

FINAL
BASIC ASSESSMENT (BA) REPORT
FOR
THE PROPOSED CAPITAL PARK FILLING STATION ON ERF 1869,
WITHIN THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY (COT),
IN CAPITAL PARK, GAUTENG

For submission to:

**GAUTENG DEPARTMENT OF AGRICULTURE AND RURAL
DEVELOPMENT**



Prepared for:

Fargofin
PO Box 130895
Bryanston
2074

Tel No: 011 884 7520
Fax No: 0865117279

Prepared by:

Strategic Environmental Focus (Pty) Ltd
P.O. Box 74785
Lynnwood Ridge
0040

Tel. No.: (012) 349-1307
Fax. No.: (012) 349-1229

Date: January 2015

SEF Ref No. 505701

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Gauteng Department of Agriculture and Rural Development (GDARD)

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2010 (Version 1)

List of all organs of state and State Departments where the draft report has been submitted, their full contact details and contact person

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2010.
 2. This application form is current as of 2 August 2010. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
 3. A draft Basic Assessment Report must be submitted to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken. The draft reports must be submitted to the relevant State Departments and on the same day, two CD's of draft reports must also be submitted to the Competent Authority (GDARD) with a signed proof of such submission of draft report to the relevant State Departments.
 4. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
 5. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
 6. An incomplete report shall be rejected.
 7. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
 8. **Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.**
 9. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
 10. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
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DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
18th floor Glen Cairn Building
73 Market Street, Johannesburg

Admin Unit telephone number: (011) 355 1345
Department central telephone number: (011) 355 1900

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

(For official use only)

File Reference Number:					
Application Number:					
Date Received:					

* Submission to State Departments (Number 3 above)

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

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

if no, state reasons for not attaching the list.

SECTION A: ACTIVITY INFORMATION

1. ACTIVITY DESCRIPTION

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

Capital Park Filling Station

Select the appropriate box

The application is for an upgrade of an existing development The application is for a new development Other, specify

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

YES	NO X
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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) (NEMA)	National [Department of Environmental Affairs (DEA)] and Provincial (GDARD)	29 January 1999
National Water Act, 1998 (Act No. 36 of 1998) (NWA)	National & Provincial DWA	1 October 1998
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA)	National (SAHRA) and Provincial Heritage Resources Agencies	1 April 2000
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA)	National (DEA) and Provincial (GDARD)	1 July 2009
Occupational Health and Safety Act No 85 of 1993	National Department of Labour	1993
Road Traffic Act, 1989 (Act No. 29 of 1989)	South African National Roads Agency	1989
Fire Brigade Services Act, 1987 (Act No. 99 of 1987)	GDARD and CoT	1987
Hazardous Substances Act (Act No 15 of 1973) -	Department of Health	1973
Constitution of the Republic of South Africa Act, 1996 (Act No 108 of 1996)	National	4 February 1997

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City of Tshwane Metropolitan Municipality (CoT) Spatial Development Framework, 2012.	CoT	June 2012
City of Tshwane Green Building By-Laws	CoT	July 2013
Gauteng Growth and Development Strategy	Provincial	2005
Gauteng Spatial Development Framework	Provincial	2011
DEA Guidelines on Public Participation	National (DEA)	10 October 2012
DEA Guidelines on Alternatives	National (DEA)	2004
DEA Guidelines on Need & Desirability	National (DEA)	2004
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000)	Department of Regional and Land Affairs	9 March 2001
Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000)	National and Provincial	30 November 2000

3. ALTERNATIVES

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

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

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

Provide a description of the alternatives considered

No.	Alternative type, either alternative: site on property, properties, activity, design, technology, operational or other (provide details of "other")	Description
1	Proposal	<p>The site is currently used for cement pots and fountain retail purposes. The total combined underground fuel storage capacity of the filling station is proposed to be 92 000L (92 m³) i.e. 4x 23 000L tanks and therefore requires environmental authorisation for the storage and handling of dangerous goods.</p> <p>The proposed filling station will consist of the following:</p> <ul style="list-style-type: none"> • Underground storage tanks (USTs) with a combined storage capacity of 92 m³ • Pump islands in forecourt • A convenience store with in-house Burger King facility • Ablution Facility • Car parking areas (24 parking bays) <p>The USTs will comply with the South African Bureau of Standards (SABS) 1535 codes. The tanks to be installed will be monitored to determine if there are any leakages.</p> <p><u>Need and Desirability</u> The proposed filling station will occupy approximately <u>0.07 ha/ 795m²</u> of the area in extent (which measures 0.08ha). The proposed filling station site is located within an area characterised by residential dwellings, Malherbe Drank Winkel, parks and Recreation (PTA Zoo), WestGarden and Koi Centre, and the Capital Park Primary School in all eight campus directions within 500m radius.</p> <p>The RSDF of the City of Tshwane for Region 3 confirms the importance of Paul Kruger Street as an existing mobility spine where nodal development with a mixed use character at intersections is supported. The site is indicated as a core area. The Traffic Study shows (2013) that the current 12 hour traffic demand at the Paul Kruger- /Malherbe Street intersection is ±18.180 vehicles on all approaches. The site therefore leans itself for development of a filling station and place of refreshment with the accompanying benefits of social and economic growth. There are no other filling stations serving the southbound traffic on this section of Paul Kruger Street, which will contribute to the success of the</p>

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		<p>proposed facility.</p> <p>Expected fuel sales of 250, 000 litres/month is generally accepted as a viable filling station given average parameters in terms of traffic and development cost. The proposed filling station is very viable on the basis of expected fuel sales of 350, 000 litres/month after its opening.</p> <p><u>Access</u> Access to the proposed use will be possible from Paul Kruger Street (only south bound / left in -left out) as well as a full access from Malherbe Street by means of defined access points.</p> <p><u>Service Provision</u> All the bulk services will be provided by the Tshwane Metropolitan Municipality since the subject property forms part of the Municipal structure. Bulk services contributions will be payable for the increased land use rights</p>
2	Site Alternative	The siting of the proposed filling station is considered optimal for the current growth scenario in the area. The proposed site is considered to be the most feasible position which will service the densification needs of the area and capture the maximum number of customers. An alternative location is therefore unfeasible for this project.
3	Design/ Layout Alternative	<p>The only other alternative for the project is to install tanks with a storage capacity of less than 80m³. This threshold will result in the applicant not having to apply for Environmental Authorisation based on the provision of activities in GNR 544 and the new 2014 Regulations (specifically GNR 983).</p> <p>The difference in environmental, social and economic impacts compared to the proposed 93m³ will however be negligible.</p>

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

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

4. PHYSICAL SIZE OF THE ACTIVITY

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

Proposed activity

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Size of the activity:

0.08 ha

0.08 ha

0.08 ha

Ha/ m²

or, for linear activities:

Proposed activity

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Length of the activity:

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k/km

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

Proposed activity

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Size of the site/servitude:

0.07 ha/ 795m ²

00.07 ha / 795m ²

0.07 ha / 795m ²

Ha/m²

5. SITE ACCESS

Proposal

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

YES	NO
X	

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

Describe the type of access road planned:

Corner of Paul Kruger and Malherbe Street

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

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Alternative 1

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

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

Describe the type of access road planned:

Corner of Paul Kruger and Malherbe Street

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

Alternative 2 N/A

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

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

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

Describe the type of access road planned:

Corner of Paul Kruger and Malherbe Street

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

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated

n/a X

Number of times

(only

complete when applicable)

6. SITE OR ROUTE PLAN

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

- the scale of the plan, which must be at least a scale of 1:2000 (scale can not be larger than 1:2000 i.e. scale can not be 1:2500 but could where applicable be 1:1500)
- the property boundaries and numbers of all the properties within 50m of the site;
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- the exact position of each element of the application as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, septic tanks, storm water infrastructure and telecommunication infrastructure;
- walls and fencing including details of the height and construction material;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites including (but not limited thereto):
 - Rivers and wetlands;
 - the 1:100 and 1:50 year flood line;
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- for gentle slopes the 1m contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- the positions from where photographs of the site were taken.
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the 32m position from the bank to be clearly indicated)

7. SITE PHOTOGRAPHS

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

8. FACILITY ILLUSTRATION

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

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

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

Further:

Instructions for completion of Section B for linear activities

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

Section B has been duplicated for sections of the route times

Instructions for completion of Section B for location/route alternatives

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

Section B has been duplicated for location/route alternatives times
(complete only when appropriate)

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

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

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

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Section B - Section of Route (complete only when appropriate for above)

Section B – Location/route Alternative No. (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description:

The proposed filling station will consist of the following:

- Underground storage tanks (USTs) with a combined storage capacity of 92 m³
- Pump islands in forecourt
- A convenience store with in-house Burger King facility
- Ablution Facility
- Car parking areas (24 parking bays)

The proposed filling station will occupy approximately 795m² of the area in extent. The proposed filling station site is located within an area characterised by residential dwellings, Malherbe Drank Winkel, parks and Recreation (PTA Zoo), West Garden and Koi Centre, and the Capital Park Primary School in all eight campus directions within 500m radius. Paul Kruger is one of the main access routes to the Pretoria CBD and the filling station is there for ideally located for passing traffic.

(Farm name, portion etc.)

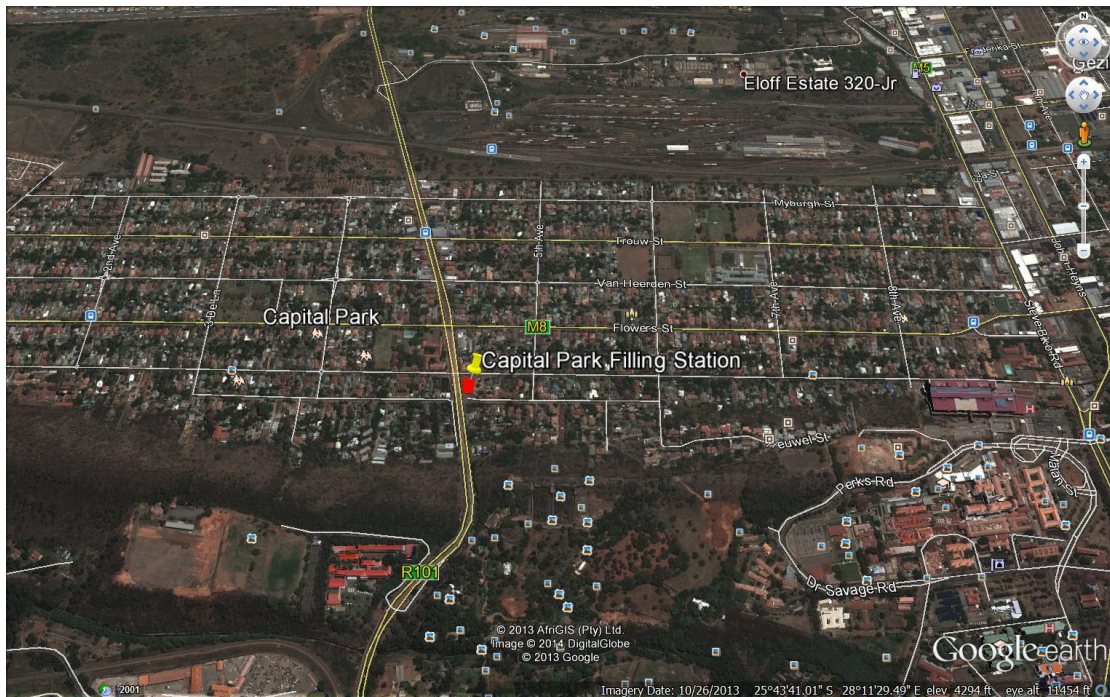


Figure 1: Google Earth Map of the proposed site

2. ACTIVITY POSITION

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

Alternative:

Latitude (S):	Longitude (E):
25° 43' 43.13''S	28° 11' 22.46''E

In the case of linear activities:

Alternative:

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

Latitude (S):	Longitude (E):
o	o
o	o
o	o

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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 [REDACTED]

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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

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

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

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

Shallow water table (less than 1.5m deep)

Dolomite, sinkhole or doline areas

Seasonally wet soils (often close to water bodies)

Unstable rocky slopes or steep slopes with loose soil

Dispersive soils (soils that dissolve in water)

Soils with high clay content (clay fraction more than 40%)

Any other unstable soil or geological feature

An area sensitive to erosion

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

(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 X
-----	-----------------------

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

Latitude (S):

Longitude (E):

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

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

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

Latitude (S):

Longitude (E):

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

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

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

Latitude (S):

Longitude (E):

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

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 3)?

YES	NO X
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The agricultural potential was identified as low by the GIS Data Scan. The area is currently built up.

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

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7. GROUND COVER

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 % = 20%	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % = 80	Building or other structure % =	Bare soil % =

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

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

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

If YES, specify and explain:

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

YES	NO X
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If YES, specify and explain:

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

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

If YES, specify and explain:

Was a specialist consulted to assist with completing this section

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

If yes complete specialist details

Name of the specialist:

Qualification(s) of the specialist:

Postal address:

Postal code:

Telephone:

E-mail:

Cell:

Fax:

Are any further specialist studies recommended by the specialist?

YES	NO X
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If YES, specify:

If YES, is such a report(s) attached?

If YES list the specialist reports attached below

Signature of specialist: _____

Date: _____

Please note: If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated.

8. LAND USE CHARACTER OF SURROUNDING AREA

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

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

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Other land uses (describe):	35. Main Access Road 36. Garden and Koi Centre 37. Parks and Recreation (Zoo) 38. Filling Station
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NOTE: Each block represents an area of 250m X250m



= Site

NORTH

	WEST	9. Medium to high density residential 9. Medium to high density residential 9. Medium to high density residential 5. Koppie or ridge 5. Koppie or ridge 9. Medium to high density residential	25. Major road (4 lanes or more)N 38. Filling Station 9. Medium to high density residential 19. Education facilities 25. Major road (4 lanes or more)N 35. Main Access road 38. Filling Station 25. Major road (4 lanes or more)N 35. Main Access road 36. Garden and Koi Centre 9. Medium to high density residential 35. Main Access road 5. Koppie or ridge 35. Main Access road 37. Parks and Recreation (Zoo)	9. Medium to high density residential 12. Retail 35. Main Access road 9. Medium to high density residential 5. Koppie or ridge 28. Historical building 37. Parks and Recreation (Zoo)	9. Medium to high density residential 35. Main Access road 9. Medium to high density residential 5. Koppie or ridge 37. Parks and Recreation (Zoo) 5. Koppie or ridge 37. Parks and Recreation (Zoo)	EAST	
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SOUTH

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

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

Have specialist reports been attached

YES X	NO
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If yes indicate the type of reports below

The following specialist studies have been undertaken and the reports are appended in Appendix G of this Final BAR.

- Traffic Impact Study and Viability Study (Techworld Consulting Engineers, May 2014)
- Geotechnical Study (Louis Kruger Geotechnics cc, 2014)
- Geo-hydrological Study (Hydro-census) (SEF, April 2014)
- Township Memorandum (MetroPlan, 2014)
- Noise Impact – Professional Opinion (JH CONSULTING, 2015)

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.

Level of unemployment:

The CoT provides employment for a larger percentage of its residents, its human development ranking is high and it has a per capita income above the national average. These figures have resulted in employment, and wage per capita value added improvements, although, poverty and unemployment remain problematic. In 2003 Tshwane's Economically Active Population (EAP) amounted to 48% of the total population which was higher than the national but lower than the provincial average.

While this is positive, employment opportunities were lagging behind, which led to a high level of unemployment. Many people were absorbed into the informal market, but the latter is believed to have levelled off since 2001. Statistics have further shown that 15,3% of households had no income in 2001 (a doubling from 1996), the number of people living in poverty has increased and the group hardest hit in respect of unemployment are the youth (20-24 years). In addition unemployment is spatially referenced with the larger proportion of unemployed living in the north of Tshwane. Whilst average monthly income figures have increased, the gap between the highest and lowest paid person is projected to have increased, implying that the rich are becoming richer and the poor poorer. (Tshwane IDP 2006 – 2011 First Revision).

Economic profile of local municipality:

In terms of economic development, the CoT has embraced prevailing policy objectives set by national and provincial government. The CoT is therefore, focused on growing and developing the economy in order to reduce poverty and unemployment, to create jobs and a better life for all, and to be globally competitive. On the whole, the City's economy is doing well, having yielded a higher than national average annual growth rate in 2003, though, there are statistical shortfalls and a vast list of community-based needs.

Spatially and sectorally the economy is diverse, yet its dominant economic sectors are automotive manufacturing, government, services and retail. The primary economic sector is near non-existent, its secondary sector contributes 19% and the tertiary sectors a fantastic 81% to the economy. The latter's outputs include trading, transport, financial, commercial and community services. At a national level the tertiary sector contributes approximately 72% to the national economy, which shows the lead that Tshwane has in becoming a global role player.

Particular sectors in which it is believed Tshwane has niche markets are the automotive industry, defence industry, metal production industry, as well as knowledge, education, research and information technology sectors. Spatially these sectors are distributed throughout the City, though there is a strong concentration on the southern and eastern sides of the City. Such growth should be embraced together with government supported initiatives, such as the Innovation Hub, Gautrain, Automotive Cluster, Freedom Park Project, Platinum Highway Corridor and Dinokeng, to ensure that the economic base is expanded to cater for the needs of the City. (Tshwane IDP 2006 – 2011 First Revision).

Level of education:

As far as education is concerned, the CoT is responsible for the provision of libraries, museums and art galleries, community halls and cultural facilities. In this regard it manages 39 libraries, 4 museum and art galleries, and 5 community halls and cultural facilities. The community has identified needs associated with education, skills training, provision and upgrading of crèches and schools, and the provision of libraries. (Tshwane IDP 2006 – 2011 First Revision).

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

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- (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.

The Provincial Heritage Resources Agency- Gauteng (PHRAG) has been informed of the proposed project and proof is provided in Appendix E of this Final Basic Assessment Report (BAR).

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 X
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If YES, explain:

The proposed site is within a disturbed built up area. No heritage and archaeological features are located on the proposed site. However, attention is drawn to the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) which requires that operations that expose archaeological or historical remains should cease immediately, pending evaluation by the provincial heritage agency.

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?

YES	NO X
YES	NO X

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

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The Environmental Assessment Practitioner must follow any relevant guidelines adopted by the competent authority in respect of public participation and must at least –

- 1(a) Fix a site notice at a conspicuous place, on the boundary of a property where it is intended to undertake the activity which states that an application will be submitted to the competent authority in terms of these regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made;
- 1(b) inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority;
- 1(c) inform landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity of the applicant's intention to submit an application to the competent authority;
- 1(d) inform the ward councillor and any organisation that represents the community in the area of the applicant's intention to submit an application to the competent authority;
- 1(e) inform the municipality which has jurisdiction over the area in which the proposed activity will be undertaken of the applicant's intention to submit an application to the competent authority; and
- 1(f) inform any organ of state that may have jurisdiction over any aspect of the activity of the applicant's intention to submit an application to the competent authority; and
- 1(g) place an advertisement in one local newspaper and any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these regulations.

The following steps have been undertaken for PPP:

- Two site notices were placed at a conspicuous places, on the boundary of a property where it is intended to undertake the activity which stated that an application would be submitted to the competent authority in terms of the NEMA regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made.
- Occupiers of adjacent land have been informed of the applicant's intention to submit an application to the competent authority. Please refer to Appendix E9 for proof of notifications;
- Landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity have been informed of the applicant's intention to submit an application to the competent authority;
- The Ward Councillors of the affected ward has been informed of the project. Other organisations that represent the community have been notified.
- The CoT have been informed of the project;
- State Departments have been identified which may have jurisdiction over any aspect of the activity and have been informed of the client's intention to submit an application to the competent authority.
- A newspaper advert was placed in the Pretoria Moot newspaper on 21 August 2014. Proof of advertisement is attached to this Final BAR as Appendix 3 of Appendix E.

2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority (GDARD).

Has any comment been received from the local authority?

YES	NO
X	X

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

The CoT made recommendations on the measures that need to be implemented in order to prevent contamination of the ground water. It was requested that the Geotechnical Report be included in the Final BAR. The recommendations and mitigation measures presented in the BAR and specialist reports must be adhered to and implemented in all phases of the project. There must be proper waste management on site and waste generated from site must be recycled, reused or disposed of at the licensed landfill site.

The CoT further recommended that an Emergency/Fire Response Plan including a spill contingency plan be compiled and approved by a qualified risk consultant. They recommended that such a plan and a Stormwater Management Plan be submitted as part of the Final BAR.

The CoT recommended that the activity be undertaken in accordance with the finalised and approved EMPr which should include all the recommendations by them (CoT). An Environmental Control Officer (ECO) must be appointed to enforce the approved EMPr (which is a legally binding document) during the construction phase. The CoT recommended that all activities on site must comply with the Tshwane Municipality's By-Laws.

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

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least thirty (30) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES	NO
	X

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

A stakeholder meeting was held with the representative of the Home Owner, Rate Payers and Business Association on 20 November 2014. Concerns and comments around the project was discussed and clarified. The representative subsequently confirmed that their comments and objection are no longer valid (refer to Appendix 7)_ Refer to letter Appendix 6

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

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

The practitioner must record all comments and respond to each comment of the public / interested and affected party before the application is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

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

Appendix 1 – Proof of site notice

Two site notices were placed at a conspicuous places, on the boundary of a property where it is intended to undertake the activity which stated that an application would be submitted to the competent authority in terms of the NEMA regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made. Proof of placement of the site notices in presented in this report (Appendix 1)

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

Occupiers of adjacent land and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity have been informed of the applicant's intention to submit an application to the competent authority. Organs of the state have also been identified which may have jurisdiction over any aspect of the activity. They have also been informed of the client's intention to submit an application to the competent authority.

Appendix 3 – Proof of newspaper advertisements

A newspaper advert was placed in the Pretoria Moot newspaper on 21 August 2014. Proof of advertisement is included in this Appendix 3

Appendix 4 – Communications to and from persons detailed in Point 2 and 3 above

The CoT and the general public have been informed of the project. Communication to all stakeholders has been appended to this report. Comments received from the CoT and the general the general public are included in this Appendix 6.

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

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A stakeholder meeting was held on 20 November 2014 – Refer to Attendance Register (Appendix 7)

Appendix 6 - Comments and Responses Report

The Comments and Responses Report (CRR) is included in this appendix.

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

Comments are attached to this appendix.

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

Not applicable

Appendix 9 – Copy of the register of I&APs

A stakeholder database has been attached in this Final BAR.

Appendix 10 – Comments from I&APs on the application

No comments on the application were received.

Appendix 11 – Other

Not Applicable.

SECTION D: RESOURCE USE AND PROCESS DETAILS

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

Instructions for completion of Section D for alternatives

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

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

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

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

Solid waste management

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

YES	NO
X	
10 m ³	

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

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

The appointed contractor will be responsible for the removal and disposal of all waste produced during the construction phase of the development. The waste will be disposed of in a registered waste disposal site.

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

The waste will be disposed of in a registered waste disposal site.

Will the activity produce solid waste during its operational phase?

YES	NO
X	
20 m ³	

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

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

The waste will be collected from site by means of skip waste containers. This will be the responsibility of the Owner, who will appoint a registered waste removal company or engage the services of a waste management company.

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
	X The applicant is still in consultation with the municipality.

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

The waste will be disposed of in a registered waste disposal site.

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
	X

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
	X

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:

During construction, waste will be separated at source and disposed of at relevant suitably licensed facilities. Waste should be separated into recyclable and non-recyclable materials and distributed for recycling where applicable. Waste generated on site will be sorted into paper, plastic, glass, biodegradable, rubber, metal and oil etc. Construction waste will be used as fill material and as foundation for the proposed construction where possible. The re-use of construction waste materials will minimise the amount of waste that will need to be disposed of at registered municipal waste facilities. Only inert, non-hazardous construction material will be re-used.

During operation, the initiative which had been implemented during the construction phase should be extended into the operational phase.

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
	X

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If yes, what estimated quantity will be produced per month?
 If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?
 Will the activity produce any effluent that will be treated and/or disposed of on-site?

	m ³
YES	NO X
Yes	NO X

If yes, what estimated quantity will be produced per month?
 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 X
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If yes, provide the particulars of the facility:

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

Cell:
 Fax:

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

Not Applicable

Liquid effluent (domestic sewage)

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

YES X	
6000l /6m ³	
YES	NO X
YES	NO X

If yes, what estimated quantity will be produced per month? (OPERATIONAL PHASE ONLY)

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

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

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

During construction, the filling station establishment activity will not produce domestic effluent, chemical portable toilets will be available during this phase. During the operational phase there will be additional sewage flow into the municipal sewage system generated by employees and customers of the filling station. Confirmation letters from the City is being sought in this regard.

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO X
YES	NO

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

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

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

2. WATER USE

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

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

Not Applicable

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

If yes, list the permits required

Not Applicable

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

During the construction phase of the proposed project, it will be the contractor's responsibility with regards to the provision of electricity. During operation, electricity will be supplied from the CoT grid.

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

4. ENERGY EFFICIENCY

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

The following recommendations regarding structural designs are made by the Environmental Assessment Practitioner (EAP):

- Use of building material originating from sensitive environmental resources should be minimised, e.g. no tropical hardwood may be used.
- Building material should be legally obtained by the supplier.
- Building material that can be recycled/ reused should be used rather than building material that cannot.
- Use highly durable material for part of the building that is unlikely to be changed during the life of the buildings (unlikely to change due to e.g. renovation, fashion, etc.) is highly recommended.
- Landscaping of access area to improve visual and aesthetic quality of the site.

Local building material instead of imported building material should be used as much as possible (this will reduce transportation impacts and enhance local job creation).

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

The developer has ensured that the environmental issues were taken into account in all phases of the project, including the planning phase. The recommendations made in the EMPr will be taken into consideration. The proposed development will blend in with the surrounding environment and ensure that all possible alternative energy sources have been taken into account.

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2006, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

Ms Emmarentia Kilslen of Capital Plants stated that they are in support of the project as they believe that the filling station will be a big asset to the community.

The CoT made recommendations on the measures that need to be implemented in order to prevent contamination of the ground water. It was requested that the Geotechnical Report be included in the Final BAR. The recommendations and mitigation measures presented in the BAR and specialist reports must be adhered to and implemented in all phases of the project. There must be proper waste management on site and waste generated from site must be recycled, reused or disposed of at the licensed landfill site.

The CoT further recommended that an Emergency/Fire Response Plan including a spill contingency plan be compiled and approved by a qualified risk consultant. They recommended that such a plan and a Stormwater Management Plan be submitted as part of the Final BAR.

The CoT recommended that the activity be undertaken in accordance with the finalised and approved EMPr which should include all the recommendations by them (CoT). An Environmental Control Officer (ECO) must be appointed to enforce the approved EMPr (which is a legally binding document) during the construction phase. The CoT recommended that all activities on site must comply with the Tshwane Municipality's By-Laws.

Summary of response from the practitioner to the issues raised by the interested and affected parties

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

Recommendations made by the CoT have been included in this Final BAR and the EMPr. The approved EMPr will be a legally binding document to which the applicant and contractors will be required to comply. Waste generated on site will be managed in the manner which is outlined in this report and the EMPr. Compliance to the measures outlined in the EMPr will ensure that pollution is minimized or totally prevented.

Due to the association with the Sasol franchise; it will be structured in terms of Sasol's specifications and standards. An Emergency/Fire Response Plan is not available at this stage due to that it still needs to be approved by Sasol. The Plan will be sent to the CoT for approval in terms of the municipal Fire Brigade Services Bylaw. Once it has been finalised, the Stormwater Management Plan will be forwarded to the CoT for approval. The Stormwater Management Plan and Emergency Fire Response Plan must therefore form a condition to the Environmental Authorisation for Capital Park.

An ECO will be appointed in order to enforce the EMPr and ensure that there is compliance to the EMPr and relevant legislation.

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

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

2.1 Approach to Assessment of Impacts

The EAP in association with the relevant specialists will provide an outline of the approach used in the study. Assumptions and sources of information will also be clearly identified.

2.2.1 Impact Identification and Assessment

The EAP must make a clear statement, identifying the environmental impacts of the construction, operation and management of the proposed development. As far as possible, the EAPs must quantify the suite of potential environmental impacts identified in the study and assess the significance of the impacts according to the criteria set out below. Each impact will be assessed and rated. The assessment of the data must, where possible, be based on accepted scientific techniques, failing which the specialist is to make judgements based on his/ her professional expertise and experience.

2.2.2 Assessment Procedure: Proposed Impact Assessment Methodology

For the purpose of assessing impacts, the project will be divided into two phases from which impacting activities can be identified, namely:

Construction Phase: All the construction related activities on site, until the contractor leaves the site.

Operational Phase: All activities, including the operation and maintenance of the proposed development.

The activities arising from each of these phases will be included in the impact assessment tables. This is to identify activities that require certain environmental management actions to mitigate the impacts arising from them. The assessment of the impacts will be conducted according to a synthesis of criteria required by the integrated environmental management procedure.

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Extent The physical and spatial scale of the impact.	Footprint	The impacted area extends only as far as the activity, such as footprint occurring within the total development area.
	Site	The impact could affect the whole, or a significant portion of the site.
	Regional	The impact could affect the area including the neighbouring farms, the transport routes and the adjoining towns.
	National	The impact could have an effect that expands throughout the country (South Africa).
	International	Where the impact has international ramifications that extend beyond the boundaries of South Africa.
Duration The lifetime of the impact, that is measured in relation to the lifetime of the proposed development.	Short Term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than that of the construction phase.
	Short-Medium Term	The impact will be relevant through to the end of a construction phase.
	Medium Term	The impact will last up to the end of the development phases, where after it will be entirely negated.
	Long Term	The impact will continue or last for the entire operational lifetime of the development, but will be mitigated by direct human action or by natural processes thereafter.
	Permanent	This is the only class of impact, which will be non-transitory. 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.
Intensity Is the impact destructive or benign, does it destroy the impacted environment, alters its functioning, or slightly alter the environment itself?	Low	The impact alters the affected environment in such a way that the natural processes or functions are not affected.
	Medium	The affected environment is altered, but functions and processes continue, albeit in a modified way.
	High	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.
Probability The likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time.	Improbable	The possibility of the impact occurring is none, due either to the circumstances, design or experience. The chance of this impact occurring is zero (0%).
	Possible	The possibility of the impact occurring is very low, due either to the circumstances, design or experience. The chances of this impact occurring is defined as 25%.
	Likely	There is a possibility that the impact will occur to the extent that provisions must therefore be made. The chances of this impact occurring is defined as 50%.
	Highly Likely	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up before carrying out the activity. The chances of this impact occurring is defined as 75%.
	Definite	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on. The chance of this impact occurring is defined as 100%.

Mitigation – The impacts that are generated by the development can be minimised if measures are implemented in order to reduce the impacts. The mitigation measures ensure that the development considers the environment and the predicted impacts in order to minimise impacts and achieve sustainable development.

Determination of Significance – Without Mitigation – Significance is determined through a synthesis of impact characteristics as described in the above paragraphs. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. The significance of the impact “without mitigation” is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, significance is noted as “positive”. Significance will be rated on the following scale:

No significance: The impact is not substantial and does not require any mitigation action;

Low: The impact is of little importance, but may require limited mitigation;

Medium: The impact is of importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels; and

High: The impact is of major importance. Failure to mitigate, with the objective of reducing the impact to

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acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Determination of Significance – With Mitigation – Determination of significance refers to the foreseeable significance of the impact after the successful implementation of the necessary mitigation measures. Significance with mitigation will be rated on the following scale:

No significance: The impact will be mitigated to the point where it is regarded as insubstantial;

Low: The impact will be mitigated to the point where it is of limited importance;

Low to medium: The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels;

Medium: Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw;

Medium to high: The impact is of major importance but through the implementation of the correct mitigation measures, the negative impacts will be reduced to acceptable levels; and

High: The impact is of major importance. Mitigation of the impact is not possible on a cost-effective basis. The impact is regarded as high importance and taken within the overall context of the project, is regarded as a fatal flaw. An impact regarded as high significance, after mitigation could render the entire development option or entire project proposal unacceptable.

Assessment Weighting – Each aspect within an impact description was assigned a series of quantitative criteria. Such criteria are likely to differ during the different stages of the project's life cycle. In order to establish a defined base upon which it becomes feasible to make an informed decision, it will be necessary to weigh and rank all the identified criteria.

Ranking, Weighting and Scaling – For each impact under scrutiny, a scaled weighting factor will be attached to each respective impact. The purpose of assigning such weightings serve to highlight those aspects considered the most critical to the various stakeholders and ensure that each specialist's element of bias is taken into account. The weighting factor also provides a means whereby the impact assessor can successfully deal with the complexities that exist between the different impacts and associated aspect criteria.

Simply, such a weighting factor is indicative of the importance of the impact in terms of the potential effect that it could have on the surrounding environment. Therefore, the aspects considered to have a relatively high value will score a relatively higher weighting than that which is of lower importance (See Figure below: Weighting description).

Extent	Duration	Intensity	Probability	Weighting Factor (WF)	Significance Rating (SR)	Mitigation Efficiency (ME)	Significance Following Mitigation (SFM)
Footprint 1	Short term 1	Low 1	Probable 1	Low 1	Low 0-19	High 0,2	Low 0-19
Site 2	Short to medium 2		Possible 2	Low to medium 2	Low to medium 20-39	Medium to high 0,4	Low to medium 20-39
Regional 3	Medium term 3	Medium 3	Likely 3	Medium 3	Medium 40-59	Medium 0,6	Medium 40-59
National 4	Long term 4		Highly Likely 4	Medium to high 4	Medium to high 60-79	Low to medium 0,8	Medium to high 60-79
International 5	Permanent 5	High 5	Definite 5	High 5	High 80-100	Low 1,0	High 80-100

Figure 2: Description of bio-physical assessment parameters with its respective weighting

Identifying the Potential Impacts Without Mitigation Measures (WOM) – Following the assignment of the necessary weights to the respective aspects, criteria are summed and multiplied by their assigned weightings, resulting in a value for each impact (prior to the implementation of mitigation measures).

Equation 1: Significance Rating (WOM) = (Extent + Intensity + Duration + Probability) x Weighting Factor

Identifying the Potential Impacts With Mitigation Measures (WM) – In order to gain a comprehensive understanding of the overall significance of the impact, after implementation of the mitigation measures, it will be necessary to re-evaluate the impact.

Mitigation Efficiency (ME) – The most effective means of deriving a quantitative value of mitigated impacts is to assign each significance rating value (WOM) a mitigation effectiveness (ME) rating. The allocation of such a rating is a measure of the efficiency and effectiveness, as identified through professional experience and empirical evidence of how effectively the proposed mitigation measures will manage the impact.

Thus, the lower the assigned value the greater the effectiveness of the proposed mitigation measures and subsequently, the lower the impacts with mitigation.

Equation 2: Significance Rating (WM) = Significance Rating (WOM) x Mitigation Efficiency
 Or
 WM = WOM x ME

Significance Following Mitigation (SFM) – The significance of the impact after the mitigation measures are taken into consideration. The efficiency of the mitigation measure determines the significance of the impact. The level of impact will, therefore, be seen in its entirety with all considerations taken into account.

2.2.3 Integration of Specialist’s Input

In order to maintain consistency in the impact assessment, it is suggested that all potential impacts to the environment (or component of the environment under review) should be listed in a table similar to the example shown below (more than one table will be required if impacts require assessment at more than one scale). The assessment parameters used in the table should be applied to all of the impacts and a brief descriptive review of the impacts and their significance will then be provided in the text of the specialist reports and consequently in the BAR.

Table 1: Example of an Impact Table

Impact source(s)		Status	
Nature of impact			
Reversibility of impact			
Affected stakeholders			
Magnitude	Extent		
	Intensity		
	Duration		
	Probability		
Significance	Without mitigation		
	With mitigation		

2.2.4 Mitigation Measures

Mitigation measures will be recommended in order to enhance benefits and minimise negative impacts and they will address the following:

- **Mitigation objectives:** what level of mitigation must be aimed at: For each identified impact, the specialist must provide mitigation objectives (tolerance limits) which would result in a measurable reduction in impact. Where limited knowledge or expertise exists on such tolerance limits, the specialist must make an “educated guess” based on his/ her professional experience;
- **Recommended mitigation measures:** For each impact the specialist must recommend practicable mitigation actions that can measurably affect the significance rating. The specialist must also identify management actions, which could enhance the condition of the environment. Where no mitigation is considered feasible, this must be stated and reasons provided;
- **Effectiveness of mitigation measures:** The specialist must provide quantifiable standards (performance criteria) for reviewing or tracking the effectiveness of the proposed mitigation actions, where possible; and
- **Recommended monitoring and evaluation programme:** The specialist is required to recommend an appropriate monitoring and review programme, which can track the efficacy of the mitigation objectives. Each environmental impact is to be assessed before and after mitigation measures have been implemented. The management objectives, design standards, etc., which, if achieved, can eliminate, minimise or enhance potential impacts or benefits. National standards or criteria are examples, which can be stated as mitigation objectives.

Once the above objectives have been stated, feasible management actions, which can be applied as mitigation, must be provided. A duplicate column on the impact assessment tables described above will indicate how the application of the proposed mitigation or management actions has reduced the impact. If the proposed mitigation is to be of any consequence, it should result in a measurable reduction in impacts (or, where relevant, a measurable benefit).

2.3 Approach to the Assessment of Cumulative Impacts

Cumulative impacts can arise from one or more activities. A cumulative impact may result in an additive impact i.e. where it adds to the impact which is caused by other similar impacts or an interactive impact i.e. where a cumulative impact is caused by different impacts that combine to form a new kind of impact. Interactive impacts may be either countervailing (the net adverse cumulative impact is less than the sum of the individual impacts) or synergistic (the net adverse cumulative impact is greater than the sum of the individual impacts). Possible cumulative impacts of the project have been evaluated in this Final BAR. In addition, various other cumulative impacts e.g. other external impacts that could arise from the project will be further investigated in the Final BAR.

The assessment of cumulative impacts on a study area is complex, especially if many of the impacts occur on a much wider scale than the site being assessed and evaluated. It is often difficult to determine at which point the accumulation of many small impacts reaches the point of an undesired or unintended cumulative impact that should be avoided or mitigated. There are often factors which are uncertain when potential cumulative impacts are identified.

2.3.1 Steps in Assessing Cumulative Impacts

The assessment of cumulative impacts will not be done separately from the assessment of other impacts. Cumulative impacts however, tend to have different time and space dimensions and therefore require specific steps. This may even mean that some of the actions in the assessment process, that preceded general impact identification, may have to be revisited after potential cumulative impacts have been identified. This will ensure that the scope of the BAR process is adequate to deal with the identified cumulative impacts.

Three (3) general steps, which are discussed below, will be recommended to ensure the proper assessment of cumulative impacts.

2.3.2 Determining the Extent of Cumulative Impacts

To initiate the process of assessing cumulative impacts, it is necessary to determine what the extent of potential cumulative impacts will be. This will be done by adopting the following approach:

- Identify potentially significant cumulative impacts associated with the proposed activity;
- Establish the geographic scope of the assessment;
- Identify other activities affecting the environmental resources of the area; and
- Define the goals of the assessment.

2.3.3 Describing the Affected Environment

The following approach is suggested for the compilation of a description of the environment:

- Characterise the identified external environmental resources in terms of their response to change and capacity to withstand stress;
- Characterise the stresses affecting these environmental resources and their relation to regulatory thresholds; and
- Define a baseline condition that provides a measuring point for the environmental resources that will be impacted on.

2.3.4 Assessment of Cumulative Impacts

The general methodology which is used for the assessment of cumulative impacts should be coherent and should comprise of the following:

- An identification of the important cause-and-impact relationships between proposed activity and the environmental resources;
- A determination of the magnitude and significance of cumulative impacts; and
- The modification, or addition, of alternatives to avoid, minimize or mitigate significant cumulative impacts.

A. CONSTRUCTION PHASE

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

Ground Water Pollution

Hydrocarbons-based fuels or lubricants spilled from construction vehicles may be washed into ground water. Should appropriate toilet facilities not be provided for construction workers at the construction crew camps, the potential exists for groundwater resource to be contaminated by raw sewage. While it is acknowledged that the impacts associated with the proposed activities will be low, every effort should still be taken so as to limit additional contributions. This is based on the fact that no ground water was encountered during the Geotechnical investigation (2014). The presence of the pedogenic material however indicates that a perched water table could be present during and after periods of high rainfall.

Table 2: Ground Water Pollution Assessment

Impact source(s)	Building Material (concrete and/or cement), fuel spillages from construction vehicles and fuel storage areas not properly banded	Status	
Nature of impact	Construction materials and fuel may pollute the ground water on site.		
Reversibility of impact	The impact is reversible and can be mitigated to a large extent		
Affected stakeholders	Surrounding Communities		
Magnitude	Extent	Site 2	
	Intensity	Medium 3	
	Duration	Short Term 1	
	Probability	Likely 3	

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

Significance	Without mitigation	<i>(Extent + Intensity + Duration + Probability) x WF</i> $(2+3+1+3) \times 5 = 45$	M
	With mitigation	$WOM \times ME = WM$ $45 \times 0.4 = 18$	L

Mitigation measures:

- Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants;
- Oil residues must be treated with an oil absorbing substance, such as Dritzit or similar, until the material has been removed. This polluted material must then be disposed of at licensed waste disposal site.
- A walled concrete platform, dedicated store with adequate flooring (or berming) and ventilation should be used for the storage of potentially hazardous chemicals such as oils, fuels, paints, insecticides etc.
- Surface water draining off contaminated areas containing oil and petrol would need to be channeled towards a sump which will separate these chemicals and oils;
- Concrete and tar shall be mixed only in areas, which have been specially demarcated for this purpose;
- Contractor/s must provide regularly serviced chemical toilets for the construction workers.
- No materials may be discharged from the construction camp.
- Underground services should be designed in such a way that will least disturb the ground surfaces should maintenance be required.
- An adequate stormwater management plan must be implemented during the construction phase to ensure the controlled flow of water on site (Condition of the Environmental Authorisation).
- Construction of the filling station should preferably take place during the dryer winter months.
- All excavations should be provided with adequate drainage, specific attention should be given to the fuel tanks. Structures should be provided with damp proofing and provision should be made to prevent the ingress of water into– and below foundations
- At least three monitoring boreholes should be drilled around the underground fuel storage tanks. The boreholes need to be perforated as to capture LNAPLs (Light Non-Aqueous Phase Liquid)

Traffic

The proposed new filling station will be situated on the corner of Paul Kruger and Malherbe Streets and they will serve as ingress and egress lanes during construction. Coupled with the BRT lanes, the traffic could become problematic during the construction phase.



Figure: BRT routes on Paul Kruger Street

Table 3: Traffic Impact Assessment

Impact source(s)	Delivery of construction supplies, staff and equipment		Status	-
Nature of impact	Traffic Congestion			
Reversibility of impact	The impact is reversible			
Degree of irreplaceable loss of resource	N/A			
Affected stakeholders	Road users and Adjacent Landowners			
Magnitude	Extent	Site 2		
	Intensity	Medium 3		
	Duration	Short Term 1		
	Probability	Highly Likely 4		

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

Significance	Without mitigation	<i>(Extent + Intensity + Duration + Probability) x WF</i> $(2+3+1+4) \times 3 = 30$	L- M
	With mitigation	<i>WOM x ME = WM</i> $30 \times 0.8 = 24$	L- M

Mitigation measures:

- It is recommended that the applicant provides the required road reserve to also widen the eastern approach to three lanes since the BRT will result in a large reduction in private vehicle capacity along Paul Kruger Street.
- The application site has to provide about 3 to 4m along Malherbe Street to make provision for three approach lanes at the stop line.
- The construction of a 1.5m wide paved sidewalk is recommended on all the street boundaries of the application site.
- Access roads for earthmoving-equipment must be clearly designated and be positioned as close as possible to the proposed development site. No driving off from the marked roads is permitted and designated parking areas must be identified and demarcated with applicable signage; and
- Proper communication lines should be established with adjacent businesses so as to inform them of the process.
- Vehicular movement beyond the site boundaries must be limited during peak hour traffic, i.e. between 07:00-09:00am, and 16:00-18:00pm.
- Road planning should be done by engineers and sufficient and proper traffic signs as required by the local council must be provided in order to regulate traffic on the surrounding street network.
- Ensure that the necessary signage and traffic measures are implemented for safe and convenient access to filling station.
- All road infrastructures must be designed and conducted according to the standards of the CoT.

Soils contamination, erosion and stability

Bare compacted soils currently dominate the site. There will be an increase in stormwater flows from the site potentially leading to erosion where stormwater is discharged in an uncontrolled manner. There could potentially be localised instances of soil pollution due to hydrocarbon spillages from construction equipment and vehicles.

Table 4: Soil contamination, erosion and stability Impact Assessment

Impact source(s)	Soil mismanagement		Status	-
Nature of impact	Soil contamination, erosion and instability			
Reversibility of impact	The impact is irreversible but can be mitigated			
Affected stakeholders	Not Applicable			
Magnitude	Extent	Site 2		
	Intensity	Medium 3		
	Duration	Long Term 4		
	Probability	Highly Likely 4		
Significance	Without mitigation	<i>(Extent + Intensity + Duration + Probability) x WF</i> $(2+3+4+4) \times 2 = 26$	L-M	
	With mitigation	<i>WOM x ME = WM</i> $26 \times 0.2 = 5.2$	L	

Mitigation measures:

- The construction phase should preferably take place in the dry winter months.
- As much vegetation as possible should remain on site wherever possible to help decrease surface water flow velocity, and increase filtration.
- Stockpiles must not exceed more than 2m in height.
- Stockpiles must not be stored for excessively long periods. If it is found that a stockpile will be stored for long periods then it must not exceed a vertical horizontal ratio or 1:1,5m to prevent compaction.
- Any stockpile stored for long periods must be retained in a bermed area.
- Stockpiles must be covered during excessively windy conditions.
- Regular checks on the quality and compaction of the backfill below slab level (and on terraces) should be conducted.
- All water bearing services must be provided with flexible couplings where pipes enter the buildings.
- Appropriate damp proofing and ground water control precautions should be implemented below all structures, paved areas, and any exposed excavated surfaces on terraces.
- An adequate stormwater management plan must be implemented during the construction phase to ensure the controlled flow of water on site (Condition of the Environmental Authorisation).
- Construction of the filling station should preferably take place during the dryer winter months.
- All excavations should be provided with adequate drainage, specific attention should be given to the fuel tanks. Structures should be provided with damp proofing and provision should be made to prevent the ingress of water into- and below foundations
- At least three monitoring boreholes should be drilled around the underground fuel storage tanks. The boreholes need to be perforated as to capture LNAPLs (Light Non-Aqueous Phase Liquid)

Flora and Fauna Displacement

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

Bare compacted soils currently dominate the site and the ecological sensitivity of the site is considered low. However, two (2) large trees exist on the site and their removal should be undertaken with care.



Figure 3: Current Land Use

Table 5: Flora and Faunal Displacement

Impact source(s)	Site Clearance		Status	-
Nature of impact	Ecological disturbance			
Reversibility of impact	The impact is irreversible but can be mitigated			
Affected stakeholders	Not Applicable			
Magnitude	Extent	Site 2		
	Intensity	Low 1		
	Duration	Long Term 4		
	Probability	Definite 5		
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(2+1+4+5) \times 3 = 36$		L-M
	With mitigation	$WOM \times ME = WM$ $36 \times 0.6 = 21.6$		L-M

Mitigation measures:

- The construction phase should preferably take place in the dry winter months as avi-faunal activity will be lower and the breeding season only occurs within the warmer months of the year.
- Confirmation of roosting activity should be confirmed prior to trees being removed.

Heritage Resources

There are no heritage features on site or in close proximity to the proposed site of the filling station. However, the potential always exists that earthworks and excavation could unearth features of cultural significance. Should such works be undertaken without regard to the National Heritage Resources Act, 1999 (Act No. 25 of 1999), or without care, it could happen that if a heritage feature or artifact is found it could be destroyed. No HIA was undertaken based on the current built-up nature of the site. The site will be re-developed and not developed as such.

Table 6: Heritage Resources Impact Assessment

Impact source(s)	Construction works		Status	-
Nature of impact	Heritage Resources destruction.			
Reversibility of impact	The impact is reversible			
Degree of irreplaceable loss of resource	N/A			
Affected stakeholders	N/A			
Magnitude	Extent	Footprint 1		
	Intensity	High 5		
	Duration	Permanent 5		
	Probability	Probable 1		
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(1+5+5+1) \times 1 = 12$		L
	With mitigation	$WOM \times ME = WM$ $12 \times 0.2 = 2.4$		L

Mitigation Measures:

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

- Should any heritage artifacts be exposed during excavation, work on the area where the artifacts were discovered must stop immediately and the Environmental Control Officer (ECO) must be notified as soon as possible;
- All discoveries must be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the find can be made. Acting upon advice from these specialists, the ECO will advise the necessary actions to be taken; and
- Under no circumstances must any artifacts be removed, destroyed or interfered with by anyone on site.

Noise

Noise will be generated during the construction phase. Some of the activities which could constitute a noise nuisance during construction are power tools, driving, loading and offloading, vehicle hooters and reverse sirens. This impact is specifically important in this development because of the proximity to the existing surrounding land uses.

Table 7: Noise Impact Assessment

Impact source(s)	Power tools, driving, loading and offloading, vehicle hooters and reverse sirens		Status	-
Nature of impact	Noise nuisance caused to the surrounding communities and businesses			
Reversibility of impact	The impact is irreversible but can be mitigated			
Affected stakeholders	Surrounding land users			
Magnitude	Extent	Regional 3		
	Intensity	Medium 3		
	Duration	Short Term 1		
	Probability	Definite 5		
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(3+3+1+5) \times 5 = 60$		M-H
	With mitigation	$WOM \times ME = WM$ $60 \times 0.8 = 48$		M

Mitigation measures:

- All reasonable precautions must be taken to minimise noise generated on site.
- The careful placement of potentially noisy machinery such that openings for air intakes, for example for compressors, air conditioning, or pumping machinery should face Paul Kruger or Malherbe Streets.
- Careful landscaping, and siting of walls and auxiliary buildings on or near the residential boundary can form a useful noise barrier for activities on the site, and as an added benefit, will reduce noise from the existing roads
- Construction vehicles must be kept in good working order so as not to generate excessive noise.
- The contractor may not use sound amplification equipment on site.
- Contractors will not be allowed to be housed on site
- Activities which will lead to excessive noise should be limited to take place during the day.
- Construction activities must strictly be limited to normal working hours during the week, i.e. 07:00am until 17:00pm.
- If construction is required on the weekend, permission to do so must be granted from the adjacent land users beforehand (in a radius of 100m).
- Construction vehicles must be kept in good working condition at all times to prevent becoming the source of excess noise.
- The construction crew must abide by the National Noise laws and the local "by-laws" regarding noise.

