| | |
|---|---|
| **Client** | SOTRAN 5 CC |
| **Project** | Environmental Management Programme |
| **Date** | September 2019 |

Labesh

ability to sustain

# SOTRAN 5 CC

## Environmental Management Programme (EMPr)

## EIA Ref No. To be confirmed upon submission of the Application to the Competent Authority

Plot 24
Haakdoornboom AH
Soutpan Road (M35)
Pretoria North

Cell: 082 789 6525

Labesh
sustainable, natural resource management

# TABLE OF CONTENTS

# LIST OF FIGURES



# LIST OF TABLES



# REFERENCES

Environmental Impact Assessment Regulations, 2014. GN 982 of 4 December 2014

KHg Applied Geologists, 2017. Phase 1 Engineering Geological Investigation: Remainder of Portion 27 Middelburg Town and Farmlands, Mpumalanga. Report No. 117-016. Version 1.0 Draft.

Mpumalanga Biodiversity Sector Plan, 2014.

National Environmental Management Act, 1998. Act No. 107 of 1998.

National Environmental Management: Biodiversity Act, 2004. Act No. 10 of 2004.

National Environmental Management: Waste Act, 2008. Act No. 59 of 2008.

National Heritage Resources Act, 1999. Act No. 25 of 1999.

National Water Act, 1998. Act No. 36 of 1998.

Norms and Standards for the Storage of Waste, 2013. GN 926 of 29 November 2013.

Rautenbach, I.L. 2017. An Assessment of the Vertebrates and Their Habitats on the Sotran Filling Station Terrain, Middelburg.

SANS 1475-1, 2010. The production of reconditioned fire-fighting equipment Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers.

SANS 1535, 2007. Glass-reinforced polyester-coated steel tanks for the underground storage of hydrocarbons and oxygenated solvents and intended for burial horizontally.

SANS 10089-1, 2008. The petroleum industry Part 1: Storage and distribution of petroleum products in above-ground bulk installations.

SANS 10089-3, 2010. Edition 4: The installation, modification, and decommissioning of underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations.

South African National Biodiversity Institute (SANBI), 2017. Biodiversity GIS, accessed on 01 December 2017.

South African National Biodiversity Institute (SANBI), 2014. Mpumalanga Highveld Wetlands 2012 vector geospatial dataset, downloaded on 17 November 2017.

Steve Tshwete Local Municipality. 2017. 2017-2022 Integrated Development Plan.

Steve Tshwete Local Municipality. 2017. 2012-2017 Integrated Development Plan 2016/17 IDP Review.

Steve Tshwete Local Municipality. 2016. Local Economic Development Strategy 2016 – 2021.

Steve Tshwete Local Municipality. 2012. Integrated Waste Management By-Laws, 2012

Steve Tshwete Local Municipality. 2010. Nuisance Management By-Laws, 2010.

Steve Tshwete Local Municipality. 2010. Spatial Development Framework Draft Report.

Steve Tshwete Local Municipality. 2008. Spatial Development Framework Final Report.

Steve Tshwete Local Municipality. 2005. Petroleum Products By-Law, 2005.

The Constitution of South Africa, 1996. Act No. 108 of 1996.

WSP, 2017. Feasibility Study: Proposed Filling Station on a Portion of the Remainder of Portion 27 of the Farm Middelburg Town and Townlands. Issue 1. WSP Project No.: 22880.

# DEFINITIONS

**Alternatives**
In relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the-
a) property on which or location where the activity is proposed to be undertaken;
b) type of activity to be undertaken;
c) design or layout of the activity;
d) technology to be used in the activity; or
e) operational aspects of the activity;
and includes the option of not implementing the activity.

**Application**
An application for an Environmental Authorisation (EA).

**Basic Assessment Report**
A report contemplated in regulation 21 of the EIA Regulations, 2014.

**Buffer Area**
Unless specifically defined, means an area extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively, or that defined as such for a biosphere.

**Cumulative Impact**
In relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

**Dangerous Good**
Goods containing any of the substances as contemplated in South African National Standard No. 10234, supplement 2008 1.00: designated "List of classification and labelling of chemicals in accordance with the Globally Harmonized Systems (GHS)" published by Standards South Africa, and where the presence of such goods, regardless of quantity, in a blend or mixture, causes such blend or mixture to have one or more of the characteristics listed in the Hazard Statements in section 4.2.3, namely physical hazards, health hazards or environmental hazards.

**Development**
The building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, that is necessary for the undertaking of a listed or specified activity, including any associated post development monitoring, but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint.

**Development footprint**
Any evidence of physical alteration as a result of the undertaking of any activity.

**EAP**
An environmental assessment practitioner as defined in section 1 of NEMA.

**EMPr**
An environmental management programme contemplated in regulations 19 and 23 of the EIA Regulations, 2014.

**Environment**
The surroundings (biophysical, social and economic) within which humans exist and that are made up of:
(i) the land, water and atmosphere of the earth;
(ii) micro-organisms, plant and animal life;
(iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and
(iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

**Environmental Impact Assessment**
A systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes Basic Assessment and Scoping and Environmental Impact Reporting.

**Independent**
In relation to an EAP, a specialist or the person responsible for the preparation of an environmental audit report, means-
a) that such EAP, specialist or person has no business, financial, personal or other interest in the activity or application in respect of which that EAP, specialist or person is appointed in terms of the EIA Regulations; or
b) that there are no circumstances that may compromise the objectivity of that EAP, specialist or person in performing such work;
excluding -
(i) normal remuneration for a specialist permanently employed by the EAP; or
(ii) fair remuneration for work performed in connection with that activity, application or environmental audit.

