project. These mitigation measures are all considered to be feasible.</i></p> <p><i>General recommendations:</i></p> <ul style="list-style-type: none"> ❖ <i>An Environmental Management Plan (EMP) must be kept at the site for the duration of the construction and operation phases of the project.</i> ❖ <i>The EMP must be included in the tender document and in all contract documentation for all phases of implementation.</i> ❖ <i>The Applicant must ensure compliance with the EMP and appointment of an ECO during the construction phase.</i> <p><i>Specific recommendations:</i></p> <p><i>Employment:</i></p> <ul style="list-style-type: none"> ❖ <i>Without compromising construction activities and schedules, local BEE service providers and local labour from the surrounding community should be employed as far as possible.</i> ❖ <i>Those successful in obtaining employment should be provided with the appropriate training.</i> <p><i>Noise:</i></p> <ul style="list-style-type: none"> ❖ <i>The Contractor shall be familiar with and adhere to any regulations and by-laws regarding the generation of noise and hours of operation.</i> 		

- ❖ *Working hours as specified in the EMP must be adhered to. Avoid construction activities outside of “normal working hours”.*
- ❖ *The provisions of SABS 1200A Sub clause 4.1 regarding “built-up areas” shall apply to all areas within audible distance of residents.*

Dust:

- ❖ *The Contractor shall ensure that exposed soil and material stockpiles are adequately protected against the wind.*
- ❖ *The Contractor must ensure that the generation of dust is minimised by implementing a dust control programmes.*

Visual Impacts:

- ❖ *Visual screening with shade cloth and fencing if need be.*
- ❖ *Building Aesthetics should be observed when designing building structures so as to compliment and visually enhance the surrounding area.*

Heritage Impacts:

It was recommended that if any heritage resources, including graves or human remains, are encountered they must be immediately reported to the provincial Heritage Resources Authority of the Western Cape.

Duration and Validity:

Environmental authorisations are usually granted for a period of three years from the date of issue. Should a longer period be required, the applicant/EAP is requested to provide a detailed motivation on what the period of validity should be.

3 Years

SECTION I: APPENDICES

The following appendices must be attached to this report:

Appendix		Tick the box if Appendix is attached
Appendix A:	Locality map	√
Appendix B:	Site plan(s)	√
Appendix C:	Photographs	√
Appendix D:	Biodiversity overlay map	√
Appendix E:	Permit(s) / license(s) from any other organ of state including service letters from the municipality	Not required
Appendix F:	Public participation information: including a copy of the register of interested and affected parties, the comments and responses report, proof of notices, advertisements and any other public participation information as required in Section C above. F1: I&AP project database F2: Site notices F3: Newspaper advertisement F4: Notification letters to I&APs	√
Appendix G:	Specialist Report(s) G1: Wetland Assessment Report G2: Botanical Baseline Survey	√
Appendix H :	Environmental Management Programme	√
Appendix I:	Application Form	√
Appendix J:	Any Other (if applicable) (describe)	

DECLARATIONS

THE APPLICANT

I, in my personal capacity or duly authorised (please circle the applicable option) by thereto hereby declare that I:

- regard the information contained in this report to be true and correct, and
- am fully aware of my responsibilities in terms of the National Environmental Management Act of 1998 ("NEMA") (Act No. 107 of 1998), the Environmental Impact Assessment Regulations ("EIA Regulations") in terms of NEMA (Government Notice No. R. 543 refers), and the relevant specific environmental management Act, and that failure to comply with these requirements may constitute an offence in terms of the environmental legislation;
- appointed the environmental assessment practitioner as indicated above, which meet all the requirements in terms of regulation 17 of GN No. R. 543, to act as the independent environmental assessment practitioner for this application;
- have provided the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the environmental legislation including but not limited to –
 - costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
 - costs incurred in respect of the undertaking of any process required in terms of the regulations;
 - costs in respect of any fee prescribed by the Minister or MEC in respect of the regulations;
 - costs in respect of specialist reviews, if the competent authority decides to recover costs; and
 - the provision of security to ensure compliance with the applicable management and mitigation measures;
- am responsible for complying with the conditions that might be attached to any decision(s) issued by the competent authority;
- have the ability to implement the applicable management, mitigation and monitoring measures;
- hereby indemnify, the government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of, inter alia, the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Please Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the applicant:

Name of company:

Date:

THE INDEPENDENT ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

I ... *Justin Gichobi* ..., as the appointed independent environmental practitioner ("EAP") hereby declare that I:

- act/ed as the independent EAP in this application;
- regard the information contained in this report to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the application was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- have ensured that the comments of all interested and affected parties were considered, recorded and submitted to the competent authority in respect of the application;
- have kept a register of all interested and affected parties that participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Note: The terms of reference must be attached.

Signature of the environmental assessment practitioner:

Frontline Safety Health & Environmental Consultants

Name of company:

19 February 2014

Date:

THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I, as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Note: The terms of reference must be attached.

Signature of the specialist:

Name of company:

Date:

THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I, as the appointed independent specialist hereby declare that I:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Note: The terms of reference must be attached.

Signature of the specialist:

Name of company:

Date: