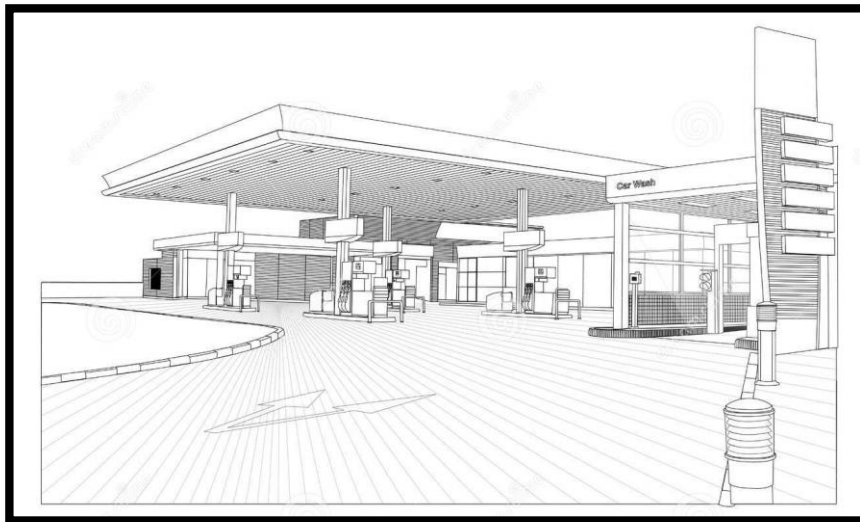


## DRAFT BASIC ASSESSMENT REPORT

# REMBRANDT PARK EXTENSION 5 FILLING STATION

**ERVEN 371 AND 372 REMBRANDT PARK EXTENSION 5 TOWNSHIP  
CITY OF JOHANNESBURG METROPOLITAN MUNICIPALITY**

**GAUT 002/20-21/E2634**



Prepared for:

**FILLING STATION AT REMBRANDT PARK (PTY) LTD**

**AUGUST 2020**

<b>SECTION A: ACTIVITY INFORMATION</b>	<b>6</b>
1. ACTIVITY DESCRIPTION	6
2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES	6
3. ALTERNATIVES	9
4. PHYSICAL SIZE OF THE ACTIVITY	9
5. SITE ACCESS	9
6. SITE OR ROUTE PLAN	9
7. SITE PHOTOGRAPHS	10
8. FACILITY ILLUSTRATION	10
<b>SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT</b>	<b>11</b>
1. PROPERTY DESCRIPTION	11
2. ACTIVITY POSITION	11
3. GRADIENT OF THE SITE	11
4. LOCATION IN LANDSCAPE	11
5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE	11
6. AGRICULTURE	12
7. GROUNDCOVER	12
8. LAND USE CHARACTER OF SURROUNDING AREA	13
9. SOCIO-ECONOMIC CONTEXT	14
10. CULTURAL/HISTORICAL FEATURES	15
<b>SECTION C: PUBLIC PARTICIPATION</b>	<b>17</b>
1. ADVERTISEMENT	17
2. LOCAL AUTHORITY PARTICIPATION	17
3. CONSULTATION WITH OTHER STAKEHOLDERS	17
4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS	17
5. APPENDICES FOR PUBLIC PARTICIPATION	17
<b>SECTION D: RESOURCE USE AND PROCESS DETAILS</b>	<b>18</b>
1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT	18
2. WATER USE	19
3. POWER SUPPLY	19
4. ENERGY EFFICIENCY	19
<b>SECTION E: IMPACT ASSESSMENT</b>	<b>20</b>
1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES	20
2. IMPACTS RESULTING FROM THE CONSTRUCTION AND OPERATIONAL PHASE	20
3. IMPACTS RESULTING FROM THE DECOMMISSIONING AND CLOSURE PHASE	30
4. CUMULATIVE IMPACTS	32
5. ENVIRONMENTAL IMPACT STATEMENT	33
6. IMPACT SUMMARY OF PREFERRED PROPOSAL	33
7. SPATIAL DEVELOPMENT TOOLS	34
8. RECOMMENDATION OF THE PRACTITIONER	34
9. THE NEEDS AND DESIRABILITY OF THE PROPOSED DEVELOPMENT	36
10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED	37
11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)	37

**SECTION F: APPENDIXES****38****Appendix A: Site plan and layout**

- A<sub>1</sub> Locality map
- A<sub>2</sub> Layout plan
- A<sub>3</sub> Access Roads

**Appendix B: Photographs****Appendix C: Facility illustration(s)****Appendix D: Route position information****Appendix E: Public participation information**

- E<sub>1</sub>: Proof of Site Notices
- E<sub>2</sub>: Written Notices Issued
- E<sub>3</sub>: Newspaper Advert
- E<sub>4</sub>: Communication with I&APs
- E<sub>5</sub>: Minutes of Meetings
- E<sub>6</sub>: Comments and Issues Report
- E<sub>7</sub>: Comments from I&APs on BAR
- E<sub>8</sub>: Comments from I&APs on amended BAR
- E<sub>9</sub>: Copy of Register of I&APs

**Appendix F: Authorities information including authorisations****Appendix G: Specialist reports**

- G<sub>1</sub>: Feasibility Study
- G<sub>2</sub>: Traffic Impact Study
- G<sub>3</sub>: Services Provision Report- Water, Sanitation and Electrical
- G<sub>4</sub>: Services Provision Details Report- Roads and Storm Water
- G<sub>5</sub>: Motivating Memorandum

**Appendix H: Draft EMPr****Appendix I: Other information**



## **Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1)**

---

### Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
3. **A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.**
4. **A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.**
5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
6. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
8. An incomplete report may lead to an application for environmental authorisation being refused.
9. **Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.**
10. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation being refused.
11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

---

### **DEPARTMENTAL DETAILS**

Gauteng Department of Agriculture and Rural Development  
 Attention: Administrative Unit of the of the Environmental Affairs Branch  
 P.O. Box 8769  
 Johannesburg  
 2000

Administrative Unit of the of the Environmental Affairs Branch  
 Ground floor Diamond Building  
 11 Diagonal Street, Johannesburg

Administrative Unit telephone number: (011) 240 3377

Department central telephone number: (011) 240 2500

---

(For official use only)

<b>NEAS Reference Number:</b>						
<b>File Reference Number:</b>						
<b>Application Number:</b>						
<b>Date Received:</b>						

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

N/A

Is a closure plan applicable for this application and has it been included in this report?  NO

if not, state reasons for not including the closure plan.

Although there is no decommission envisaged for this development an assessment has been provided for decommissioning. Further, should decommissioning take place, it is anticipated that the requirements of applicable Regulations will need to be complied with.

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity?  YES

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person?  YES

If no, state reasons for not attaching the list.

Have State Departments including the competent authority commented?  NO

If no, why?

Public participation is currently being conducted. The draft BAR has been submitted to relevant departments for comment

# SECTION A: ACTIVITY INFORMATION

## 1. PROPOSAL OR DEVELOPMENT DESCRIPTION

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

The development of the Rembrandt Park Filling Station to be known as Rembrandt Park Extension 5.

Select the appropriate box

The application is for an upgrade  
of an existing development

The application is for a new  
development

Other, specify

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

YES NO

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

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

YES NO

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

YES NO

## 2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National & Provincial	27 November 1998
The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	National & Provincial	06 March 2008
The National Water Act, 1998 (Act No. 36 of 1998)	National Department of Water and Sanitation	26 August 1998
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (NEM: AQA)	National & Provincial	24 February 2005
National Heritage Resources Act, 1999 (Act No. 45 of 1965 (NHRA)	National & Provincial	April 1999
Occupational Health and Safety Act (No 85 of 1993)	National Department of Labour	23 June 1993
EIA Regulations GN 983 (Listing Notice 1 and Listing Notice 3)	National and Provincial	8 December 2014
Gauteng Provincial Environmental Management Framework	Provincial	May 2015
Red List Plant Species Guidelines	Provincial	26 June 2006
Gauteng Noise Control Regulations, 1999	Provincial	1999
The Spatial Development Framework, 2040 (SDF)	City of Johannesburg	2016/2017
Johannesburg Open Space Management Framework	City of Johannesburg	2002
City of Joburg Biodiversity Strategy and Action Plan 2015	City of Johannesburg	2009

**Description of compliance with the relevant legislation, policy or guideline:**

Legislation, policy or guideline	Description of compliance
National Environmental Management Act No. 107 of 1998 (NEMA)	The National Environmental Management Act (Act No. 107 of 1998) (NEMA) is the overarching framework for environmental legislation as well as the Regulations for Environmental Impact Assessment. It sets out the principles that serve as a general framework for environmental planning, as guidelines by reference to which organs of state must exercise their functions and guide other laws concerned with the protection or management of the environment. The application takes into account the environmental and socio-economic conditions in compliance with the NEMA principles.
The National Environmental Management: Biodiversity Act (Act 10 of 2004)	The Act provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA. Areas of high biodiversity need to be protected. The site has no important biodiversity features. Should any protected species be found on site, these will be managed in consultation with GDARD.
The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	No waste management license would be required for the construction or operational phases of the proposed activity. Only a limited amount of solid construction waste will be stored and handled on the site, before being hauled away and deposited at the nearest registered landfill site.
The National Water Act, 1998 (Act No. 36 of 1998)	The Act provides for the management of South Africa's water resources. It aims to ensure that the Republic's water resources are protected, used, developed, conserved and controlled. According to the Act, any proposed water uses must be specified and registered and/or licensed. Similarly, any modifications to drainage lines on site must be investigated in terms of water use requirements. The proposed development will not require any water licenses or permits
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (NEM: AQA)	During the construction phase, dust and the generation of noise can become a significant factor, especially to the surrounding landowners. However, if the development is well planned and the mitigating measures proposed in the EMPr are successfully implemented the proposed development's contribution to air pollution and the generation of air pollution can become less significant
National Heritage Resources Act, 1999 (Act No. 45 of 1999) (NHRA)	The Act aims to promote the good management of the national heritage resources. According to the Act the South African Heritage Resources Agency (SAHRA) must be notified during the early planning phases of a project for any development that meet certain criteria. The Agency has been notified as required. Any artefacts uncovered during the construction phase will be reported to SAHRA as provided for in the EMPr.
Occupational Health and Safety Act (No 85 of 1993)	The Act provides for the health and safety of persons at work and for the health and safety of persons in connection with the use of machinery; the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work. The EMPr provides for measures to ensure that objectives of the Act are met on this site.
EIA Regulations GN 983 (Listing Notice 1)	The proposed development constitutes an activity listed under GN R. 983 and GN R.985 and therefore a Basic Assessment Report process is being followed to obtain authorization from the GDARD.

Legislation, policy of guideline	Description of compliance
Gauteng Provincial Environmental Management Framework	<p>The aim of the EMF is to guide the protection and enhancement of environmental assets and natural resources along with development patterns to ensure sustainable environmental management and development patterns within and around the Gauteng Province.</p> <p>The development site is located in Zone 1 of the EMF which aims to promote development infill, densification and concentration of urban development within the urban development zones as defined in the Gauteng Spatial Development Framework (GSDF). The proposed development is aligned with and is fully supportive of the objectives of the EMF.</p>
Red List Plant Species Guidelines	<p>The purpose of the guidelines is to promote the conservation of Red List Plant Species in Gauteng, which are species that face risk of extinction in the wild. By protecting Red List Plant Species, conservation of diverse landscapes is promoted which forms part of the overall environmental preservation of diverse ecosystems, habitats, communities, populations, species and genes in Gauteng.</p> <p>No red data species were encountered on site during the ecological study.</p>
Gauteng Noise Control Regulations, 1999	<p>During the construction phase the impact of noise could be problematic, but such impacts are generally short term. One should note that practical mitigation measures for noise pollution are low, but certain measures can be implemented to mitigate the severity. These measures have been provided for in the EMPr</p>
The Spatial Development Framework, 2040 (SDF)	<p>The application site is located within a Consolidation Zone in terms of the SDF, 2040. "These areas are viewed as a focus of urban consolidation, infrastructure maintenance, controlled growth, urban management, addressing backlogs (in social and hard infrastructure) and structural positioning for medium to longer term growth.</p>
Regional Spatial Development Framework (RSDF) 2010/2011	<p>The site is located within Region A, Sub Area 2 and falls within the Kaya Sands Development Framework-area.</p> <p>The property is located in an area earmarked for medium density residential development as indicated by the following extract from the Kaya Sands Development Framework. Due to the residential opportunities associated with various developments in the area and as proposed by the RSDF, the need has been created for the development of additional supporting amenities/facilities such as a filling station.</p>
Johannesburg Open Space Management Framework	<p>The framework seeks to ensure inter-connected and managed network of open spaces supporting interactions between social, economic and ecological activities, sustaining and enhancing both ecological processes and human settlements within the city.</p> <p>The development of land taking into consideration the sensitive features is supportive of the objectives of the framework.</p>
City of Joburg Biodiversity Strategy and Action Plan 2015, 2009	<p>The Strategy and Action Plan articulates actions through which to implement the vision, strategic objectives and actions necessary for the conservation, protection, use and development of biodiversity. It constitutes a tool to deliver continuing action for biodiversity stewardship. Should any protected plants be found on site, these will be managed in consultation with GDARD.</p>



### 3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

**Note:** After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Please describe the process followed to reach (decide on) the list of alternatives below

It is important to note that the proposed development is being initiated by the owners of the affected land. Therefore, consideration of alternatives took into account that the land had already been earmarked for the proposed development. In terms of the alternatives, the process focused on the choice of uses, location of various components of the development on site as well as the requirements of authorities relative to siting of buildings, access to the site, and layout alternatives.

Therefore, in reaching the alternatives, the process involved the following:

- Consideration of suitability and desirability of the site for the intended use;
- Consideration of ecological and social implications of the proposed development;
- Consideration on the economic impact on other similar developments in the vicinity of the site; and
- Consideration of the layout of development informed by authorities' requirements.

The establishment of a filling station on the site will provide the required services in the area. This service will be for the convenience of the current and future residents and passing traffic as the site is within an area marked for development.

No alternative locations were considered. However, proximity to and easy and immediate access to a major collector road made the site ideal location of the filling station. Further, although design and technological alternatives are relevant, these alternatives have not been assessed at this stage as the best technology and designs will be decided upon closer to construction time. These will also include energy and water efficiency measures.

Provide a description of the alternatives considered

No.	Alternative type	Description
1	Preferred Alternative	<p>Development and operation of a filling station with a capacity of less than 500 cubic metres and associated infrastructure. The associated uses will include:</p> <ul style="list-style-type: none"> <li>• Underground tanks/tank farm (93 Unleaded, 95 Unleaded and diesel);</li> <li>• Pump island (above-ground fuel pumps and hose dispensers);</li> <li>• Associated pump and tank infrastructure (e.g. delivery pipes, fillers, suction pumps, etc.);</li> <li>• Canopy covered forecourt with refuelling bays;</li> <li>• Convenience store (including fast food outlet) of <math>\pm 200\text{m}^2</math>;</li> <li>• ATM;</li> <li>• Car parking;</li> <li>• Delivery parking areas;</li> <li>• Ablution facilities;</li> <li>• Access roads;</li> <li>• Stormwater management system;</li> <li>• UPS;</li> <li>• Landscaped area.</li> </ul>

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

The site is owned by the applicants. Therefore, no alternative locations were considered. Given the location of the site, its ownership, accessibility and the fact that the site was acquired by the applicant for the purpose, only the layout and configurations of the development were considered.

Given the shape of the affected land, the position of access/egress to the site and the need to provide access road to the adjacent land uses, the final layout as shown was opted for.

Other alternatives such as technology options would be considered closer to construction stage. In terms of energy, the lighting of the filling station will include energy efficient lighting.

From the above, the activity is considered well suited for this area.

**4. PHYSICAL SIZE OF THE ACTIVITY**

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

Proposed activity	<b>Size of the activity:</b>
	<input style="width: 100%;" type="text" value="0.5841 Ha"/>
<b>Alternatives:</b>	
Alternative 1 (if any)	<input style="width: 100%;" type="text"/>
	Ha/ m <sup>2</sup>

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

Proposed activity	<b>Size of the site/servitude:</b>
	<input style="width: 100%;" type="text" value="0.5841 Ha"/>
<b>Alternatives:</b>	
Alternative 1 (if any)	<input style="width: 100%;" type="text"/>

**5. SITE ACCESS**

Does ready access to the site exist, or is access directly from an existing road?	<b>YES</b>	<b>NO</b>	
If NO, what is the distance over which a new access road will be built	<input style="width: 100%;" type="text" value="m"/>		

Describe the type of access road planned:

Access to the filling station is proposed from Route R25 in a westbound direction (marginal access) and from Jersey Street (full access).

Section A 6-8 has been duplicated  Number of times

**6. LAYOUT OR ROUTE PLAN**

A detailed site plan is attached as Appendix A. The plans indicate the following:

- o the layout plan is in colour and is overlaid with a sensitivity map;
- o layout plan is of A4 size as the activity has a development footprint of less than 5 hectares;
- The layout plan is at a scale of 1: 8000 (±10 000);
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites including:
  - o Rivers and wetlands;
  - o the 1:100 and 1:50 year flood line;
  - o areas with indigenous vegetation (even if it is degraded or infested with alien species);

**FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)**

- the scale of locality map must be at least 1:50 000;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads

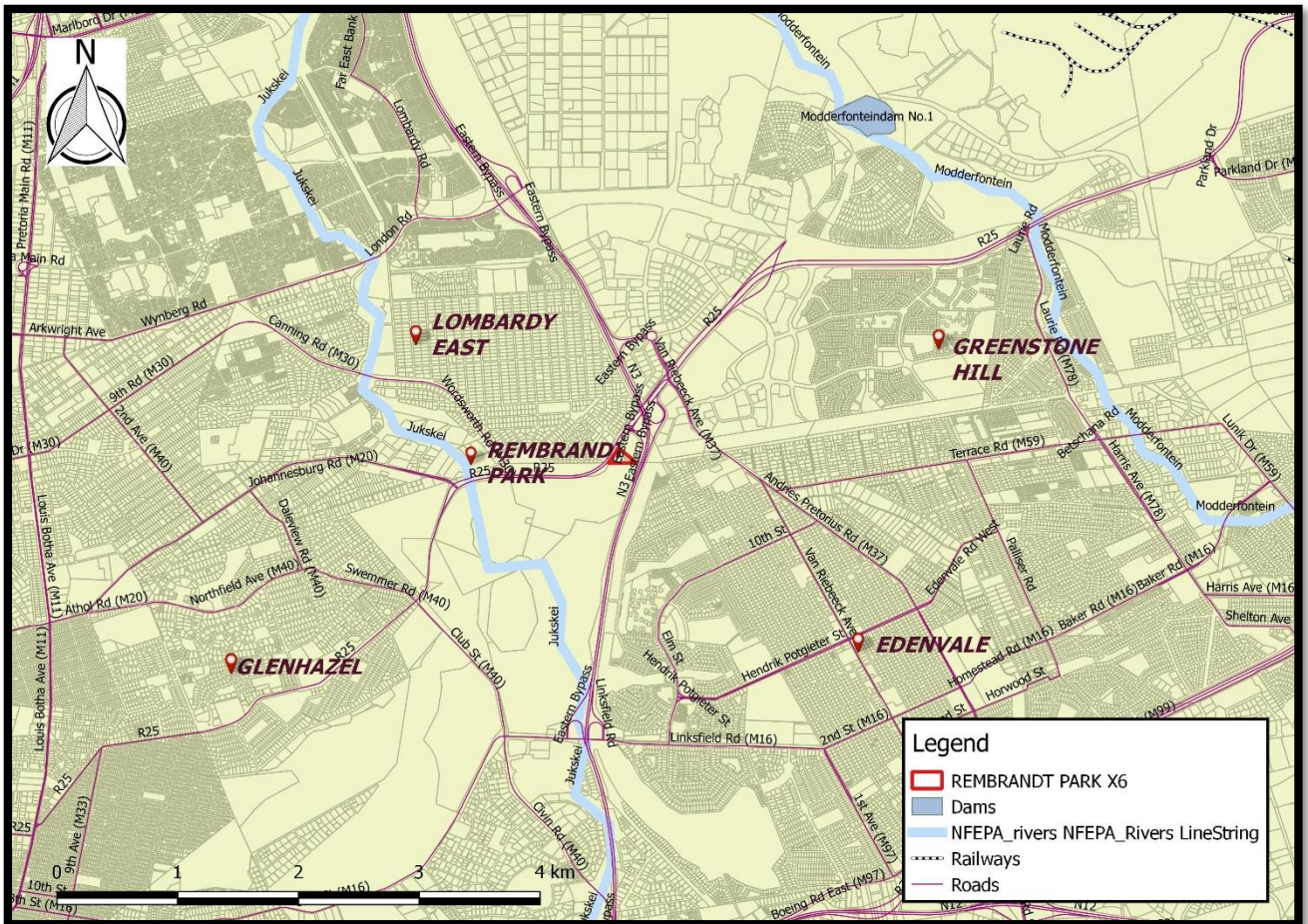


Figure 1: Locality Map

**7. SITE PHOTOGRAPHS**

Colour photographs are attached under **Appendix B**

**8. FACILITY ILLUSTRATION**

A detailed illustration of the activity is attached in **Appendix C**

# SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

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

**Instructions for completion of Section B for linear activities**

- 1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
- 2) Indicate on a plan(s) the different environments identified
- 3) Complete Section B for each of the above areas identified
- 4) Attach to this form in a chronological order
- 5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route  times

**Instructions for completion of Section B for location/route alternatives**

- 1) For each location/route alternative identified the entire Section B needs to be completed
- 2) Each alternative location/route needs to be clearly indicated at the top of the next page
- 3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives  times

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

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

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

Section B - Section of Route

N/A	(complete only when appropriate for above)
-----	--

Section B – Location/route Alternative No.