**Indigenous Vegetation**
Vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

**Industrial Complex**
An area used or zoned for industrial purposes, including bulk storage, manufacturing, processing or packaging purposes.

**Mitigation**
To anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

**Phased Activities**
An activity that is developed in phases over time on the same or adjacent properties to create a single or linked entity.

**Registered Interested and Affected Party**
In relation to an application, means an Interested and Affected Party whose name is recorded in the register opened for that application in terms of regulation 42 of the EIA Regulations, 2014.

**Significant Impact**
An impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence.

**Specialist**
A person that is generally recognised within the scientific community as having the capability of undertaking, in conformance with generally recognised scientific principles, specialist studies or preparing specialist reports, including due diligence studies and socio-economic studies.

**Systematic Biodiversity Plan**
A plan that identifies important areas for biodiversity conservation, taking into account biodiversity patterns (i.e. the principle of representation) and the ecological and evolutionary processes that sustain them (i.e. the principle of persistence). A systematic biodiversity plan must set quantitative targets/thresholds for aquatic and terrestrial biodiversity features in order to conserve a representative sample of biodiversity pattern and ecological processes.

**Watercourse**
(a) a river or spring;
(b) a natural channel in which water flows regularly or intermittently;
(c) a wetland, pan, lake or dam into which, or from which, water flows; and
any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998); and
a reference to a watercourse includes, where relevant, its bed and banks.

**Wetland**
Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

# ABBREVIATIONS

| | | |
|---|---|---|
| **BAR** | - | Basic Assessment Report |
| **BID** | - | Background Information Document |
| **CBA** | | Critical Biodiversity Area |
| **DWS** | - | Department of Water and Sanitation |
| **EA** | - | Environmental Authorisation |
| **EAP** | - | Environmental Assessment Practitioner |
| **EIA** | - | Environmental Impact Assessment |
| **EMF** | - | Environmental Management Framework |
| **EMPr** | - | Environmental Management Programme |
| **ESA** | | Ecological Support Area |
| **Ha** | | Hectare |
| **PA** | | Protected Area |
| **GN** | - | Government Notice |
| **I&AP** | - | Interested and Affected Party |
| **IWULA** | - | Integrated Water Use Licence Application |
| **MBSP** | | Mpumalanga Biodiversity Sector Plan |
| **MDARDLEA** | - | Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs |
| **NEMA** | - | National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended |
| **NEM:WA** | - | National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended |
| **NWA** | | National Water Act, 1998 (Act No. 36 of 1998) |
| **NHRA** | - | National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended |

| | | |
|---|---|---|
| **R** | - | Regulation |
| **SANS** | | South African National Standards |
| **SAHRA** | - | South African Heritage Resources Agency |

# 1. PROJECT TITLE

Sotran Filling Station.

# 2. APPLICANT DETAILS

| | |
|---|---|
| **Applicant Name** | Sotran 5 CC |
| **Contact Person** | Hercules |
| **Postal Address** | PO Box 2125, Middelburg, 1050 |
| **Telephone Number** | 013 282 4675/6 |
| **Fax Number** | 0866 134 040 |
| **Email Address** | hercules.c@vcampher.co.za |

# 3. ENVIRONMENTAL ASSESSMENT PRACTITIONER DETAILS

| | |
|---|---|
| **Environmental Assessment Practitioner Company** | Labesh (Pty) Ltd |
| **Contact Person** | Lourens de Villiers |
| **Postal Address** | Postnet Box 469, Private Bag X504, Sinoville, 0129 |
| **Telephone Number** | 082 789 6525 |
| **Fax Number** | |
| **Email Address** | info@labesh.co.za |
| **Qualifications** | B.Sc Earth Science (North West University)<br>Hons B.Sc Geography and Environmental Studies (North West University)<br>M.Sc Water Resource Management (University of Pretoria) |
| **Relevant experience** | 14 years' experience conducting Environmental Impact Assessment processes |

The EAP's full Curriculum Vitae is attached to the Basic Assessment Report under Appendix E.

# 4. LOCATION OF THE PROPOSED DEVELOPMENT AND ACTIVITIES

The property for the proposed development and its associated activities is as follows:

| Property/Land Parcel | 21 digit Surveyor General Code |
|---|---|
| Remainder of Portion 27 of the Farm Middelburg Town and Townlands 287 JS. | T0JS00000000028700027 |

Kindly take note that the proposed development will only take place on a portion of the above mentioned property and not the entire farm portion.

The project location is on the South-Eastern corner of the R555 motorway and the Dr Mandela Drive, on the South-Western side of Middelburg, in the Steve Tshwete Local Municipality, Nkangala District Municipality, Mpumalanga Province. The GPS coordinates for the project site are as follows:

25°47'58.89"S; 29°25'39.55"E

A locality map, provided on the next page (*Figure 1: Site locality map*) shows the location of the project property, at an appropriate scale.

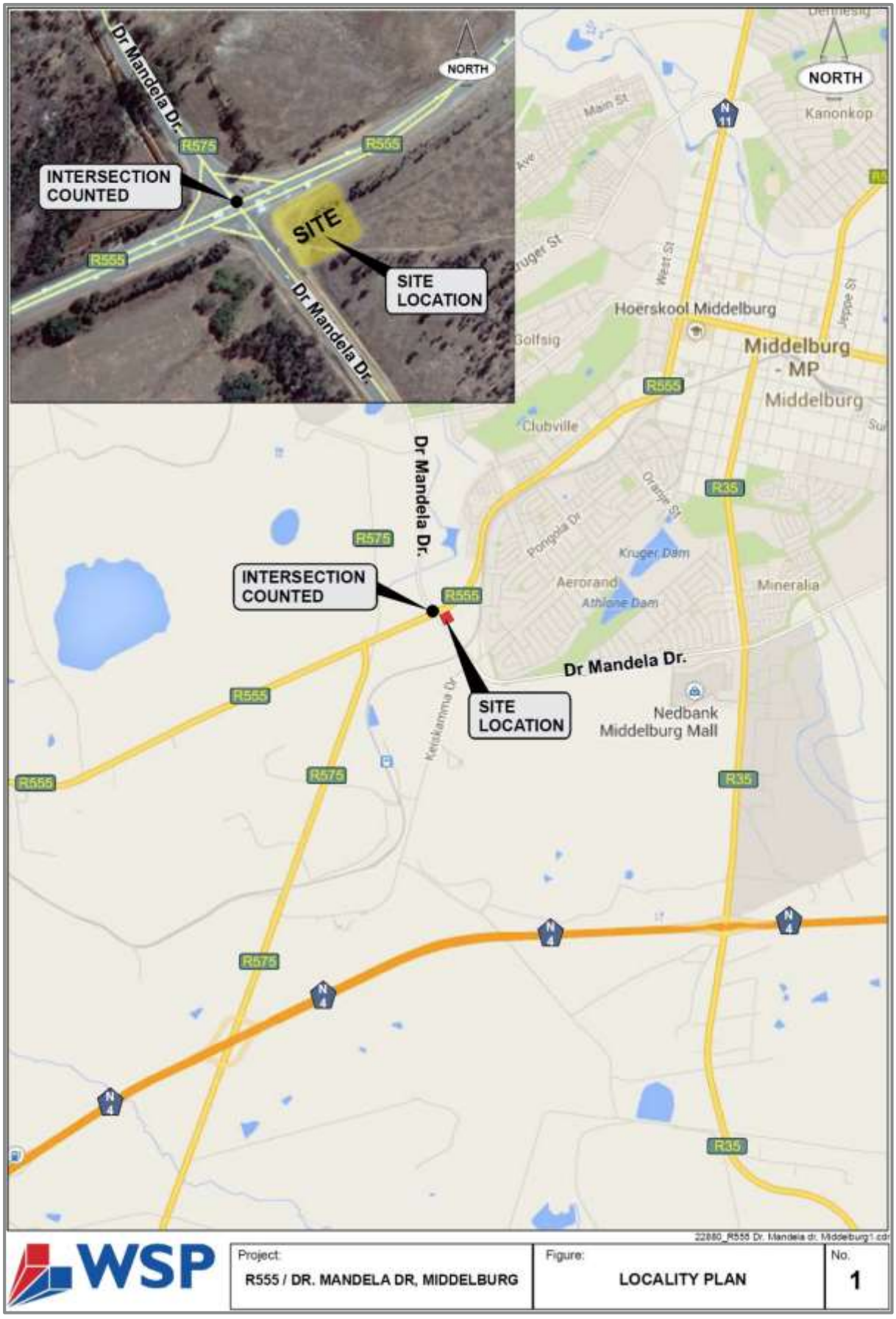


*Figure 1: Site locality map*

The following photographs give an indication of the current status of the project property.






# 5. DESCRIPTION OF THE ASPECTS OF THE ACTIVITY THAT ARE COVERED BY THE EMPr AS IDENTIFIED BY THE PROJECT DESCRIPTION

## 5.1 Description of the activities to be undertaken

The applicant is proposing to establish a modern filling station on the corner of the R555 motorway and the Dr Mandela Drive near Middelburg in the Mpumalanga Province.

**Existing buildings on site**

Currently there are no existing buildings or infrastructure on the proposed site.

**Proposed project**

The proposed project will entail the following:

- 4 Underground fuel storage tanks with a capacity of 46000ℓ each (combined capacity of 184,000L fuel;
- Fuel pumps;
- A canopy covert forecourt;
- A modern convenience store;
- A bakery;
- A quick-service restaurant; and
- A car wash.

The project property is 4132.92 Ha in extent. The total area of land that will be developed (should the development be approved) is 1 Ha. The footprint of the filling station will be approximately 0.7 Ha in extent.

### 5.1.1 Roads and Storm Water

**Access**

Access to the proposed filling station will be gained from Dr Mandela Drive located on the western side of the proposed filling station.

**Surface Drainage/ Storm Water Routing**

Appropriate storm water management measures will be implemented to ensure that clean and dirty water is separated and to ensure that storm water runoff is channelled offsite into existing storm water conveyance infrastructure.

### 5.1.2 Water Services

Municipal water supply will be used at the filling station.

### 5.1.3 Sewerage

The filling station's sewerage system will be connected to the municipal sewage conveyance system.

### 5.1.4 Electricity

Electricity will be provided to the filling station through the municipal electricity system.

### 5.1.5 Traffic

According to the traffic count survey done by WSP Group on the 1st of December 2016, an annual traffic growth rate of 4% was assumed for the next 3 years for the site (WSP, 2017).