Employment creation

The proposed development could create employment opportunities for the surrounding communities during the construction phase of the development. The construction phase will create short to medium term employment opportunities for skilled and unskilled labourers, as well as training opportunities for unskilled labourers.

Table 8: Employment

Impact source(s)	Construction Activities		Status	+
Nature of impact	Employment			
Reversibility of impact	The impact is irreversible			
Degree of irreplaceable loss of resource	N/A			
Affected stakeholders	Surrounding Communities Interested and Affected Parties (I&APs)			
Magnitude	Extent	National 4		
	Intensity	Low 1		
	Duration	Short Term 1		
	Probability	Highly Likely 4		
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(4+1+1+4) \times 4 = 40$		M
	With mitigation	Not applicable		

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

Mitigation measures:

- Local skills should be sourced where possible
- Local materials should be purchased where possible and feasible to stimulate local business

Increase in ambient dust levels (Air Pollution)

Construction activities, such as vehicles travelling on exposed surfaces, excavations and earthworks will result in elevated ambient dust levels within the area during the construction phase. Increased dust levels may adversely affect persons working and/or residing in the nearby area.

Table 9: Increase in ambient dust levels (Air Pollution)

Impact source(s)	Construction activities on site such as excavations, etc.		Status	-
Nature of impact	Increased ambient dust levels			
Reversibility of impact	Not reversible			
Affected stakeholders	Surrounding occupiers of land, businesses as well as construction workers			
Magnitude	Extent	Regional 3		
	Intensity	Medium 3		
	Duration	Short Term 1		
	Probability	Definite 5		
Significance	Without mitigation	(Extent + Intensity + Duration + Probability) x WF (3+3+1+5) x 5 = 60		M-H
	With mitigation	WOM x ME = WM 60 x 0.6 = 36		L - M

Mitigation Measures:

- Vehicles transporting friable materials such as sand, gravel etc. must be covered with a tarpaulin, and their speed must be limited to 40km/hr.
- Rubbish/waste bins must remain covered at all times.
- All construction vehicles should be in good working order to prevent unnecessary exhaust fumes.
- Appropriate dust suppression methods must be applied.
- Exposed soil stockpiles shall be covered, kept damp or protected using organic binding agents or alternative techniques that are not water intensive.
- The clearing of vegetation must be kept to a minimum and only undertaken where and when required.
- Avoid unnecessary movement of construction vehicles on exposed soils.
- Regular wetting of exposed surfaces should take place daily to avoid unnecessary dust transporting off-site (frequency should be increased during windy conditions)

Visual impact

A wall has been constructed all around the site, obscuring the views of the road users. The wall will be demolished for the construction of the filling station infrastructure. Construction activities could cause unsightly views as the soils are exposed. Stockpiles, site offices and construction equipment will add to the visual intrusion. The visual intrusion will decrease with time as construction of the development nears completion and the construction activities will be cleared. The simultaneous construction of the BRT lanes on Paul Kruger however lessens the visual intrusion of the project.

Table 10: Visual impact of construction activities on visual receptors

Impact source(s)	Construction activities including construction camps, material lay down yards etc		Status	-
Nature of impact	Views of the construction activities			
Reversibility of impact	Partially reversible through the implementation of adequate visual mitigation measures during the construction phase.			
Affected stakeholders	Surrounding land users, motorists travelling along Paul Kruger and Malherbe Streets			
Magnitude	Extent	Site 2		
	Intensity	Low 1		
	Duration	Short term 1		
	Probability	Likely 3		
Significance	Without mitigation	(Extent + Intensity + Duration + Probability) x WF (2+1+1+3) x 3 = 21 Low to Medium		L - M
	With mitigation	WOM x ME = WM 21 x 0.6 = 12.6 Low		L

Mitigation measures

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

- Utilise the existing screening capacity of the site and improve it by enclosing the construction site and stockyards with a dark green or khaki brown shade cloth of at least 20% density and at least 3 metres high, as an additional screen.
- Keep the construction sites and camps neat, clean and organised in order to portray a tidy appearance.
- Remove rubble and other construction rubbish off site as soon as possible or place it in containers in order to keep the construction site free from additional unsightly elements.
- Dust suppression techniques should be implemented especially on windy days, preferably using biodegradable binding agents.
- If practically possible, locate construction camps in areas that are already disturbed or where it is not necessary to remove established vegetation.
- Exposed soil must be covered or 'camouflaged' using a biodegradable soil mat and vegetation cover to reduce the duration of visible scarring of the landscape.
- The construction camp (if required) must be placed in areas that will least impact adjacent land users.
- Down lighting must be used wherever possible to prevent light impacting the adjacent land users.
- A landscaping management plan appropriate to the scale of the project should be implemented as soon as possible

Crime, safety and security

During construction, there will be an influx of construction workers and associated persons into the area, which may have a resultant impact on increased crime and/or criminal activity within the area. Construction workers will also have to commute to site, thus increasing the demand for taxi services within the area which may further facilitate unwanted groups/ criminals accessing the area.

Construction activities could lead to injuries to staff or the public. Where heavy equipment is used, dangerous situations are created and the risk of injury increases. Additionally, the activities of the construction personnel may, potentially, contribute to an increase in the level of crime in the area.

Table 11: Increase in crime, safety and security

Impact source(s)	The congregation of construction workers on site and the risk of storage and use of heavy-duty equipment for construction activities.		Status	-
Nature of impact	Safety of personnel & equipment, Safety and security			
Reversibility of impact	NA			
Affected stakeholders	Local communities, including schools and businesses			
Magnitude	Extent	Regional 3		
	Intensity	Medium 3		
	Duration	Short to medium term 2		
	Probability	Likely 3		
Significance	Without mitigation	(Extent + Intensity + Duration + Probability) x WF (3+3+2+3) x 4 = 44 Medium		M
	With mitigation	WOM x ME = WM 44 x 0.8 = 35.2 Low		L - M

Mitigation measures

- Excavated areas must be clearly demarcated.
- A fence or similar barrier must be erected around the site to prevent public entrance.
- The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act No.85 of 1993) (OHSA) and the National Building Regulations.
- Ensure that the handling of equipment and material is under control of competent personnel and is supervised and adequately instructed.
- Ensure all members of the work force are well-informed of all necessary emergency procedures.
- Limit access to the site. The public are not to have access to the development site.
- Ensure that the contact details of the police or relevant security company, ambulance service and fire brigade are available on site.
- No informal trading will be allowed on the site or in close proximity to the site (i.e. along Paul Kruger and Malherbe Streets).
- Do not allow for the congregation of vagrants on or near the site.

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

The following specialist studies have been undertaken and the reports are appended in Appendix G of this Final BAR.

- **Traffic Impact Study and Viability Study (Techworld Consulting Engineers, May 2014);**
- **Geotechnical Investigation;**
- **Geo-hydrological Study (Hydro-census) (SEF, April 2014); and**
- **Noise Impact - Professional Opinion (JH CONSULTING, 2015)**

3. CUMULATIVE IMPACTS

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

Cumulative impacts result from actions which may not be significant on their own but which are significant when added to the impact of other similar actions. The anticipated impacts resulting from the construction and implementation of the development could potentially result in cumulative negative effects when taking the following into consideration.

- **The only cumulative impact relates to the acceleration of development within the Capital Park area which is positive in light of the Gauteng RSDF and close proximity of the Pretoria CBD.**

A. OPERATIONAL PHASE

Ground Water Pollution

The proposed activity has a potential to contaminate the groundwater through possible accident of leakage and infiltration to the sub-surface. The proposed study area is located in the residential zone and any possible groundwater pollution will have impact on down-gradient located external user's boreholes. The possible leakage from USTs and pipe work that will be buried at a certain depth can occur. Possible Volatile Organic Compounds (VOCs) leaks could lead to soil and groundwater contamination if undetected. The proposed development will allow the installation of a leak detection system. Based on the advanced leak detection system technology and alignment with the Sasol specifications, the significance following mitigation is considered Low-Medium for this impact.

Table 12: Ground water pollution

Impact source(s)	Leaks from USTs and pipe works, and contaminants impact on groundwater resources on a regional scale		Status	-
Nature of impact	Groundwater contamination			
Reversibility of impact	The impact is irreversible but can be mitigated			
Affected stakeholders	Groundwater users			
Magnitude	Extent	Regional 3		
	Intensity	High 5		
	Duration	Long Term 4		
	Probability	Possible 2		
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(3+5+4+2) \times 4 = 56$		M
	With mitigation	$WOM \times ME = WM$ $56 \times 0.4 = 22.4$		L-M

Mitigation measures:

- The USTs must conform to all relevant standards. The latest technology of manufacturing such tanks must be employed to further reduce the already low to medium likelihood of groundwater contamination from leaks.
- All USTs must be placed in water proof brick or concrete containers that are equipped with water table monitoring equipment to measure the presence and level of any seepage fluids within the container.
- All surface water run-off must be channelled in lined canals and allowed to accumulate in lined sumps to prevent the water from seeping into the permeable soil profile.
- Leak detection systems should be installed.
- The approved Environmental Management Plan must be implemented and overseen by an Environmental Control Officer (ECO).
- If excessive spillage of oil and fuel etc. should occur due to accidents, it should be cleaned-up immediately.
- Regular monitoring and maintenance of the road to ensure that foreign items are collected and suitably disposed of e.g. collection and disposal of debris.
- Stormwater infrastructure must be designed in such a manner that surface water flow i.e. is limited (a comprehensive stormwater management plan must be approved prior to construction commencing)
- Road users must ensure that their vehicles are in good working condition so as to prevent the unnecessary leaks of fuels, oils, or other motor vehicle lubricants.
- There is a need to verify groundwater levels from the boreholes identified by the hydrocensus through negotiations with owners in terms of creating access holes for the dip-meter (water level meter).
- At least three monitoring boreholes should be drilled around the USTs. The boreholes need to be perforated as to capture Light Non-Aqueous Phase Liquids (LNAPLs).
- Groundwater monitoring programme/plan need to be developed for the groundwater management of the area to monitor the potential leakage of contaminants and spillages and it should include a remedial approach.
- It is recommended that soil samples be taken and tested to determine a base value for petroleum hydrocarbons once excavations have been made during construction of the filling station.
- It is recommended that a construction report be compiled for the development in order to confirm or adapt the results of the investigations and to provide more accurate information regarding the structural geological- and geo-hydrological conditions.