0	(complete only when appropriate for above)
---	--

## 1. PROPERTY DESCRIPTION

**Property description:**  
(Including Physical Address and Farm name, portion)

Erven 371 and 372, Rembrandt Park Extension 5. Located to the south-west of the M25/N3 intersection. Rembrandt Park, City of Johannesburg Metropolitan Municipality

## 2. ACTIVITY POSITION

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

**Alternative:**

<b>Latitude (S):</b>	<b>Longitude (E):</b>
-26.126126°	28.255753°

**In the case of linear activities:**

**Alternative:**

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

<b>Latitude (S):</b>	<b>Longitude (E):</b>
°	°
°	°
°	°

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

Addendum of route alternatives attached

The 21 digit Surveyor General code of each cadastral land parcel

<b>PROPOSAL</b>	T	0	I	R	0	5	4	7	0	0	0	0	3	7	1	0	0	0	0	0
	T	0	I	R	0	5	4	7	0	0	0	0	3	7	2	0	0	0	0	0

## 3. GRADIENT OF THE SITE

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

## 4. LOCATION IN LANDSCAPE

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

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

## 5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

Shallow water table (less than 1.5m deep)

Dolomite, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)

YES	NO
YES	NO
YES	NO

Unstable rocky slopes or steep slopes with loose soil  
Dispersive soils (soils that dissolve in water)

Soils with high clay content (clay fraction more than 40%)  
Any other unstable soil or geological feature  
An area sensitive to erosion

YES	NO
YES	NO
YES	NO
YES	NO
YES	NO

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

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

YES	NO
-----	----

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

Latitude (S):  Longitude (E):

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

YES	NO
-----	----

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

Latitude (S):  Longitude (E):

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

YES	NO
-----	----

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

Latitude (S):  Longitude (E):

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

**6. AGRICULTURE**

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas?

YES	NO
-----	----

**7. GROUNDCOVER**

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

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

Natural veld - good condition % =	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % = 5
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % = 7	Building or other structure % = 80	Bare soil % = 8

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



Figure 2: C-Plan Area, River buffers, Threatened vegetation

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

YES	NO
-----	----

If YES, specify and explain:

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

YES	NO
-----	----

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

YES	NO
-----	----

If YES, specify and explain:

Although part of the site is classified as having Egoli Granite Grassland, the site has undergone major transformation as it is transformed with residential building structures and the access road to the E-toll offices

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

If yes complete specialist details

Name of the specialist:

Qualification(s) of the specialist:

Postal address:

Postal code:

Telephone:  Cell:

E-mail:  Fax:

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

If YES, specify:

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

If YES list the specialist reports attached below

Signature of specialist: \_\_\_\_\_ Date:

Name of the specialist:

Qualification(s) of the specialist:

Postal address:

Postal code:

Telephone:  Cell:

E-mail:  Fax:

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

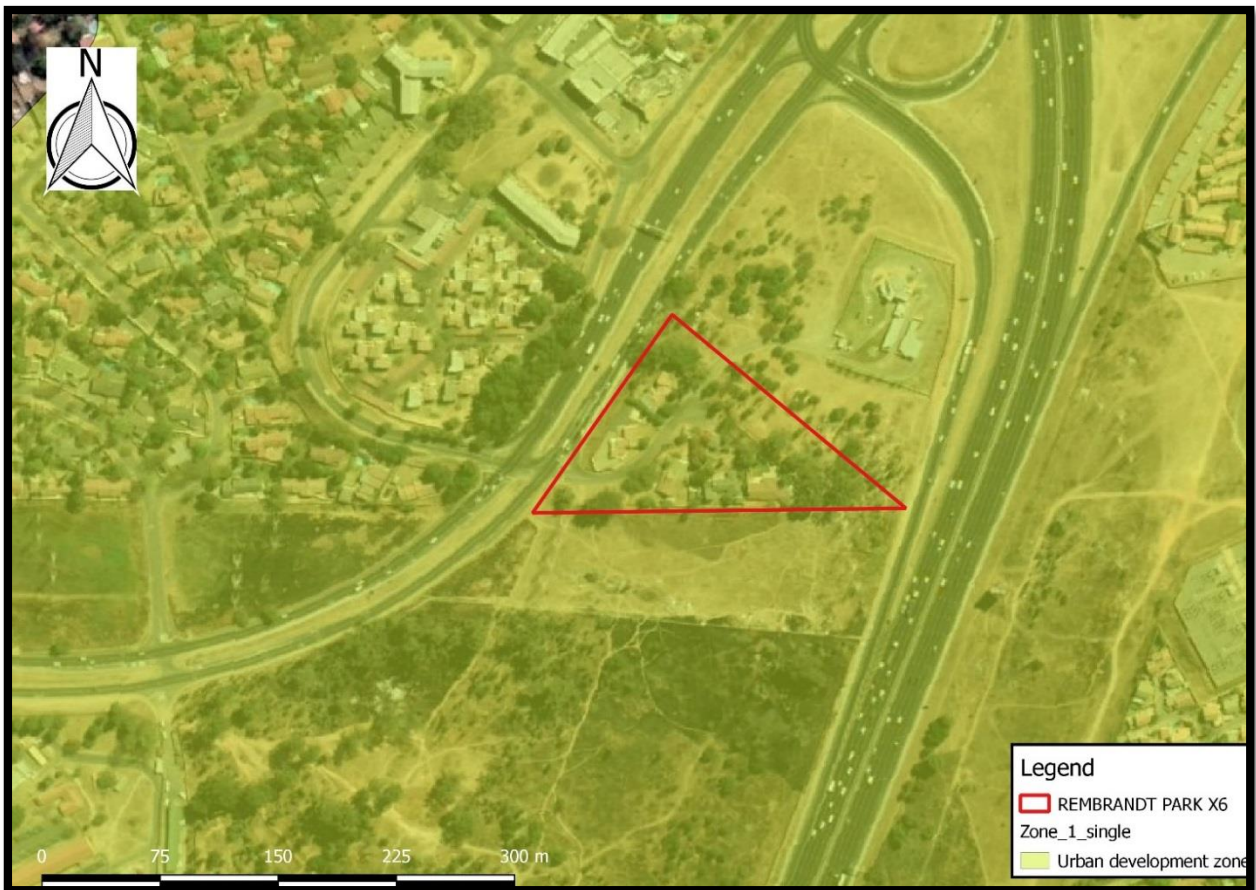
If YES, specify:

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

If YES list the specialist reports attached below

Signature of specialist: \_\_\_\_\_ Date:

**8. LAND USE CHARACTER OF SURROUNDING AREA**



**Figure 3: The site is situated in an area classified Zone 1: urban development zone according to the Gauteng EMF**

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

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

<b>NORTH</b>					
<b>WEST</b>	1,8,9	8	1	9,14	14
	1,8	8,9	1,13	1,9,13,25	9,14
	1,8,9	8	<b>SITE</b>	1,8,9,25	1,8,9
	1,8,9	1,8,13	1,25	1,8,9,25	8,9
	1,9	1	1,25	1,25	89
<b>SOUTH</b>					

**Note:** More than one (1) Land-use may be indicated in a block  
**Please note:** The Department may request specialist input/studies depending on the nature of

the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an <sup>A</sup> and with an <sup>N</sup> respectively.

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

<b>YES</b>	<b>NO</b>
------------	-----------

- Fuel Viability Study
- Access Investigation Report
- Geohydrological Assessment
- HIA

**9. SOCIO-ECONOMIC CONTEXT**

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

The site lies in an area that is currently developed. Most of which is residential dwellings and some commercial uses. Further, the site feeds into the approved Linksfild development to be developed into a commercial, business and residential hub.

The e-toll offices are located to the north-east of the site along with vacant land, west of the site is Rembrandt Park which is mainly a residential area. The national route N3 is situated approximately 0.2 kilometres to the east of the proposed site. The major retail Greenstone Shopping Centre is located less than 1 km northeast of the site.

**Impact of proposed filling station on competitor sites (based on Viability Study)**

According to the Fuel Viability study; fifteen (15) filling stations, including the benchmark sites, are located within a radius of 3km from the application site. The application site is expected to capture on average less than 4.5% of the monthly fuel sales of the existing sites in the study area.

Based on the distribution of traffic in the area, the location of accesses, the shared traffic between filling stations, and the current fuel sale parameters of the existing benchmark filling stations in the area, it is technically possible to calculate the expected impact of a new filling station on existing filling stations.

This calculation assumes “all things are equal” i.e. all filling stations are modern facilities that offer the same quality of service which is a reasonable assumption for free markets conditions. The expected impact of the application site on the benchmark sites in terms of reduced fuel sales, were based on the following

- Any filling station generally serves only a proportion of the total bypassing traffic market;
- The number of filling stations required to serve any traffic market in full can be calculated mathematically with the existing interception rates at that site. For example, it can be shown that on average about 5.7 filling stations are required to serve one traffic stream fully assuming an average interception rate of 3.5% and an average fill of 25 litres;
- An additional filling station; i.e. the number of filling stations increase to 6.7 (5.7 + 1) in the same market, will reduce the interception rate of the existing site to 3.0% which translates into a reduction of 17.5% in the current fuel sales;
- However, if the same traffic market is not shared between filling stations based on inflows and outflows between filling stations, the reduction in interception rates are only applicable to the proportion of the traffic market that is shared between the existing site and the application site;
- For argument sake the reduction of 17.5% in fuel sales will decrease to only 8.75% if only 50% of the traffic market is shared;

Given that all the parameters and the shared traffic markets are known (were surveyed) for the benchmark sites, it was calculated that the application site will capture at most 4.4% of the monthly fuel sales of the SHELL site and at most 3.3% of the monthly fuel sales of the ENGEN site.

The application site is therefore expected to capture at most about ±4.1% of the monthly fuel sales of the existing filling stations in the area. This modest impact will not threaten the viability of the existing filling stations in the area.

**Viability of the proposed filling station**

According to the Viability Study which assumed a traffic growth rate of 2.0% p.a. in background traffic for the future based on the average traffic growth in the area, the average fuel sales of the proposed filling station are estimated at ±481,200 litres/month in the expected opening year (2021). A 10% margin of error applies based on the extent and quality of available data. Fuel sales between ±433,100 litres/month (pessimistic scenario) and ±529,300 litres/month (optimistic scenario) can thus be expected at the proposed filling station. The fuel sales are expected to increase in line with the traffic in the area.

**10. CULTURAL/HISTORICAL FEATURES**

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

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-
- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
  - (b) the construction of a bridge or similar structure exceeding 50m in length;
  - (c) any development or other activity which will change the character of a site-
    - (i) exceeding 5 000 m2 in extent; or
    - (ii) involving three or more existing erven or subdivisions thereof; or
    - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
    - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
  - (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
  - (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

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

YES	NO
-----	----

If YES, explain:

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

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



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

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

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

YES	NO
YES	<b>NO</b>

## SECTION C: PUBLIC PARTICIPATION (SECTION 41)

The public participation process is currently being conducted in accordance with the requirements of the EIA Regulations, 2014.

### 2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application. The City of Johannesburg Metropolitan Municipality will be notified and provided with the Draft Basic Assessment Report for comment as provided for in the Regulations.

Was the draft report submitted to the local authority for comment?

YES	NO
-----	----

If yes, has any comments been received from the local authority?

YES	NO
-----	----

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

N/A

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

The local authority has been notified of the proposed activity, comments will be collated and responded to at the end of the public participation process.

### 3. CONSULTATION WITH OTHER STAKEHOLDERS

Stakeholders that have direct interest in the activity, site or property; such as servitude holders and service providers, will be informed of the application and provided with the opportunity to comment on the Draft BAR.

Has any comment been received from stakeholders?

YES	NO
-----	----

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

N/A

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

Stakeholders have been notified of the proposed activity, comments will be collated and responded to at the end of the public participation process.

### 4. PUBLIC PARTICIPATION REQUIREMENTS

The public participation process is being undertaken in accordance with the requirements of the regulations. The process entails erecting site notices, supplying information to adjacent landowners/occupiers and notification of the councillor for the area and well as being advertised in a national newspaper.

Comments received will be recorded and responded to. The comments and responses will be captured in the Comments and Responses Report which will be attached to the final BAR report

### 5. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of site notice

Appendix 2 – Written notices issued as required in terms of the regulations

Appendix 3 – Proof of newspaper advertisements

Appendix 4 – Communications to and from interested and affected parties

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report

Appendix 8 –Comments from I&APs on amendments to the BA Report

Appendix 9 – Copy of the register of I&APs

# SECTION D: RESOURCE USE AND PROCESS DETAILS

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

## Instructions for completion of Section D for alternatives

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

Section D has been duplicated for alternatives  Times

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

## 1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

### Solid waste management

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

YES	NO
-----	----

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

55m <sup>3</sup>
------------------

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

Construction waste will comprise mainly of excess spoil material from excavation and trenching activities, vegetation, construction material, general waste from site personnel, paints and solvents and wastewater and sewage.

- **Spoil material** will be reused where possible while excess spoil will be disposed of off-site. Spoil material will be hauled with tipper trucks to a pre-determined spoil site (usually excavated) identified by the contractor (off-site). On closing the spoil site, the area will be covered with a layer of topsoil and re-vegetated.
- **General waste** will be kept in bins within the construction site and will be collected and disposed of on a weekly basis or failing this will be disposed of into a skip and transported to the nearest landfill site. Further recyclable materials will be separated from unrecyclable materials and recycled.
- **Spent canisters** for paints and solvents will be the responsibility of the respective contractor and disposed of at a suitably licensed landfill site or recycled.

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

- Spoil material will be re-used as backfill material and excess will be disposed of at the nearest registered Municipal Dumping Site.
- General waste that is not recyclable will be disposed of at the nearest municipal landfill site;
- Hazardous waste (paint) will be disposed of at hazardous waste site.

Will the activity produce solid waste during its operational phase? 

YES	NO
-----	----

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

120' m <sup>3</sup>
---------------------

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

Solid waste will be collected and disposed of by the municipality

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

YES	NO
-----	----

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

The quantities of solid waste to be generated during the operation phase are not considered to be significant and would be within those expected to be generated from a site with the current site zoning.

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

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

YES	NO
-----	----

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

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

YES	NO
-----	----

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

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

- Spoil material will be reused where possible (backfill or erosion mitigation works).
- General waste should be sorted to remove the recyclable content.

### Liquid effluent (other than domestic sewage)

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

YES	NO
-----	----

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

m <sup>3</sup>
----------------

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

YES	NO
-----	----

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

YES	NO
-----	----

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

m <sup>3</sup>
----------------

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

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

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

YES	NO
-----	----

If yes, provide the particulars of the facility:

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

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

**Liquid effluent (domestic sewage)**

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

YES	NO
-----	----

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

Unknown m <sup>3</sup>
------------------------

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

	NO
--	----

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

YES	NO
-----	----

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

**Emissions into the atmosphere**

Will the activity release emissions into the atmosphere? 

YES	NO
-----	----

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

YES	NO
-----	----

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

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

During construction, there will be localized liberation of dust due to excavations and hauling of materials around the site. Localised exhaust emissions will also occur, however a significant increase in concentrations of hydrocarbons, nitrogen oxides and carbon monoxide is not anticipated. During the operation phase, there is likely to be localised petrol fumes in the immediate vicinity of the fuel pumps as is characteristic of a typical filling station.

**2. WATER USE**

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

<input type="checkbox"/> municipal	<input type="checkbox"/> Directly from water board	<input type="checkbox"/> groundwater	<input type="checkbox"/> river, stream, dam or lake	<input type="checkbox"/> other	<input type="checkbox"/> the activity will not use water
------------------------------------	--	--------------------------------------	---	--------------------------------	--

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: 

	litres
--	--------

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

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

YES	NO
-----	----

If yes, list the permits required

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

YES	NO
-----	----

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

YES	NO
-----	----

**3. POWER SUPPLY**

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

The filling station will be supplied with electricity by the City of Johannesburg Metropolitan Municipality.

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

N/A

**4. ENERGY EFFICIENCY**

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

Energy saving measures will be implemented during operation. Further energy saving measures could be included in the design of the filling station.

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

No alternative energy sources have been considered or built into the design of the facility yet. However, an UIPS will be installed at the site.

## SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4)(b)(i)).

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

Stakeholders will be notified of the proposed activity, comments will be collated and responded to at the end of the public participation process.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)

(A full response must be provided in the Comments and Response Report that must be attached to this report):

N/A

### 2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

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

The potential environmental impacts associated with the project were evaluated according to the nature, extent, duration, intensity, probability and significance rating of the impacts as explained below.

<ul style="list-style-type: none"> <li>• <b>Nature:</b> classification of whether the impact is positive or negative, direct or indirect.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Extent:</b> spatial scale of impact and classified as:           <ul style="list-style-type: none"> <li>○ Site: the impacted area is the whole or significant portion of the site.</li> <li>○ Local: Within a radius of 2 km of the construction site.</li> <li>○ Regional: the impacted area extends to the immediate, surrounding and neighbouring properties.</li> <li>○ National: the impact can be considered to be of national significance.</li> <li>○ International: impact has international ramifications.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Duration:</b> Indicates what the lifetime of the impact will be and is classified as:           <ul style="list-style-type: none"> <li>○ Short term: The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase.</li> <li>○ Medium term: The impact will last for the period of the construction phase, where after it will be entirely negated.</li> <li>○ Long term: The impact will continue or last for the entire operational life of the development but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory.</li> <li>○ Permanent: Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Intensity:</b> Describes whether an impact is destructive or benign;           <ul style="list-style-type: none"> <li>○ <b>Low:</b> Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.</li> <li>○ <b>Moderate:</b> Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way.</li> <li>○ <b>High:</b> Natural, cultural and social functions and processes are altered to extent that they temporarily cease.</li> <li>○ <b>Very High:</b> Natural, cultural and social functions and processes are altered to extent that they permanently cease.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Probability:</b> Describes the likelihood of an impact actually occurring:           <ul style="list-style-type: none"> <li>○ <b>Improbable:</b> Likelihood of the impact materialising is very low</li> <li>○ <b>Possible:</b> The impact may occur</li> <li>○ <b>Highly Probable:</b> Most likely that the impact will occur</li> <li>○ <b>Definite:</b> Impact will certainly occur</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Significance:</b> Based on the above criteria the significance of issues was determined. The total number of points scored for each impact indicates the level of significance of the impact, and is rated as:</li> </ul>

- **Low:** the impacts are less important.
  - **Medium:** the impacts are important and require attention; mitigation is required to reduce the negative impacts.
  - **High:** the impacts are of great importance. Mitigation is therefore crucial.
- **Cumulative:** In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.
  - **Mitigation:** Mitigation for significant issues is incorporated into the EMP.

**Criteria for the rating of impacts**

Criteria	Description			
<b>Extent</b>	<b>National</b> - The whole of South Africa	<b>Regional-</b> Provincial and parts of neighbouring provinces	<b>Local</b> - Within a radius of 2km of the site	<b>Site-</b> Confined to the construction site
<b>Duration</b>	<b>Permanent-</b> Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	<b>Long-term-</b> The impact will continue or last for the entire operational life of the development but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory	<b>Medium-term-</b> The impact will last for the period of the construction phase, where after it will be entirely negated	<b>Short-term-</b> The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase
<b>Intensity</b>	<b>Very High-</b> Natural, cultural and social functions and processes are altered to extent that they permanently cease	<b>High-</b> Natural, cultural and social functions and processes are altered to extent that they temporarily cease	<b>Moderate-</b> Affected environment is altered, but natural, cultural and social functions and processes continue	<b>Low-</b> Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected
<b>Probability</b>	<b>Definite-</b> Impact will certainly occur	<b>Highly Probable-</b> Most likely that the impact will occur	<b>Possible-</b> The impact may occur	<b>Improbable-</b> Likelihood of the impact materialising is very low
<b>Rating</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>

**Significance Rating of classified impacts**

Impact	Description
<b>Low</b>	An acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in either positive or negative medium to short term effects on the social and/or natural environment.
<b>Medium</b>	An important impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in either a positive or negative medium to long-term effect on the social and/or natural environment.
<b>High</b>	A serious impact, if not mitigated, may prevent the implementation of the project (if it is a negative impact). These impacts would be considered by society as constituting a major and

	usually a long-term change to the (natural &/or social) environment and result in severe effects or beneficial effects.
<b>Very high</b>	A very serious impact which, if negative, may be sufficient by itself to prevent implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigatable and usually result in very severe effects, or very beneficial effects
Status	Denotes the perceived effect of the impact on the affected area
Positive (+ve)	Beneficial impact
Negative (-ve)	Adverse impact
Negative impacts are shown with a (-) while positive ones are indicated as (+)	

Comparative potential impacts, their significance rating, proposed mitigation and significance rating after mitigation that are likely to occur as a result of the construction phase of the proposed development.

<b>Proposal: New filling station and associated infrastructure</b>				
<b>Potential impacts:</b>	<b>Significance rating of impacts</b>	<b>Proposed mitigation:</b>	<b>Significance rating after mitigation</b>	<b>Risk of the impact and mitigation not implemented</b>
<b>CONSTRUCTION PHASE</b>				
<b>Job opportunities</b> Creation of job opportunities during the construction phase	+ve	No mitigation required	+ve	
<b>Geology and soils:</b> - Destabilisation of surface geology as a result of excavations for the activity. - Potential erosion, degradation and loss of topsoil due to construction activities as well as stormwater runoff.		<ul style="list-style-type: none"> <li>- All site disturbances must be limited to the areas where structures will be constructed.</li> <li>- Excavated rocks and boulders to be used for erosion protection on site. Excess material from excavations together with construction rubble must be appropriately disposed of.</li> <li>- Suitable excavated material is to be stockpiled next to excavations for use as backfill. Areas to be backfilled must be cleared of all unsuitable material and debris.</li> <li>- Topsoil should only be exposed for minimal periods of time and adequately stockpiled to prevent loss through runoff. The soil is to be used during rehabilitation or within the site.</li> <li>- All stockpiles must be restricted to designated areas.</li> <li>- Areas susceptible to erosion must be protected by installing the necessary temporary and/or permanent drainage works to prevent surface water from being concentrated in streams.</li> <li>- Any tunnels or erosion channels developing during the construction period shall be backfilled and compacted.</li> <li>- Cleared areas to be effectively stabilised to prevent and control soil erosion.</li> </ul>		Low
<b>Ground and surface water contamination</b>		- A storm water plan must be available and used during all the phases of construction. This must include siltation ponds handling stormwater concentrations.		Low

		<ul style="list-style-type: none"> <li>- No uncontrolled discharges from the construction camp should be permitted.</li> <li>- All vehicles shall be properly maintained and serviced so that no oil leaks occur on site.</li> <li>- Any stockpiled soil and rock should have storm water management measures implemented.</li> <li>- Vehicles and machines on site must be maintained in good working order. Oil spillages to be prevented.</li> <li>- Spill trays must be provided for refuelling of plant vehicles</li> </ul>		
<p><b>Biodiversity (fauna and flora)</b></p> <ul style="list-style-type: none"> <li>- Habitat destruction and alteration will take place as a result of the excavations and construction activities.</li> <li>- Existing fauna could be harmed through construction activities.</li> </ul>		<ul style="list-style-type: none"> <li>- All temporary stockpile areas including litter and dumped material and rubble must be removed on completion of construction.</li> <li>- The Contractor must ensure that no faunal species are disturbed, trapped, hunted or killed during the construction phase. Fines must be imposed and immediate dismissal of any employee who is found attempting to snare or otherwise harms faunal species. All animals captured must be released in appropriate habitat away from the development.</li> <li>- Clearance of alien vegetation and ensuring that none is introduced during the construction phase must be undertaken.</li> </ul>		<b>Low</b>
<p><b>Air Quality:</b></p> <p>Construction activities have the potential to be sources of fugitive dust on site. These include:</p> <ul style="list-style-type: none"> <li>- Dust from access roads.</li> <li>- Dust from area cleared for construction.</li> <li>- Emissions from construction machinery and equipment.</li> <li>- Material blown off from trucks transporting spoil and fill material.</li> </ul>		<ul style="list-style-type: none"> <li>- Dust suppression measures must be implemented on access roads and working areas during dry periods. Water used for this purpose must be in quantities that do not result in the generation of run-off.</li> <li>- Adherence to speed limits on site roads to prevent the liberation of dust into the atmosphere must be enforced</li> <li>- All site workers will need to wear the appropriate PPE</li> <li>- Transported material that can be blown-off as dust must be covered to limit dust generation.</li> </ul>		<b>Low</b>
<p><b>Noise</b></p> <p>Likely increase in noise pollution due to, among others, the excavations and site clearing, construction vehicles and construction staff, operation of cement mixer machine, blasting and or drilling.</p>		<ul style="list-style-type: none"> <li>- All equipment and activities to comply with noise regulations.</li> <li>- Silencer units in vehicles and equipment to be maintained in good working order.</li> <li>- Workers working in area where the 8-hour ambient noise levels exceed 85dBA must have the appropriate Personal Protective Equipment (PPE).</li> <li>- Work should be carried out between 7am and 5pm and no work should be carried out during weekends.</li> </ul>		<b>Low</b>



		<ul style="list-style-type: none"> <li>- Any blasting to be carried out as per the applicable laws.</li> </ul>		
<p><b>Visual Intrusion &amp; Light pollution</b></p> <p>Pollution may occur due to the following:</p> <ul style="list-style-type: none"> <li>- Littering and illegal dumping on the site and surrounding.</li> <li>- Removal of vegetation may cause visual exposure/intrusion.</li> <li>- Unsightly construction waste pile may be visually intrusive</li> <li>- Lights from the contractor's camp and the construction site could be visually intrusive.</li> </ul>		<ul style="list-style-type: none"> <li>- The site must be managed properly and all rubbish and rubble removed to a registered waste disposal facility.</li> <li>- Excess soil and bedrock should be disposed of at an appropriate facility. A certificate of disposal must be obtained for any waste that is disposed of.</li> <li>- Refuse bins must be provided on site and these must be emptied regularly. Waste must not remain on site for more than 2 weeks.</li> <li>- The construction camp must be properly screened located closer to the access road.</li> <li>- Advertising signs should blend in with the environment.</li> <li>- Light pollutions should be minimised. Lighting on site is to be sufficient for safety and security purposes, but shall not be intrusive to neighbouring properties</li> </ul>		<b>Low</b>
<p><b>Waste:</b></p> <p>Waste generation could have a negative impact on the environment, if not controlled adequately. Waste streams likely to include domestic waste, spent grinding material, mixed concrete, paint cans and brushes, construction rubble and other construction waste</p>		<ul style="list-style-type: none"> <li>- General waste disposal bins must be made available for use on site. General waste should be placed in a water tight container and disposed of on a regular basis.</li> <li>- Where possible construction waste should be recycled or reused.</li> <li>- Waste should be temporarily stored on site for a limited period only while awaiting disposal.</li> <li>- Records of all waste taken off site and disposed of must be kept as evidence.</li> <li>- Building rubble must be re-used, where possible, where this is not possible, the rubble to be disposed of at an appropriate site. Burning of waste material will not be permitted.</li> <li>- Hazardous materials generated through spillages during construction and maintenance periods must be cleaned up using absorbent material provided in spill kits on site and must be disposed of accordingly at a hazardous waste landfill. Absorbent materials used to clean up spillages should be disposed of in a separate hazardous waste bin. All hazardous waste to be disposed of in a registered hazardous waste disposal facility.</li> <li>- The storage area for hazardous material must be concreted, bunded, covered, labelled and well ventilated.</li> <li>- Employees to be provided with appropriate PPE for handling hazardous materials.</li> </ul>		<b>Low</b>
<p><b>Access</b></p> <p>Site access to utilise existing access roads</p>		<ul style="list-style-type: none"> <li>- Construction vehicles not to interfere with through traffic</li> <li>- Proper signage and road markings to be provided in the vicinity of the site.</li> </ul>		<b>Low</b>
<p><b>Traffic</b></p>		<ul style="list-style-type: none"> <li>- Caution to be taken to ensure construction</li> </ul>		<b>Low</b>

<ul style="list-style-type: none"> <li>- The construction phase is likely to generate additional traffic in terms of construction vehicles and heavy vehicles delivering materials to the site.</li> <li>- Impeded traffic flow on Jersey Street and the R25 due to construction access off this road.</li> </ul>		<ul style="list-style-type: none"> <li>vehicles are not parked close to the road and do not block through traffic.</li> <li>- Proper and adequate lanes to allow for ingress/egress to be provided.</li> <li>- Clear signs should be displayed along Jersey Street and the R25 as well as the entrance to the site indicating a construction site and turning construction vehicles.</li> <li>- Construction vehicles are to avoid main roads during peak traffic hours and mitigation measures outlined in the EMPr are to be implemented.</li> </ul>		
<p><b>Safety and security</b> A construction site can be a dangerous place and thus could result in harm to people and property and by their nature act as a magnet to the unemployed, resulting in large numbers of people gathering around the site.</p>		<ul style="list-style-type: none"> <li>- The site to be fenced off to prohibit unauthorised entry.</li> <li>- Health and Safety Officer to be appointed to continuously monitor the safety conditions during construction.</li> <li>- All construction staff must have the appropriate PPE.</li> <li>- Staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents.</li> <li>- Record and report any environmental, health and safety incidents to the responsible person.</li> <li>- Signs should be erected to warn of construction activities.</li> <li>- The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations</li> <li>- All structures that are vulnerable to high winds must be secured.</li> <li>- Potentially hazardous areas such as trenches are to be cordoned off and clearly marked at all times.</li> <li>- The Contractor is to ensure traffic safety at all times, and shall implement road safety precautions for this purpose.</li> <li>- All vehicles and equipment used on site must be operated by appropriately trained and / or licensed individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA).</li> <li>- Access to fuel and other equipment stores is to be strictly controlled.</li> <li>- No unauthorized firearms are permitted on site.</li> <li>- Emergency procedures must be available on site and communicated to all.</li> <li>- Adequate emergency facilities must be provided for the treatment of any emergency on the site.</li> <li>- The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to</li> </ul>		

		<p>handle. Emergency contact numbers are to be displayed conspicuously at prominent positions.</p> <ul style="list-style-type: none"> <li>- The basic spill control kit must be available within the construction camp on the site.</li> </ul>		
<b>OPERATIONAL PHASE</b>				
<p><b>Employment opportunities created-</b> Opportunities will be created in the operation of the filling station and convenience shop</p>	<b>+ve</b>	No mitigation measures required	<b>+ve</b>	
<p><b>Convenience and accessibility-</b> Availability of the filling station to satisfy the need given residential development in the vicinity as well as passing traffic</p>	<b>+ve</b>	No mitigation measures required	<b>+ve</b>	
<p><b>Impact on viability of other stations</b> Reduced patronage and therefore viability of other stations</p>		This cannot be mitigated except by not proceeding with the development. However, affected stations have an obligation to retain their client base. Further, new developments in the area will mitigate the impact of a new filling station.		<b>Low</b>
<p><b>Ground and surface water contamination</b></p> <ul style="list-style-type: none"> <li>- Contamination of ground and surface water associated with the operation of filling station.</li> <li>- Domestic waste generated from the kiosk and the subsequent potential for leachate formation.</li> <li>- Spillage that may occur during refuelling.</li> <li>- Leaking underground storage tanks and fittings resulting in possible hydrocarbon contamination;</li> <li>- Leakage from the sewerage system/plant or contamination from resultant water.</li> </ul>		<ul style="list-style-type: none"> <li>- Precautions to be taken to ensure that surface run-off, potential leaks or spills do not flow into the sewer system without first passing through a simple gravity separator/settlement pond or similar protective installation.</li> <li>- Monitoring of ground water sampling data should be reviewed by a hydrogeologist to establish performance and water quality trends.</li> <li>- The existing production boreholes and monitoring wells should be sampled regularly in terms of water quality (SANS241) guidelines for domestic use.</li> <li>- A proper groundwater quality monitoring program must be implemented as soon as possible, where initial sampling and analysis should allow for all major chemical, physical and bacteriological constituents as per (SANS 241). Follow- up sampling could monitor elements in excess only as well as for traces of hydrocarbon contamination.</li> <li>- An early warning system must be considered for placement within the monitoring wells or beneath the storage tanks.</li> <li>- Wellheads on boreholes down gradient of the proposed facility must be constructed to prevent any ingress of surface water either from a spill or flooding.</li> <li>- Shallow monitoring wells must be installed around the storage tanks to ensure any</li> </ul>		<b>Low</b>