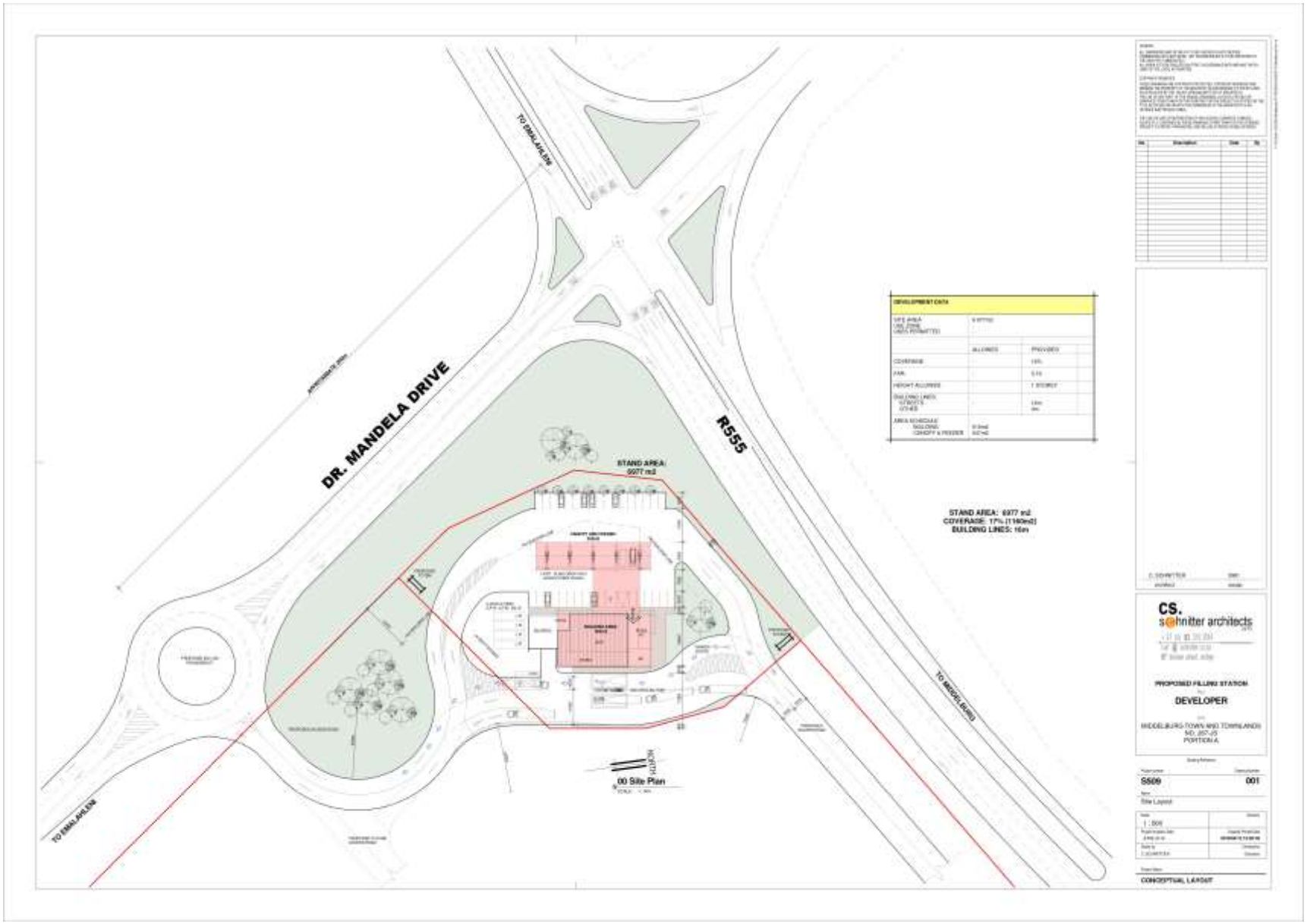


*Figure 2: Facility illustration for the proposed expansion project*

## 5.2 Listed Activities triggered by the proposed development

The following listed activities are triggered by the proposed development and therefore require Environmental Authorisation, in terms of the Environmental Impact Assessment Regulations of 4 December 2014, as amended:

*Table 1: Listed activity/activities triggered by the proposed development*

| Government Notice and Activity Number | Wording as per the Listing Notice | Description as per the project description relating to each listed activity |
|---|---|---|
| Government Notice R983 of 4 December 2014, as amended (Listing Notice 1) | | |
| Government Notice R983 (Listing Notice 1) Activity No. 14 | The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres. | 4 Underground fuel storage tanks each with a capacity of 46000ℓ will be constructed at the site (184000 ℓ in total). |
| Government Notice R983 (Listing Notice 1) Activity No. 27 | The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for-<br>(i) the undertaking of a linear activity; or<br>(ii) maintenance purposes undertaken in accordance with a maintenance management plan. | The proposed development site is located within the Rand Highveld Grassland Ecosystem. The development will involve clearance of vegetation. Less than 20 hectares of indigenous vegetation will be cleared as part of this development. |

## 5.3 Water Use Licence Activities

No water use activities are anticipated that will require Water Use Registration and/or Licence applications in terms of Chapter 4 of the National Water Act, 1998 (Act No. 36 of 1998).

## 5.4 Environmental sensitivity overlay map – Map at an appropriate scale that superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers.

Please refer to *Figure 3* below. The site is located within an Ecological Support Area Protected Area Buffer Zone. The area is classified as Important and Necessary in terms of the Mpumalanga Terrestrial Critical Biodiversity Areas (refer to *Figure 4*).

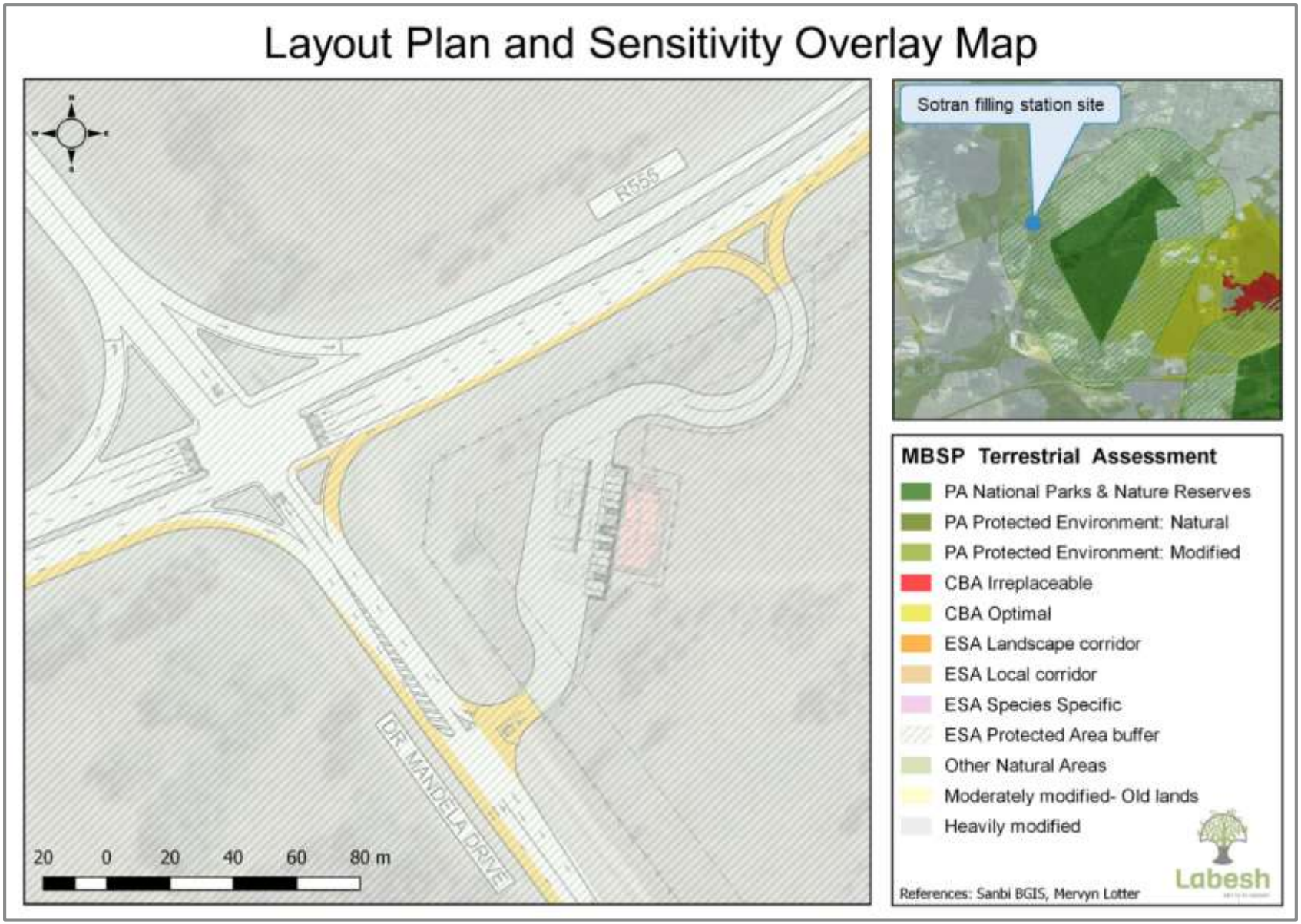


*Figure 3: Layout plan and sensitivity overlay map*

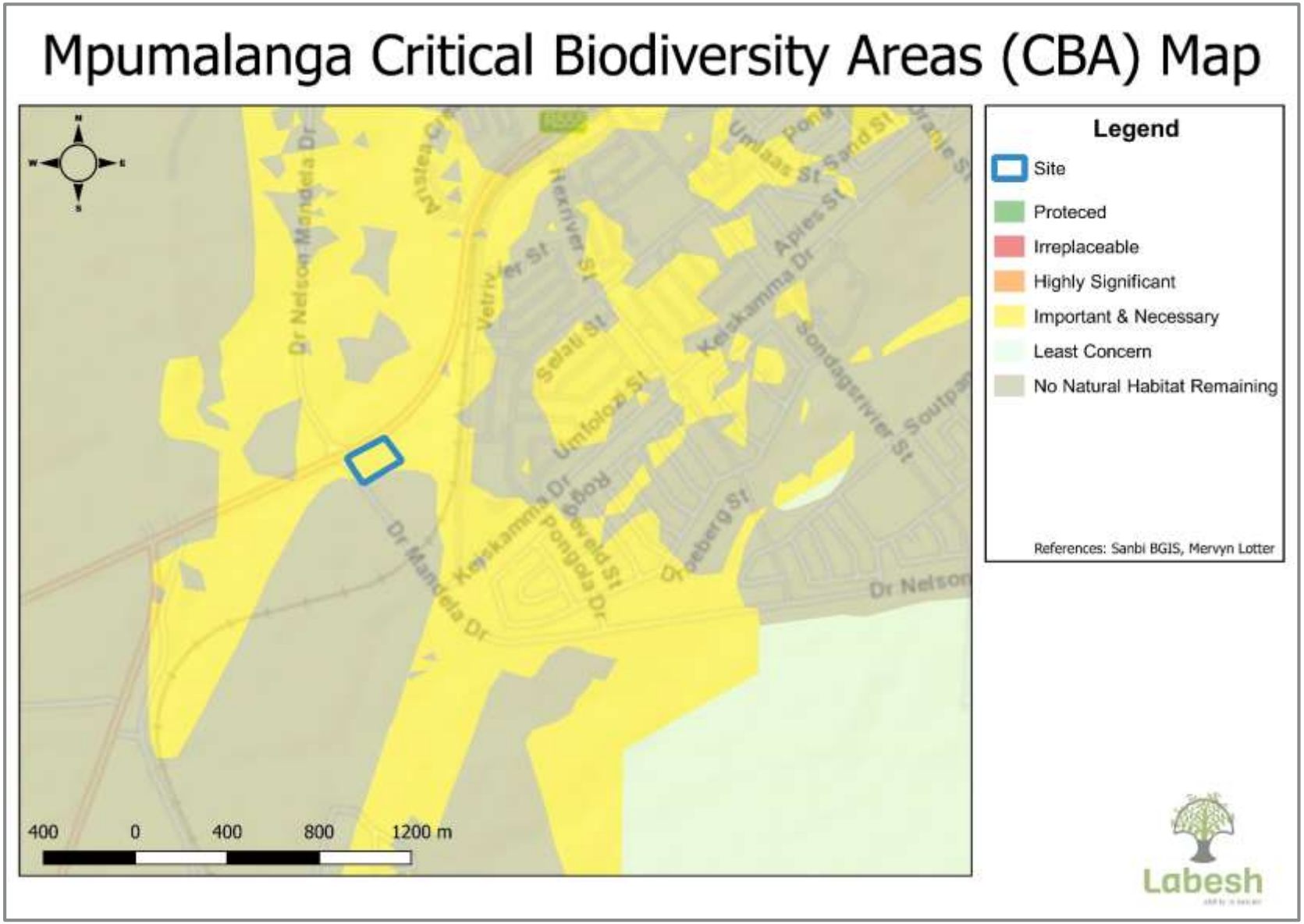


*Figure 4: Terrestrial CBA map of the site*

# 6. POLICY AND LEGISLATIVE CONTEXT OF THE APPLICATION

The following legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments are applicable to the proposed development and have been considered in this Basic Environmental Impact Assessment process. The mitigation measures proposed in this Environmental Management Programme are also aligned with the provisions of the relevant sections of legislation.

### Legislation

- The Constitution of South Africa, 1996 (Act No. 108 of 1996), as amended
- The National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended
- The Environmental Impact Assessment Regulations of 4 December 2014, as amended
- The National Water Act, 1998 (Act No. 36 of 1998), as amended
- The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), as amended
- The National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended
- The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)

### Plans

- Mpumalanga Biodiversity Sector Plan, 2014

### Spatial tools

- SANBI Biodiversity GIS Database

### Municipal development planning frameworks

- Steve Tshwete Local Municipality – 2017-2022 Integrated Development Plan Final Report – May 2017
- Steve Tshwete Local Municipality – 2012-2017 Integrated Development Plan 2016/17 IDP Review
- Steve Tshwete Local Municipality – Local Economic Development Strategy 2016 – 2021
- Steve Tshwete Local Municipality – Spatial Development Framework Draft Report – June 2010
- Steve Tshwete Local Municipality – Spatial Development Framework Final Report - January 2008

### Municipal By-Laws

- Steve Tshwete Local Municipality – Integrated Waste Management By-Laws, 2012
- Steve Tshwete Local Municipality – Nuisance Management By-Laws, 2010
- Steve Tshwete Local Municipality – Petroleum Products By-Law, 2005

# 7. DESCRIPTION OF IMPACT MANAGEMENT OUTCOMES, MANAGEMENT STATEMENTS AND IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND/OR MITIGATED

## 7.1 Impact Management Outcomes

Please refer to *Table 3* under Section 8 below.

## 7.2 Impact Management Statements

The applicant, Sotran 5CC, commits to implementing the mitigation actions contained in this Environmental Management Programme in order to ensure that the environmental impacts from their filling station are minimised.

## 7.3 Impacts and risks that need to be avoided, managed and/or mitigated

The following impacts and risks have been identified for the preferred alternative and need to be avoided, managed and/or mitigated:

*Table 2: Impacts and Risks Identified for the Preferred Alternative*

| Impact | Phase | Risks |
|---|---|---|
| **Environment in General** | Planning and Design Phase | • Inadequate planning and design of the filling station that could result in environmental impacts that could have been avoided. |
| | | |
| **Pre-Construction Phase** | Pre-construction Phase | • Unauthorised access to the construction site.<br>• Unsafe working conditions. |
| | | |
| **Surface and Groundwater** | Planning and Design Phase | • Inadequate planning or faulty designs could result in pollution of surface and groundwater that could have been prevented. |
| | Construction Phase | • Pollution of surface and/or groundwater resources due to hydrocarbon spillages or leakages from construction vehicles.<br>• Pollution of surface and/or groundwater resources due to spillages from chemical toilets.<br>• Pollution of surface and/or groundwater resources due to the incorrect management, storage and disposal of construction waste.<br>• Pollution of surface and/or groundwater resources due to the runoff of contaminated storm water.<br>• Pollution of surface and/or groundwater resources from the mixing of concrete.<br>• The wastage of water resources (municipal water supply) due to the irresponsible use of water. |
| | Operational Phase | • Pollution of surface and/or groundwater resources due to hydrocarbon spillages or leakages from vehicles.<br>• Pollution of surface and/or groundwater resources due to the incorrect management, storage and disposal of waste.<br>• Pollution of surface and/or groundwater resources due to the runoff of contaminated storm water. |