BASIC ASSESSMENT REPORT [REGULATION 22(1)]

- All surface areas utilized for the proposed UST's and peripheral infrastructure must be appropriately paved to prevent ingress of contaminated water into the ground.
- Appropriate damp proofing and drainage precautions must be implemented beneath all fuel storage areas to prevent ground water pollution during periods of sustained rainfall.
- The UST's should be placed in concrete encasements with a sump system to prevent spilled fuel from entering the soil and rock.
- Paving must be provided around the perimeter of all structures. Joints between the paved areas and walls must be sealed with a flexible sealant to prevent moisture from reaching the foundation.

Risk of Fires and Explosions

The transportation of fuel by means of an oil tanker, the storage of large volumes of flammable diesel/petrol in a confined space pose fire and explosion hazards along the transport routes to and at the filling station. There is also the potential for fires to occur during vehicle fuelling and filling of the UST by oil tankers.

Table 13: Fires and Explosions

Impact source(s)	Fuel transport, storage of highly flammable substances and refueling of UST activities		Status	
Nature of impact	Operational activities			
Reversibility of impact	Reversible			
Affected stakeholders	Surrounding land users and employees			
Magnitude	Extent	Regional 3		
	Intensity	High 5		
	Duration	Long Term 4		
	Probability	Probable 1		
Significance	Without mitigation	(Extent + Intensity + Duration + Probability) x WF (3+5+4+1) x 4 = 52		M
	With mitigation	WOM x ME = WM 52 x 0.2 = 10.4		L

Mitigation measures:

- The following legislation and regulatory controls must be adhered to:
 - Hazardous Substances Act, 1973 (Act No.15 of 1973);
 - Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);
 - Road Traffic Act, 1989 (Act No. 29 of 1989);
 - Fire Brigade Services Act, 1987 (Act No. 99 of 1987);
 - SABS 0131:1977: The storage and Handling of Liquid Fuel. Part 1: Small Consumer Installations;
 - SABS 0131:1979: The storage and Handling of Liquid Fuel. Part 11: Larger Consumer Installations;
 - SABS 0131:1982: The storage and Handling of Liquid Fuel. Part 111: Bulk-flash-point fuel storage and allied facilities at large consumer installations;
 - SABS 0131:1999: The petroleum industry. Part 3: The installation of underground storage tanks, pumps/dispensers and pipe work at filling stations and consumer installations;
 - National Building and Regulations and Standards Act 103 of 1977;
 - SANS 10089 - 2:2007 - Electrical and other installations in the distribution and marketing sector;
 - SANS 10089 - 3:1999 - The petroleum industry Part 3: The installation of underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations;
 - SANS 10108:2005 - Classification of hazardous locations and selection of apparatus from such installation;
 - SANS 10400:1990 - The application of the National Building Regulations
 - SANS 1186-1:2008 - Symbolic safety signs Part 1: Standard signs and general requirements;
 - SANS 1535:2007 - Glass-reinforced polyester-coated steel tanks for the underground storage of hydrocarbons and oxygenated solvents and intended for burial horizontally; and
 - Local municipality By- laws, Regulations and Requirements.
- Install fire extinguishers in areas that are easily accessible in the event of a fire;
- Regularly monitor the petrol tanks and pipes to ensure that leaks are not prevalent; and
- The Emergency Response Plan must include a specific Fire Plan.

Financial Viability of competitor sites

The proposed development of a new filling station will directly impact the litres sold per month by other existing filling stations in the area. The proposed filling station will have several profit centres in addition to fuel sales as indicated above. It can be expected that the fuel sales will grow hand in hand with the growth in bypassing traffic.

Expected fuel sales of 250,000 litres/month is generally accepted as a viable filling station given average parameters in terms of traffic and development cost. The proposed filling station is very viable on the basis of expected fuel sales of 350,000 litres/month after its opening.

The site and the proposed development comply with the following criteria for selection of filling station facilities, including:

- Location on a busy main road;
- Visibility from the road
- Customer friendly and easy access

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- Parking for customer
- Affordable rentals/sales for the specific area
- Sufficient property size
- Defined and safe access points
- Sufficient traffic flow for the required fuel sales

Table 14: Financial Viability of competitor sites

Impact source(s)	Operational Activities		Status	-
Nature of impact	Filling station in trading			
Reversibility of impact	The impact is reversible			
Degree of irreplaceable loss of resource	N/A			
Affected stakeholders	N/A			
Magnitude	Extent	Regional 3		
	Intensity	High 5		
	Duration	Permanent 5		
	Probability	Definite 5		
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(3+5+5+5) \times 5 = 90$	H	
	With mitigation	$WOM \times ME = WM$ $90 \times 0.8 = 72$	M-H	

Mitigation measures:

- Competitors sites can increase their chances of retaining clients by means of the following:
 - Increase visibility and upgrade current facilities to be more aesthetically appealing to motorist; and
 - Add amenities such as car wash facilities, ATM and fast food outlets.

Traffic Impact Assessment

A filling station is not a primary trip generator since about 85% of the total trips generated are passer-by trips that are intercepted from the adjacent road network. About 75% of the 85% intercepted trips are fuel related while the remainder are generated by the ancillary uses on the site such as the C-Store. Very successful filling stations generally generate (primary plus intercepted trips) less than 1000 vehicle trips per day of which less than 10% occur during the respective peak hours.

The traffic impact of a small fast food component even at a high trip rate of 50 trips per 100 m² GLA is not significant given that only 50 trips will be generated by a typical 100 m² outlet of which only a proportion will be primary trips.

The traffic impact study showed that the proposed development is viable from a technical viewpoint; i.e. mostly access related, and from a financial viewpoint; i.e. based on the expected fuel sales, and are thus supported by the traffic investigation.

No road improvements are required, apart from the construction of the required accesses.

Table 15: Traffic Impact Assessment

Impact source(s)	Motorists using the new filling station, and road users		Status	-
Nature of impact	Traffic Congestion			
Reversibility of impact	The impact is reversible			
Degree of irreplaceable loss of resource	N/A			
Affected stakeholders	Motorists and adjacent businesses			
Magnitude	Extent	Regional 3		
	Intensity	Medium 3		
	Duration	Long Term 4		
	Probability	Likely 3		
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(3+3+4+3) \times 2 = 26$	L-M	
	With mitigation	$WOM \times ME = WM$ $26 \times 0.4 = 10.4$	L	

Mitigation measures:

- Comply with the minimum standards of the relevant design BB2 document (Gautrans, 2002: Guidelines for a filling stations accesses); and
- The delivery vehicle path for trucks and tankers must conform to roads safety standards.

Light Pollution

The lighting used at the filling station after hours (after 6pm), can possibly be a nuisance for adjacent land users.

Table 16: Light Pollution

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Impact source(s)	Lightning used for the operation of the filling station	Status	-
Nature of impact	Lighting pollution		
Reversibility of impact	The impact is reversible		
Degree of irreplaceable loss of resource	N/A		
Affected stakeholders	Adjacent businesses and landowners		
Magnitude	Extent	Regional 3	
	Intensity	Medium 3	
	Duration	Long Term 4	
	Probability	Likely 3	
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(3+3+4+3) \times 2 = 26$	L-M
	With mitigation	$WOM \times ME = WM$ $26 \times 0.8 = 20.8$	L

Mitigation measures:

- Use lighting techniques which are aesthetically pleasing and blend in with the surrounding urban environment;
- Screening from the adjacent residential land use via a tree screen should be considered, as this will aid in visual intrusion, noise absorption and lower pollution levels; and
- Low level lightning, screened luminaries and down lighters should be used to avoid the visual impact.

Noise

Noise associated with a filling station i.e. motorist using the filling station, fuel attendants and consumers making use of the amenities on site.

Table 17: Noise

Impact source(s)	Motorist using the filling station, fuel attendants and consumers making use of the amenities on site.	Status	-
Nature of impact	Noise nuisance		
Reversibility of impact	The impact is irreversible		
Degree of irreplaceable loss of resource	N/A		
Affected stakeholders	Adjacent businesses and landowners		
Magnitude	Extent	Regional 3	
	Intensity	Medium 3	
	Duration	Long Term 4	
	Probability	Highly Likely 4	
Significance	Without mitigation	$(Extent + Intensity + Duration + Probability) \times WF$ $(3+3+4+4) \times 3 = 42$	M
	With mitigation	$WOM \times ME = WM$ $42 \times 0.8 = 33.6$	L-M

Mitigation measures:

- Mitigation measures are as prescribed for the construction phase.

Job opportunities and Economic Stimulation

The new filling station will require labour during the operational phase and will also lead to economic stimulation within Capital Park. The total permanent jobs which will be created during the operational phase are estimated at 35. Further spin-off such as taxis transporting workers to and from the site and the supply of building material, will create further indirect employment. The development of the new filling station will stimulate the trade industry and lead to a higher economic activity within Capital Park.

The total value during the first 10 years for the operational phase is estimated at R 1.2 million. The expected capital value of the activity on completion is estimated at R8, 000,000.00.

Table 18: Job opportunities and Economic Stimulation

Impact source(s)	Operation of the filling station	Status	-
Nature of impact	Economic stimulation including job creation		
Reversibility of impact	Not reversible		
Affected stakeholders	Trade industry, skilled and unskilled labour in Capital Park		
Magnitude	Extent	Regional 3	
	Intensity	Medium 3	
	Duration	Long Term 4	
	Probability	Highly Likely 4	

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Significance	Without mitigation	(Extent + Intensity + Duration + Probability) x WF (3+3+4+4) x 4 = 64	M - H
	With mitigation	WOM x ME = WM N/A	N/A

Mitigation measures

- Goods and services should be bought from local suppliers; and
- Local labour must be sourced as far as possible

Crime, safety and security

The influx of customers on site could lead to a potential for criminal activity. Hence this needs to be avoided at all costs in order to ensure the safety and security of the public that use the filling station as well as the surrounding communities.