		<p>potential leakages are detected in time. These wells must be of uPVC or HDPE material and have an internal diameter of at least 50mm. A minimum of one up gradient and two down gradient wells be installed. The depth of the well must be at least 2m below the depth of the storage tank</p> <ul style="list-style-type: none"> <li>- Piezometers must be installed in all wells and water level monitoring carried out and recorded either manually or with data loggers.</li> <li>- Any spill should be cleaned up immediately and contaminated soil disposed of at a designated site.</li> <li>- Storm water originating from the filling station surface area must be treated as dirty water. Clean water and dirty water systems must be separated.</li> <li>- Stormwater must be directed away and around the filling station site.</li> <li>- Leak detection systems must be implemented in all fuel storage and transmission lines and tanks.</li> </ul>		
<p><b>Risks of Fires &amp; Explosions</b> Storage, handling and transportation of fuel is potentially dangerous to humans and properties due to the risk of fire and explosions.</p>		<ul style="list-style-type: none"> <li>- Emergency and Risk Management Plan to be developed for the operation of the station.</li> <li>- Fire extinguishers must be easily accessible, and all vehicles should have fire extinguishers.</li> <li>- Employees should be trained on fire safety and there should be fire marshals.</li> <li>- The prescribed fire safety precautions in terms of the Occupational Health and Safety Act must be adhered to.</li> <li>- The UST's, underground pipes and dispensing pumps should be monitored regularly for leaks.</li> <li>- Tanker delivery driver must be present during delivery of fuel with the emergency cut off switch and a fire extinguisher.</li> <li>- The filling station management must develop an EMERGENCY PLAN. All staff must be adequately trained in the implementation of this plan. The following signs must be installed.</li> </ul>		<p><b>Medium</b></p>
<p><b>Waste management</b> -i.e. used oil, other hazardous and general wastes generated during maintenance and operational activities could cause pollution on site</p>		<ul style="list-style-type: none"> <li>- To lower the potential for leachate formation, domestic waste should be placed in a watertight container and, oil disposed of on a regular basis.</li> <li>- Used oil must be disposed of in accordance with the correct procedures.</li> <li>- All equipment that has the potential for spillages or leakages shall be equipped with drip-trays. Care to be taken to ensure that spillages of oils and effluent are limited during maintenance. In the event of a</li> </ul>		<p><b>Low</b></p>

		<p>spill/leak, the source of the spill or leak must be identified and addressed.</p> <ul style="list-style-type: none"> <li>- The oil/effluent spill/leak must be cleaned immediately, and any contaminated soil must be removed and disposed of through recognisable waste disposal method.</li> </ul>		
<b>Impeded traffic flow</b> due to ingress/ egress from the filling station and the movement of trucks to and from the filling station.		All signage and road markings for the proposed site should be in accordance with the South African Road Traffic Signs Manual.		<b>Low</b>
<b>Air Quality</b> Vapours produced at the station and odour from fuelling.		The fuelling service to meet the relevant standards.		<b>Low</b>
<b>Safety</b> Safety of staff, customers, property and neighbouring properties may be compromised as a result of the fire risk associated with a filling station.	<b>-ve</b>	<ul style="list-style-type: none"> <li>- Appropriate measures should be in place for the correct storage and handling of fuel as well as the procedures for dealing with dangerous situations.</li> <li>- Staff should be adequately trained with respect to dealing with crime.</li> <li>- Equipment and materials must be handled by staff that have been supervised and adequately trained.</li> <li>- Staff must be regularly updated about the safety procedures.</li> <li>- Emergency facilities must be available and adequately supplied for use by staff and customers.</li> <li>- Emergency contact details for the police, Security Company and fire department must be readily available.</li> </ul>		<b>Low</b>
<b>Visual Intrusion &amp; Light Pollution</b> due to the following: <ul style="list-style-type: none"> <li>- New station will alter the visual characteristics of the site and the surroundings.</li> <li>- Littering, rubbish and illegal dumping on the site is visually intrusive</li> <li>- The buildings and advertising signs may be visually intrusive.</li> <li>- Lights from the filling station may be visually intrusive.</li> </ul>	<b>-ve</b>	<ul style="list-style-type: none"> <li>- Light pollution should be minimised. Lighting on site is to be sufficient for safety and security purposes, but shall not be intrusive to neighbouring residents, disturb wildlife, or interfere with road traffic.</li> <li>- Littering, rubbish and illegal dumping on the site is NOT allowed.</li> <li>- Refuse must be contained and disposed of at the Municipal landfill site.</li> <li>- Refuse bins must be provided. These must be sufficient in number at the pumps, shop, fast food outlets and kitchen).</li> <li>- The buildings may not be visually intrusive.</li> <li>- All lights used for non-security purposes should be energy efficient for example compact fluorescent lights (CFL).</li> <li>- Outside lights will have to be downward shining (eyelid type), low wattage and should not be positioned higher than 1m above the ground surface.</li> <li>- Fluorescent lamps give five times the light and last up to 10 times as long as ordinary bulbs.</li> </ul>	<b>+ve</b>	<b>Low</b>

<b>Noise</b> There is likely to be an increase in noise to the people around the proposed filling station. Possible sources of noise being trucks filling and idling for a long time, taxis hooting and playing loud music		A noise control policy must be compiled and enforced to control the level of noise at the facility, paying particular reference to the immediate neighbours.		Low
<b>Compliance with spatial plans and policies</b>	+ve	No mitigation required. The proposed development is aligned with the objectives of the RSDF as well as the provincial EMF.	+ve	-
<b>Increase in municipal tax base</b>	+ve	No mitigation required. Land improvements lead to increased tax contributions to the municipality.	+ve	-

<b>No Go</b>				
<b>Potential impacts:</b>	<b>Significance rating of impacts</b>	<b>Proposed mitigation:</b>	<b>Rating after mitigation:</b>	<b>Risk of impact and mitigation not implemented</b>
<b>Job opportunities</b>		No job opportunities created		
<b>Geology and soils</b>	+ve	No disturbance as those that would result from construction and operational activities. However, landowner to implement soil conservation measures to prevent erosion		<b>Medium</b>
<b>Topography and slope</b>	+ve	No disturbances as those that would result from construction and operational activities. However, landowner to implement measures to prevent slope failure and erosion	+ve	<b>Medium</b>
<b>Fauna and flora</b>	+ve	No disturbance to fauna and flora. However, alien vegetation to be cleared and controlled	+ve	<b>Low</b>
<b>Air quality</b>	+ve	No mitigation required	+ve	
<b>Noise</b>	+ve	No mitigation required	+ve	
<b>Visual impact</b>		Possibility of dumping on site increases. Therefore, access to the site to be controlled		<b>High</b>
<b>Waste management</b>		Possibility of dumping on site increases. Therefore, access to the site to be controlled		<b>Medium</b>
<b>Impeded traffic flow</b>	+ve	No mitigation required	+ve	
<b>Safety and security</b>		Uncontrolled vacant sites within urban areas are prone to abuse and for other nefarious activities. Therefore, site be fenced off.		<b>High</b>
<b>Risk of fires and explosions</b>		Possible risk of uncontrolled fire. Landowner to maintain a fire management regime		<b>High</b>
<b>Viability of other stations</b>	+ve	No impact on other filling stations	+ve	
<b>Convenience to motorists and the public</b>		No service provided		
<b>Compliance with spatial plans</b>		Retaining site as vacant land with no environmental sensitivities, will not be supportive of spatial plans		
<b>Increase in tax base</b>		No increase in tax base		

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

Feasibility Study Access investigation
---

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

There is no concrete information on the nature and magnitude of the future developments in the surrounding areas. However, information in spatial plans and road network was used to project future development in the area.

**3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE**

Although the assessment has been presented below, no decommission is envisaged for this development. Further, decommissioning is likely to trigger listed activities in terms of the National Environmental Management: Waste Act, 59 of 2008 which will require detailed assessment and authorisation.

Potential impacts:	Significance rating of impacts	Proposed mitigation:	Significance rating of impacts after mitigation	Risk of impact and mitigation not implemented
<p><b>Geology and soils</b> Soil erosion, pollution and loss of soils</p>		<ul style="list-style-type: none"> <li>- Where equipment is removed, protection of exposed soils and erosion control should be implemented.</li> <li>- Topsoil should be replaced in all areas that have been eroded.</li> <li>- Provide effective short-term measures for slope stabilisation, sediment control.</li> <li>- Provide adequate drainage systems to minimise and control infiltration.</li> <li>- All the fuel must be removed from the UST"s and the site in sealed containers</li> <li>- Drained fuel must be transported back to the depot by an accredited transporter.</li> <li>- Dismantling of equipment must be conducted by an accredited contractor. The sludge remaining in the UST"s must be disposed of at an accredited hazardous waste facility. Once the tanks and pipes have been degassed they can be cut up. The excavations where the UST"s and pipes were present must be surveyed for contamination. If contaminated they must be decontaminated. Deep excavations must be cordoned off prior to being back filled. Certificates must be obtained for all actions performed. Once the site has been filled it must be rehabilitated.</li> </ul>		<p><b>Low</b></p>
<p><b>Pollution of surface water</b> Spillage of fuel leading to soil and water contamination during the siphoning of the Underground Storage Tanks (UST"s) and fuel dispensing pumps on the forecourt</p>		<ul style="list-style-type: none"> <li>- All the fuel must be removed from the UST"s and the site in sealed containers</li> <li>- Drained fuel must be transported back to the depot by an accredited transporter.</li> <li>- Dismantling of equipment must be conducted by an accredited contractor. The sludge remaining in the UST"s must be disposed of at an accredited hazardous waste facility. Once the tanks and pipes have been degassed they can be cut up. The excavations where the UST"s and pipes were present must be surveyed for contamination. If contaminated they must be decontaminated. Deep excavations must be cordoned off prior to being back filled. Certificates must be</li> </ul>		<p><b>Medium</b></p>

		obtained for all actions performed. Once the site has been filled it must be rehabilitated.		
<b>Fauna and flora</b> - Re-establishment of natural vegetation (long term);		- Proper handling and disposal of demolition waste. - Rehabilitation measures including planting of vegetation, implemented		<b>Low</b>
<b>Risks of Fires &amp; Explosions:</b> Storage, handling and transport of fuel is potentially dangerous to humans and properties due to the risk of fire and explosions		- Fire-fighting equipment to be available and explosion risk plan to be implemented. - Use of qualified and experienced contractor for the dismantling of equipment/aspect that are prone to fire and explosion risks. - Local emergency fire brigade number should be available on site - Employees should be trained on fire safety and there should be fire marshals.		<b>Medium</b>
<b>Waste management and disposal</b> Generation and disposal of solid waste could have negative consequences on the environment		- Part of construction waste to be re-used on other construction sites; - Waste receptacles to be provided on site; - Waste must be disposed of in the appropriate manner at a licensed disposal site. No littering will be tolerated. - Recyclable material must be recovered to limit disposal at landfills.		<b>Low</b>
<b>Air quality</b> - Dust pollution - Noise pollution		- Dust control measures (water suppression, covers etc) to be employed. - Avoid demolition during windy months. - Demolition work to be restricted to working hours. - Noise abatement measures to be implemented.		<b>Low</b>
<b>Negative Socio-economic impacts</b> - Loss of accessibility; - Scaring of the affected land in the short-medium term. - Loss of convenience to filling station and related services.		- Alternative routes to be used. - Decommissioning and rehabilitation plan created and implemented - Use of alternative services in the vicinity		<b>Low</b>
<b>Employment opportunities</b> • Loss of jobs related to the operations of the filling station		Use of labour from surrounding communities for demolition purposes		<b>Low</b>

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

Feasibility Study

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

Nil

#### 4. CUMULATIVE IMPACTS

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

Given the limited detail available regarding such future developments, the analysis that follows is of a generic nature and focuses on key issues and sensitivities for the proposed activity and how these might be influenced by cumulative impacts with other activities. In most cases, only qualitative assessments of cumulative impacts are possible, i.e. they are not formally rated. In summary, potential cumulative impacts



created from the establishment of the service station could be reduced should mitigation measures be implemented.