| Impact | Phase | Risks |
|---|---|---|
| | | • Pollution of surface and/or groundwater resources due to the potential release of fuel from the storage tanks and hoses.<br>• Pollution of surface and/or groundwater resources due to spillages during refuelling of vehicles.<br>• Pollution of surface and/or groundwater resources due to spillages during filling of storage tanks.<br>• Pollution of surface and/or groundwater resources due to leakages from the sewerage network (pipelines) onsite.<br>• The wastage of resources due to the irresponsible use of water and electricity. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| **Fauna** | Construction Phase | • Displacement of resident (common) species and any natural biota. |
| | Operational Phase | • Displacement of resident (common) species and any natural biota.<br>• Provision of artificial habitat for fauna species. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the cemetery. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |
| **Flora** | Construction Phase | • Loss of degraded/disturbed vegetation (Rand Highveld grassland) during site clearance.<br>• Establishment and spread of alien invasive vegetation. |
| | Operational Phase | • Establishment and spread of alien invasive vegetation (onsite and further than the site). |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |
| **Heritage Resources** | Construction Phase | • Disturbance or destruction of cultural and heritage resources. |
| | Operational Phase | None anticipated. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |
| **Palaeontological Resources** | Construction Phase | • Very high possibility that significant fossil assemblages will be present beneath the site. The disturbance and/or destruction of the fossil assemblages. |
| | Operational Phase | None anticipated. |

| Impact | Phase | Risks |
|---|---|---|
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |
| **Air Quality and Noise** | Construction Phase | • Generation of dust by construction vehicles.<br>• Release of emissions from construction vehicles.<br>• Generation of nuisance and noise from construction vehicles and equipment/machinery. |
| | Operational Phase | • Generation of dust by vehicles onsite.<br>• Release of emissions from vehicles.<br>• Generation of emissions during refuelling of vehicles as well as refilling of storage tanks.<br>• Generation of nuisance and noise from vehicles and maintenance activities. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |
| **Soil** | Construction Phase | • Soil pollution due to hydrocarbon spillages or leakages from construction vehicles.<br>• Soil pollution due to spillages from chemical toilets.<br>• Soil pollution due to the incorrect management, storage and disposal of waste (general and hazardous waste).<br>• Soil pollution of surface and/or groundwater resources from the mixing of concrete.<br>• Soil erosion due to the clearance of vegetation and the removal of topsoil and subsoil.<br>• Soil compaction to create foundations for buildings and other associated infrastructure.<br>• Degradation of topsoil due to incorrect storage practices. |
| | Operational Phase | • Soil pollution due to hydrocarbon spillages or leakages from vehicles.<br>• Soil pollution due to the potential release of fuel from the storage tanks and hoses.<br>• Pollution of surface and/or groundwater resources due to spillages during refuelling of vehicles.<br>• Soil pollution due to spillages during filling of storage tanks.<br>• Soil pollution due to the incorrect management, storage and disposal of waste (general and hazardous waste).<br>• Soil pollution due to leakages from the sewerage network (pipelines) onsite. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |

| Impact | Phase | Risks |
|---|---|---|
| **Socio-economic** | Construction Phase | • Generation of a number of job opportunities.<br>• Potential increase in crime due to the influx of workers.<br>• Stimulation of the local economy. |
| | Operational Phase | • Generation of a number of job opportunities.<br>• Stimulation of the local economy. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |
| **Traffic** | Construction Phase | • Increase in traffic volumes to the site due to movement of construction vehicles. |
| | Operational Phase | • Increase in traffic volumes to the site. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |
| | | |
| **Fire Risk** | Construction Phase | • The potential for fire establishment at the construction area and its subsequent risk to human life and infrastructure. |
| | Operational Phase | • The potential for fire establishment or explosions at the filling station and its subsequent risk to human life and infrastructure. |
| | Decommissioning Phase | No decommissioning activities are anticipated or planned for the filling station. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process. |

# 8. DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS (ENVIRONMENTAL MANAGEMENT PROGRAMME ACTIONS)

## 8.1 Impact Management Outcome and Action Table

Please refer to *Table 3* below.

*Table 3: Environmental Management Programme – Impact Management Outcome and Action Table*