Table 19: Increase in crime, safety and security

Impact source(s)	I. Influx of people		Status	-
Nature of impact	Safety and security			
Reversibility of impact	Not reversible			
Affected stakeholders	Motorists and surrounding landowners			
Magnitude	Extent	Regional 3		
	Intensity	Medium 3		
	Duration	Short to medium term 2		
	Probability	Likely 3		
Significance	Without mitigation	(Extent + Intensity + Duration + Probability) x WF (3+3+2+3) x 4 = 44	M	
	With mitigation	WOM x ME = WM 44 x 0.8 = 35.2	L - M	

Mitigation measures

- Staff must regularly be informed of the necessary safety procedures and be competent in the work they are employed to do;
- Ensure that staff is familiar with the Occupational Health and Safety Policy and the Health, Safety, Security and Environmental Policy of the relevant contractor/developer;
- All the necessary safety regulations must be abided by including building codes and the fire practice requirements;
- Provide adequate facilities on site to treat emergencies to staff and/or the public;
- Ensure that the contact details of the police and/or Security Company, ambulance services and fire brigade are available on site;
- Do not allow for the congregation of vagrants on the site; and
- CCTV systems are to be installed.

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:

Stormwater runoff

Increased stormwater runoff due to the increase in paved surfaces.

Ground water contamination

Ground water contamination due to vehicles on site, and operational waste. This could impact on the surrounding water systems.

Traffic

Increased traffic to the area due to vehicles residing, working, motorists/ customers during its operation.

Visual

The general visual and light intrusion caused by the proposed development.

Socio-economic

Positive cumulative impact that will result from the proposed development include:

- Local economic benefits resulting from investment and development of the filling station services;

- Infill Development; and
- Job Opportunities.

Mitigation measures:

However if the above mentioned measures are adhered to, the negative cumulative impacts listed will not have a significant impact on the environment and the significance of these impacts will therefore be low.

5. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

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

At present it is not anticipated that the proposed development will ever be decommissioned in its entirety. Ongoing maintenance and upgrades, where necessary, will be carried out. In the unlikely event that decommissioning is necessary, it is recommended that a detailed decommissioning strategy and rehabilitation plan is prepared and implemented.

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

The following specialist studies have been undertaken and the reports are appended in Appendix G of this Final BAR.

- Traffic Impact Study and Viability Study (Techworld Consulting Engineers, May 2014)
- Geotechnical Study (Louis Kruger Geotechnics cc, 2014)
- Geo-hydrological Study (Hydro-census) (SEF, April 2014)
- Township Memorandum (MetroPlan, 2014)
- Noise Impact – Professional Opinion (JH CONSULTING, 2015)

6. ENVIRONMENTAL IMPACT STATEMENT

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

Proposal

All negative impacts identified for the proposed development can be mitigated provided the proposed mitigation measures are correctly implemented.

Construction Phase

During construction phase, various impacts were identified. These include Ground Water Pollution, Traffic, Soil contamination, erosion and stability, Flora and Fauna, Heritage Resources, Noise, Employment, Increase in dust, Visual, Crime, Safety and Security.

Majority of the impacts identified under construction phase were **LOW to MEDIUM IN SIGNIFICANCE** before mitigation measures except flora and fauna which the impact is negligible, and employment creation which is positive by itself before any mitigation measure. With mitigation measures in place all the identified impacts can be minimised into **LOW TO MEDIUM IN SIGNIFICANCE**.

Operational Phase

Ground water pollution, risk of fires and explosions, geotechnical suitability of the site, financial viability of competitor sites, Traffic, light pollution, Noise, Job opportunities and economic stimulation impacts were among the identified impacts to be expected during operational phase. Their impacts were **LOW TO MEDIUM IN SIGNIFICANCE** before mitigation measures. With mitigation measures, their impacts are still **LOW TO MEDIUM IN SIGNIFICANCE**, except for the Financial viability of competitor sites which becomes High with mitigation measures. The job opportunities and economic stimulation impact is positive by itself after the implementation of the mitigation measures.

Decommission Phase

There is at present no intention or indication of future intentions, to decommission the proposed development.

No- Go Alternative

The 'no-go' alternative is the option of not developing the site for filling station service. This alternative would result in no environmental impacts considering that the development would not be pursued.

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However there could be other environmental and economic consequences in the long term. From this perspective the no-go alternative could potentially result in movement of prospective motorists to less strategic sites resulting in increased costs, opportunities for upgrade of services to the site not realised due to disinvestment by anchor tenant (Sasol) (this could result in degradation of the site due to poor maintenance), potential identification and development of less suitable land for filling station development, loss of employment opportunities to prospective employees. Implementation of the no-go alternative is not considered to be sustainable.

Alternative 1

Alternative 2

No-go (compulsory)

7. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The location of the proposed filling station is considered optimal for the current growth scenario in the area, identified in consultation with a major fuel retailer, who will be undertaking the operation and management thereof. The proposed site is considered to be the most feasible position which will service the densification needs of the area and capture the maximum number of customers.

The design and facade of the filling station will be in accordance with the requirements of the fuel retailer (SASOL). Regarding the underground tanks, design or technology alternatives are not possible as the South African Bureau of Standards dictates to which standards underground storage tanks and associated equipment are constructed, installed and operated. Underground storage for the proposed site was selected based upon the following principles:

- » Aboveground fuel storage facilities are not suitable for retail service stations, and the nature of activities on site as well as the available space and safety concerns relating to high throughput favour an underground facility;
- » Safety concerns relating to collision of vehicles with tanks are eliminated with underground tanks; and
- » Underground storage tanks make full use of the available space on site and also eliminates the risk of fire.

The installation of tanks storing less than 80m³ is a design alternative, which does not require Environmental Authorisation, will still pose the same environmental impact as the 92m³ preferred proposal.

Should the proposed development be authorised it is recommended that the following mitigation measures be made binding on the applicant as conditions to the authorisation:

- An Environmental Management Programme (EMPr) be approved, which provides for the appointment of an ECO to monitor construction and the mitigation measures stipulated in the EMPr.
- Provision should be made for construction work to be stopped in the event that heritage findings are unearthed during earthworks. The presence of a qualified Archaeologist is mandatory during excavations.
- A comprehensive Stormwater Management Plan should be a conditions of the EA
- An Emergency Fire Response Plan should be a conditions of the EA
- Confirmation of sanitation services should be sought from the CoT prior to construction commencing
- A suitable landscape plan must be implemented as part of the project to aid to the visual quality of the filling station
- Construction should take place within the winter months
- A row of fast growing trees (i.e. Conifers) should be planted on the boundary of the site adjacent to the residential area to mitigate noise, air pollution and visual intrusion
- At least three monitoring boreholes should be drilled around the underground fuel storage tanks. The boreholes need to be perforated as to capture LNAPLs (Light Non-Aqueous Phase Liquid)

For alternative:

- As above

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

Vacant land within the Gauteng urban edge is a valuable commodity and resource. It is imperative that this kind of resource is not left vulnerable to the causes and effects of urban decay and its negative economic and social implications. The duration of environmental impacts will be short-term and the significance of

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the environmental impacts is low following implementation of mitigation measures as per the EMPr. The standards of the fuel retailer are established and appropriate to the mitigation of potential environmental impacts during operation. Implementation of the no-go alternative is not considered to be sustainable as the existing land use is not contributing to the maintenance and strategic development vision of the site. The proposal responds to the Gauteng RSDf and Gauteng Spatial Development Framework

The preferred alternative is best suited to the site position and site layout for the proposed development and will provide the best opportunity for implementing the proposed mitigation measures.

Should the project be approved, implementation of the mitigation measures identified in this report will greatly reduce the risk the development could have on the environment.

8. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner).

YES x	NO
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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:

The following conditions must be included in the environmental authorisation:

- The EMPr will be binding on all managers and contractors operating/ utilising the site (See Appendix H).
- The EMPr should form part of the contractors' tender documentation.
- All recommendations contained in all the Specialist Studies Reports as appended in this Final BAR as Appendix G must be adhered to during the construction and operational phases of the development.
- Schedule the construction process to limit obstruction to traffic flows during peak traffic hours.
- Activities which will lead to excessive noise should be limited to take place during the day.
- Maintenance done on construction vehicles must be done in such a manner to prevent spillage of fuel and oils.
- No construction workers are permitted to be accommodated overnight on the site or in the site construction camp except for appointed security personnel.
- Appointment of an ECO.
- Use inert construction waste (e.g. old road surface and foundations) as fill material where possible.
- Disposal of waste at a registered waste disposal site.
- All reasonable precautions must be taken to minimise noise generated on site.
- Construction vehicles must be kept in good working order so as not to generate excessive noise.
- During construction all staff must be adequately identified.
- Incorporate screening into the design of the filling station to mitigate the potential visual and noise impacts.
- Adequate management procedures must be developed for prevention and clean-up of spills/leaks of potential contaminants on site during operation.
- During operation, ensure that suitable measures to monitor the integrity of the USTs (leak detection systems) are in place.
- Construction should take place within the winter months
- A row of fast growing trees (i.e. Conifers) should be planted on the boundary of the site adjacent to the residential area (east) to mitigate noise, air pollution and visual intrusion
- At least three monitoring boreholes should be drilled around the underground fuel storage tanks. The boreholes need to be perforated as to capture LNAPLs (Light Non-Aqueous Phase Liquid)
- A comprehensive Stormwater Management Plan should be a conditions of the EA
- An Emergency Fire Response Plan should be a conditions of the EA (to the satisfaction of SASOL and CoT)
- Appropriate landscaping should form part of the development proposal

9. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

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

EMPr attached

Yes X

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

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

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

Appendix E: Public participation information

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

- **Traffic Impact Study and Viability Study (Techworld Consulting Engineers, May 2014)**
- **Geotechnical Study (Louis Kruger Geotechnics cc, 2014)**
- **Geo-hydrological Study (Hydro-census) (SEF, April 2014)**
- **Noise Impact – Professional Opinion (JH CONSULTING, 2015)**

Appendix H: EMPr

Appendix I: Other information

- **Motivation Memorandum (MetroGIS)**

CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed; and