**Geo-hydrological impacts:** The potential for surface and groundwater impact associated with the filling station resulting from operations of the facility, spillages from tanks could contribute to the pollution of water. Contamination could arise as a result of accidental spills when USTs are being refuelled and also as a result of leakage from USTs. The potential impact can be effectively mitigated through industry standard compliance with regards to the relevant SANS codes e.g. bunding, strategically placed spillage recovery systems and the implementation of a spillage management plan.

In terms of surface water movement, any significant uncontrolled surface spillage within the forecourt area or at the filler points that is not contained on site will flow into access roads, into the culvert and down the embankment to the stormwater culvert and then into the drainage channel. In the event of a significant spill and if this event is not contained on site, there is potential for the environments to be contaminated. No risk to human health is perceived via the surface water pathway.

There is the potential therefore for human health to be indirectly affected by the contamination of groundwater and surface water through the use of this water. However, if the corrective measures listed in the previous sections are followed, the possibility of spillage and thus water contamination is greatly reduced.

**Air quality impacts:** The impact of fuel vapours from UST filler points is expected to add to the decrease in the air quality of the surrounding area, however, such impacts are negligible and can be managed to acceptable levels. Should the proposed development be approved, the majority of cumulative impacts will be related to the construction phase.

#### **Other socio-economic impacts**

**Existing Filling Stations:** A number of operating filling stations are located within a 3km radius of the site. It is anticipated that an additional service stations would create competition in terms of service and products sold. However, the anticipated increased traffic volumes due to local growth and passing traffic will eventually offset the negative consequences of an additional filling station. As per the outcome of the Feasibility study it was determined that the operation of the proposed filling station will not irreparably jeopardise the business of any competitor filling stations in the study area. This is mainly because other stations do not share significant portions of the same traffic stream/streams with the proposed station,

**Employment opportunities:** the construction and operation of the filling station with its associated services will result in job opportunities being created.

**Economic development** in the area: this development will add to the market confidence for economic development in the area.

## **5. ENVIRONMENTAL IMPACT STATEMENT**

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Short term environmental impacts of the project during the construction phase include increased traffic, dust, noise and possible surface water contamination.

The implementation of mitigation measures identified above and in the attached EMPr is expected to result in these impacts being mitigated to acceptable levels. The SABS approved underground tank installation and operating standards of the fuel retailers will further mitigate potential surface or ground water contamination. In this regard, all the best practice and SABS approved technologies must be incorporated into the activity to ensure that environmental best practice is applied during the operational phase.

The socio-economic impacts have been largely expressed as a loss of sales on competing filling stations and job opportunities during construction and operation phases. The development and operation of the proposed filling station will have an initial unfavourable impact on all filling stations in the study area. All affected filling stations will recover the possible lost sales within 3 – 4 years. It is estimated that the operation of the proposed filling station will not irreparably jeopardise the business of any competitor filling stations in the study area. In order to mitigate the potential noise and visual nuisance on adjacent residential areas, proper siting and design of the infrastructure within the site is required.

The overall environmental and socio-economic impact associated with the proposed development is considered to be acceptable.

#### **No-go (compulsory)**

This alternative would result in no construction related environmental impacts considering that the development would not be pursued. However, the no-go alternative could potentially result in a number of negative socio-economic impacts.

## **6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE**

IMPACT	SIGNIFICATNCE AFTER MITIGATION	
	Proposal	No-go
<b>CONSTRUCTION PHASE</b>		
Job opportunities	+ve	-ve
Geology and soils	-ve	
Topography and slope	-ve	
Fauna and flora	-ve	+ve
Air quality	-ve	+ve
Noise	-ve	+ve
Visual intrusion and light pollution	-ve	
Waste generation and management	-ve	
Traffic	-ve	+ve
Safety and security	-ve	-ve
<b>OPERATIONAL PHASE</b>		
Viability of other stations within 3km radius		+ve
Fauna and flora	-ve	+ve
Water resources	-ve	+ve
Risk of fire and explosions	-ve	+ve
Waste generation and management	-ve	
Traffic flow	-ve	
Air quality	-ve	+ve
Safety and security	-ve	
Visual intrusion and light pollution	-ve	
Noise	-ve	+ve
Employment opportunities	+ve	
Convenience to motorists and residents	+ve	
Compliance with spatial plans and policies	+ve	
Increase in municipal taxes	+ve	

**Overall summary and reasons for selecting the proposal or preferred alternative.**

The significance of most of the environmental impacts that were identified for the proposed activity is low. This is as a result of several factors including but not limited to the following:

- the duration for which the construction phase will occur;
- the environmental impacts that construction and operation of the facility may result in;
- mitigation measures as provided for in the specialist reports and EMPr.

A number of potential short term negative impacts that may occur during the construction and operation phases were identified. However, these impacts can be adequately ameliorated through implementation of appropriate mitigation measures and are considered to be acceptable from an environmental perspective. The positive impacts (short and long term) include convenience to local populations, convenience to the public and job creation. The potential impact on competing fuel retailers has been determined to be low in the medium to long term. If the recommendations in the EMPr are implemented and monitored, then the proposed development will have a negative impact on society and the environment

**7. SPATIAL DEVELOPMENT TOOLS**

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

**Gauteng Provincial Environmental Management Framework-** The development site is located within the urban development Zone 1; this zone is acceptable for such land use.

**8. RECOMMENDATION OF THE PRACTITIONER**

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).

<b>YES</b>	<b>NO</b>
------------	-----------

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

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

In terms of Section 31 (m) of NEMA the environmental practitioner is required to provide an opinion as to whether the activity should or should not be authorised. The specialist studies have shown that the preferred alternative and technological alternatives are generally acceptable. The EIA has also assisted in the identification of essential mitigation measures that will mitigate the impacts associated with these components to within acceptable limits. From a spatial planning perspective, it appears that the development complies with the relevant plans and policies and is consistent with these plans. In conclusion, NSS is of the opinion that on purely socio-economic and biophysical implications the application as it is currently articulated in the proposal should be approved, provided the essential mitigation and monitoring measures are implemented

**RECOMMENDATIONS**

The following recommendations are based on environmental issues identified during the course of the EIA:

- The proposed development is seen as a positive development when viewed in the broader context as this will result in improved service and better environmental management of the site. This includes improved infrastructure and installation and operational methods that will reduce environmental risks associated with operation of the filling station.
- The PPP for the project ensured that all IAPs in the vicinity of the proposed site were identified and provided with an opportunity to provide comment. In turn, the project was advertised in the appropriate media and notices informing the IAPs of the project were distributed to residences in the surrounding area.
- Should the project be approved, NSS advocate that the recommendations summarised below are considered. Where the recommendations are contrary to established standards, then those standards must be adopted.

### 1. USTs

The USTs will be composite tanks constructed of galvanised steel with fibre glass coating 2.35m in diameter, 5.5m long, which will be installed according to:

- relevant National Building Regulations; and
- SANS codes which include:
  - SANS 10089-3: The installation of the underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations;
  - SANS 10400:1987 with special emphasis on regulation TT53;
  - SANS 1020: The electrical components of free-standing power dispensing devices for flammable liquids;
  - SANS 10142-1: The wiring of premises Part 1: Low-voltage installations;
  - SANS 10108: The classification of hazardous locations and the selection of apparatus for use in such locations;
  - SANS 10131-2: Storage and handling of liquid fuel Part 2: Large consumer installation; and

### 2. Tank and pipe work installation

The tank installation must comply with the necessary SANS codes especially SANS 1535 and SANS 089-3. In particular, the following are important to prevent ground water contamination:

- The tank installation must comply with the necessary SABS codes (especially SABS 089- 3 referred to above as SANS 10089-3);
- All pipe work must be installed on non-cohesive drainage/bedding material in reverse graded trenches, to ensure that any lost product will migrate back to the UST;
- The base of the tank pit should be V-shaped and graded to a sump to allow collection of any hydrocarbon product leaking from filler and dip-point manholes;
- The tank farm must be lined with a heavy-duty HDPE liner or clay layer to prevent infiltration of product to the ground water should a leak/spill occur. It must be noted that this is especially important if bedrock is encountered during excavation activities;
- The void around the UST must be back filled with free-draining granular material to ensure that any product loss through the UST or ancillary pipe work will flow towards the low point;
- All filler and dip-point manholes must be properly sealed and regularly cleaned out to prevent accumulation of hydrocarbon product on these contaminant structures; and
- All pipelines must be fuel-grade HDPE piping with thermo-weld fittings.

### 3. Stormwater

- All surface spillages must be contained on site through channels and trenches, these must be diverted to an oil / water separator or sump of sufficient capacity;
- The forecourt will be concrete paved to prevent infiltration of fuel into the subsurface soils with surface runoff designed to flow towards a centralised collection point which is connected to an oil/water separator;
- The area around the filler points will be concreted and the drainage connected to the oil/water separator;
- The oil / water separator should be regularly checked and kept clean to prevent blockage and overflow. Any material collected must be disposed at an appropriately registered waste disposal site; and
- All accidental surface spills of oil or fuel must be contained on-site and diverted to the oil/water separator.

### 4. General

- All employees must be aware of the HSE policy and implementation thereof, in addition to the Emergency Plan, Environmental Management Programme and Operational Standards/ Guideline;
- The filler point and tank must be fitted with overfill protection. The critical level should be such that a space remains in the tank to accommodate the delivery hose volume (2%);

- It is suggested there should be a specially designed sealed containment tank to collect spilled product from the filler point from which product can be removed;
- Monitoring of piping sump(s)/trench and other secondary containment low points by industry standard technology;
- The integrity of UST and pipelines must be tested through vacu-sonic and pressure testing at least once a year;
- During fuel tanker delivery, the tanker driver must be present at all times during product offloading;
- Regular product monitoring and reconciliation must be undertaken;
- A minimum of one monitoring well must be installed at the low point in the tank farm (if the base of the tank farm is not graded, or if a liner has not been emplaced, the SANS code requires that 4 monitoring wells should be installed in the corners of the tank farm). The non-metallic slotted/perforated monitoring well (uPVC pipe) with a minimum internal diameter of 100mm should be wrapped in porous geo-textile and extend, as a minimum, to the bottom of the tank excavation. It is however advisable to install the well up to 1m below the base of the excavation so as to enable the use of the well as a sump to recover lost product if a leak should occur;
- It is advisable to pack grit/gravel around the piezometer to prevent ingress of fines and clogging of piezometer slots;
- The phreatic water surface (or water table surface) in the monitoring well(s) is to be checked regularly for free phase product, as a minimum on a quarterly basis;
- During the monitoring event, the wet stock reconciliation records must be scrutinised to ensure that the records are maintained and any discrepancies in product volume must be flagged for further investigation immediately;
- In the event of a suspected product loss, the UST and subsurface pipe work must be tested to identify problem areas. Problem areas should be isolated and shut down immediately and appropriate remedial action be implemented as soon as possible;
- All minor spills must be cleaned and a spill management procedure must be prepared to include procedures for spill clean-up, waste and waste water collection and disposal. Spill kits must be kept on site and staff must be trained to execute a spill management procedure;
- The food premises must comply with relevant regulations;
- An emergency preparedness procedure should be developed for the site; and
- If a significant spillage event occurs that cannot be contained on site, it is recommended that an assessment be performed to determine if remediation / rehabilitation may be required to prevent pollution of the watercourse.

## 9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT

The proposed filling station will service the traffic travelling on the R566 which stretches from Rosslyn to Annlin. There are only two other filling stations directly on this route. Therefore, the establishment of the proposed filling station will serve the great need of such facility in this area. The area is mostly industrial in its use, there are many trucks and large vehicles that the filling station could service.

In terms of **securing ecologically sustainable development and proper use of natural resources**, no natural resources will be negatively affected. The development footprint will hardly have impact on secondary grassland as the surrounding area has been developed and the site itself has no notable vegetation. The overall ecological impact is regarded as low.

Negative cumulative impacts could include- increase in storm water runoff. Positive impacts include filling station services, community serving facilities, business development, employment opportunities, and contribution to municipal taxes.

In terms of **promoting justifiable economic and social development**, the site is located in Region 2 of the City of Johannesburg Metropolitan Municipality. According to the RSDF, the filling station will be situated within an area identified as mainly a residential area. Therefore, the proposed filling station will be aligned with the plans for the area.

In terms of the Provincial EMF, the site is located within Zone 1 where infill, densification and concentration of business is promoted as part of facilitating a more effective and efficient city region. The proposed development is fully supportive of the objectives of the EMF.

The proposed site’s locality relative to ancillary land uses coupled with its general accessibility on a regional and local level, is underscoring its desirability and potential for the type of development proposed.

**10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED**

10 years

**11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)**

EMPr is attached as Appendix H

**Yes**

## SECTION F: APPENDIXES

**Appendix A: Site plan and layout**

- A<sub>1</sub> Locality map
- A<sub>2</sub> Layout plan
- A<sub>3</sub> Access Roads

**Appendix B: Photographs****Appendix C: Facility illustration(s)****Appendix D: Route position information****Appendix E: Public participation information**

- E<sub>1</sub>: Proof of Site Notices
- E<sub>2</sub>: Written Notices Issued
- E<sub>3</sub>: Newspaper Advert
- E<sub>4</sub>: Communication with I&APs
- E<sub>5</sub>: Minutes of Meetings
- E<sub>6</sub>: Comments and Issues Report
- E<sub>7</sub>: Comments from I&APs on BAR
- E<sub>8</sub>: Comments from I&APs on amended BAR
- E<sub>9</sub>: Copy of Register of I&APs

**Appendix F: Authorities information including authorisations****Appendix G: Specialist reports**

- G<sub>1</sub>: Feasibility Study
- G<sub>2</sub>: Traffic Impact Study
- G<sub>3</sub>: Services Provision Report- Water, Sanitation and Electrical
- G<sub>4</sub>: Services Provision Details Report- Roads and Storm Water

**Appendix H: EMPr****Appendix I: Other information**

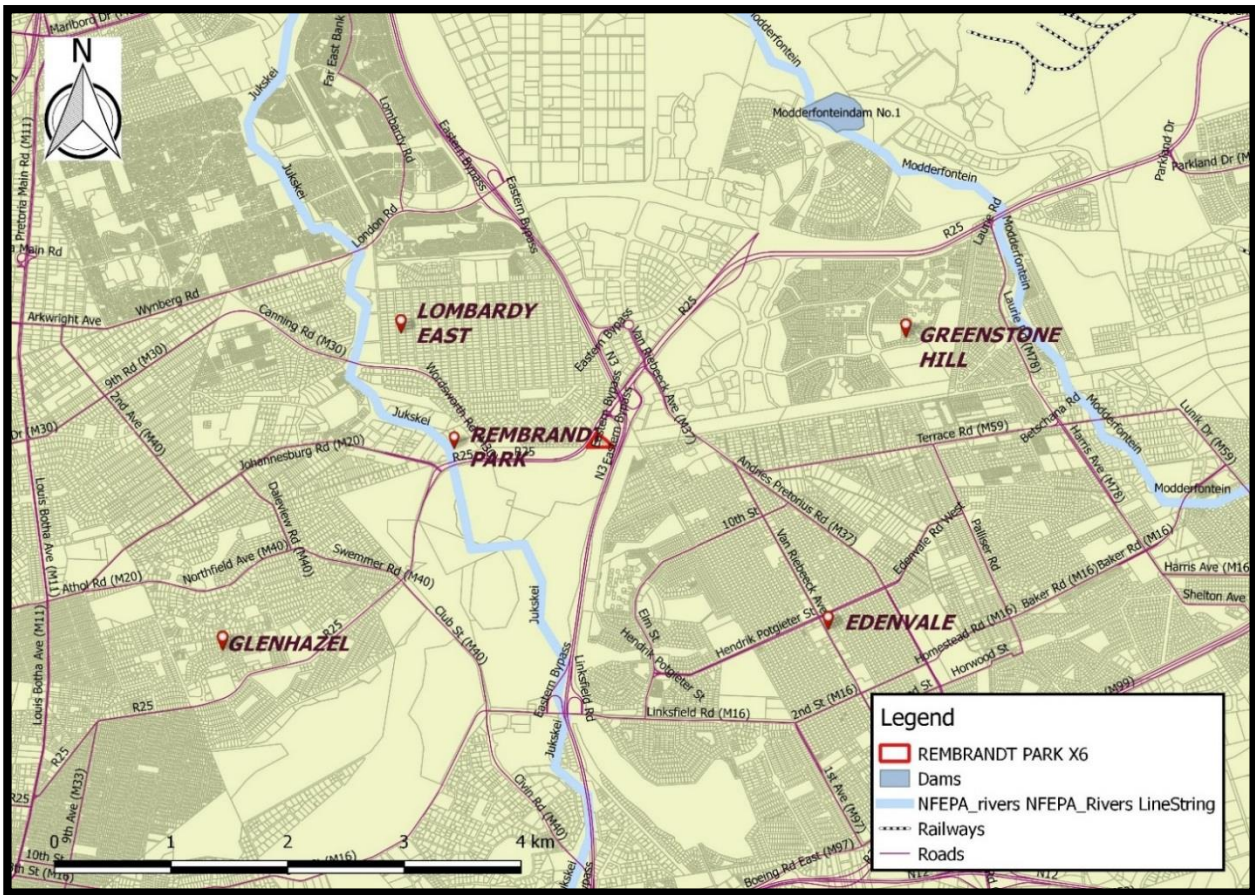
# Appendix A: Locality Map and Layout Plan

**A<sub>1</sub>:** Locality map

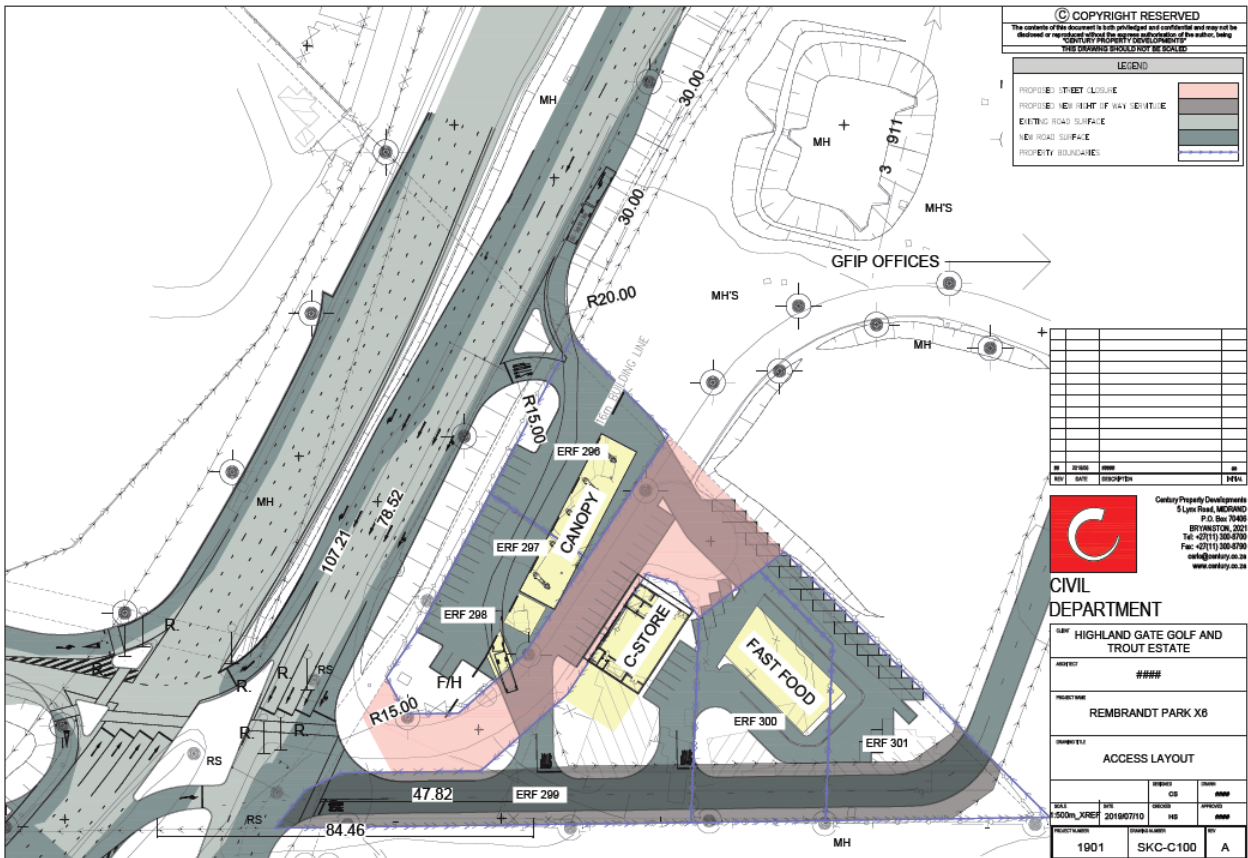
**A<sub>2</sub>:** Layout plan



# Appendix A<sub>1</sub> – Locality Map



# Appendix A<sub>2</sub> – Layout Plan



# Appendix B: Photographs

**North**

**North-West**

**North-East**

**East**

**West**

**South**

**South-East**

**South-West**

# Appendix C: Facility illustration(s)

**N/A**

# Appendix D: Route Position

**N/A**

# Appendix E: Public Participation Information

**E<sub>1</sub>: Proof of Site Notices**

**E<sub>2</sub>: Written Notices Issued**

**E<sub>3</sub>: Newspaper Advert**

**E<sub>4</sub>: Communication with I&APs**

**E<sub>5</sub>: Minutes of Meetings**

**E<sub>6</sub>: Comments and Issues Report**

**E<sub>7</sub>: Comments from I&APs on BAR**

**E<sub>8</sub>: Comments from I&APs on amended BAR**

**E<sub>9</sub>: Copy of Register of I&APs**

**Public Participation Information will be included in the final BAR**

# Appendix F: Authorities information including authorisations

N/A

# Appendix G: Specialist Reports

**G<sub>1</sub>:** Fuel Viability Study

**G<sub>2</sub>:** Access Investigation Study



# Appendix G<sub>1</sub>: Fuel Viability Study

# Appendix G<sub>2</sub>: Access Investigation Study

# Appendix H: Draft Environmental Management Programme

# Appendix I: Other Information

# Appendix I<sub>1</sub>: Company Profile