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| **Planning and Design Phase** | | | | |
| **Planning and Design Phase** | | | | |
| Planning and design of the filling station. | Inadequate planning and design of the filling station that could result in environmental impacts that could have been avoided. | To effectively plan for and design the filling station to avoid or minimise environmental impacts. | **Site selection**<br>• The infrastructure should preferably be constructed on an already disturbed site.<br>• The infrastructure may not be constructed on a wetland or within a drainage line.<br>• The infrastructure must preferably be constructed on a level/flat site.<br>• The site must have the correct land use zoning to enable the infrastructure to be constructed and operated.<br><br>**Design of the filling station**<br>• Impermeable foundations (such as concrete foundations) must be designed for the filling station including the refuelling area, fuel offloading area and parking area.<br>• The entire area should be linked to an oil separator sump to ensure that any spillages are contained and do not leave the site.<br>• All construction work pertaining to the installation, modification and decommissioning of underground fuel storage tanks, pumps/dispensers and pipework must be undertaken in accordance with SANS 10089-3:2010, Edition 4.<br>• Self-bunded fuel tanks should be included in the design for the filling station. The tanks must be manufactured in accordance with SANS 1535:2007 and are to be glass-reinforced polyester-coated.<br>• An automatic leak detection system should be installed with the storage tanks.<br>• Observation wells must be installed adjacent to the underground storage tanks (Section 5.1.2 of SANS 10089:2010).<br>• The diesel tanks must be designed with a minimum distance of 1.5m between each tank.<br>• The diesel tanks must have a mechanism to relieve excess internal pressure. This is, for example, required in the event of fire exposure.<br>• Signage should be designed for each tank to show what is being stored and the volume that is being stored.<br>• A suction pump dispensing system should be included in the design of the filling station.<br>• The maximum allowable distance between the tank and fuel pump must not exceed 30m.<br>• Hoses must be chosen for their resistance to abrasion and contact with petroleum products.<br>• An adequate number of fire extinguishers must be provided for.<br>• Permanent fire-fighting equipment must be provided for. The equipment must be painted red (A14 poppy red or A11 signal red). It must be ensured that access to the fire-fighting equipment will be unobstructed and that the equipment is accessible from a number of different directions.<br>• A fire-fighting system must be provided for at the fuel tanks and pumps. A sprinkler system connected to water lines above the fuel storage tanks and pumps can be considered. | • Applicant<br>• Engineer |
| **Pre-Construction Phase** | | | | |
| **Pre-Construction Phase** | | | | |
| Construction site establishment. | Unauthorised access to the construction site that can pose a risk to the public in terms of their safety.<br><br>Unsafe working conditions. | To secure the construction site and ensure that it is operated in a responsible manner for the duration of the construction phase. | • The construction site must be demarcated (fenced or delineated with danger tape). Permanent demarcation is preferable to prevent the public from gaining access to the site.<br>• A site plan must be drawn up by the construction contractor and kept on file. The site plan must show proposed stockpile areas, waste storage areas and ablution facilities.<br>• Signage indicating that the site is a “Construction Site” and indicating the risks associated with the site must be displayed. Emergency numbers, “No-smoking” signs and “No Open Flame” signs must also be displayed at the construction site.<br>• Fire-fighting equipment must be placed at the construction site and must be easily accessible.<br>• The fire-fighting equipment must be maintained on an annual basis.<br>• Welding, hot-work and flame-cutting may not be conducted close to fuel storage tanks. Where such activities are undertaken, fire-fighting equipment must be at hand. | • Applicant<br>• Construction contractor |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| Appointment of workers (employees and contractors) to commence construction activities onsite. | Workers being unaware of the dangers of working at the construction site, resulting in a risk to their safety. | To adequately educate workers (employees and contractors) regarding environmental awareness. | • Before any employees or contactors commence work at the construction site of the filling station, each individual must undergo an Induction Training session that will cover the aspects as detailed in the Environmental Awareness Plan (contained in this EMPr). Attendance registers must be completed and kept on file.<br>• Employees and contract workers must be issued with suitable Personal Protective Equipment (PPE), as applicable to each persons' job onsite. | • Applicant<br>• Construction contractor |
| **Surface and Groundwater** | | | | |
| **Pre-Construction Phase** | | | | |
| Inadequate planning or faulty designs. | Surface and groundwater pollution due to inadequate planning or faulty designs. | To avoid preventable surface and groundwater pollution by effective planning and design. | • All environmental features and sensitive receptors should be taken into account during the design and planning phase. All reasonable measures should be taken to minimise preventable impacts on the environment. | • Applicant<br>• Construction contractor |
| **Construction Phase** | | | | |
| Hydrocarbon spillages or leakages from vehicles, including construction vehicles. | Pollution of surface and/or groundwater resources. | To prevent hydrocarbon spillages and/or leakages from construction vehicles and ensure that any spillages are cleaned effectively. | • Spill kits must be onsite to clean up any hydrocarbon spillages.<br>• Vehicles should regularly be inspected to ensure that any fuel or oil leaks are repaired.<br>• Drip trays should be used for any minor repairs or maintenance work done onsite.<br>• Any soil that has been contaminated by oil, diesel or petrol must be regarded as hazardous and disposed of at an appropriately licensed facility. Safe Disposal Certificates must be obtained and kept on record. | • Applicant<br>• Construction contractor |
| Spillages from chemical toilets. | Pollution of surface and/or groundwater resources. | To prevent spillages from chemical toilets and ensure that any spillages are cleaned effectively. | • Sufficient ablution facilities must be provided.<br>• Chemical toilets must be serviced regularly and must be provided with toilet paper at all times.<br>• Proof of safe disposal of contents of chemical toilets should be kept on record.<br>• Any spillages from the chemical toilets must immediately be cleaned and the contaminated soil disposed of as hazardous waste. | • Applicant<br>• Construction contractor |
| Incorrect management, storage and disposal of waste, including construction waste. | Pollution of surface and/or groundwater resources. | To ensure that construction waste is managed in an environmentally responsible manner. | • Construction waste must be stored in a designated area.<br>• Building rubble must be stored separately from domestic waste.<br>• Refuse bins must be provided for domestic waste.<br>• Large volumes of waste may not accumulate onsite.<br>• Waste must be taken to appropriately licensed facilities for reuse, recycling, recovery or disposal. Safe Disposal Certificates must be obtained and kept on record.<br>• No waste may be burnt or buried onsite.<br>• Building rubble must be kept clean of plastic and brick ties.<br>• The applicant must comply with the Steve Tshwete Local Municipality – Integrated Waste Management By-Laws, 2012.<br>• All waste must be stored in accordance with the Norms and Standards for the storage of waste (GN 926 of 29 November 2013). | • Applicant<br>• Construction contractor |
| Runoff of contaminated storm water. | Pollution of surface and/or groundwater resources. | To prevent the contamination of storm water. | • A storm water management plan must be developed and implemented at the filling station.<br>• Storm water must be diverted around areas where there are pollution sources.<br>• Storm water drainage infrastructure must be regularly inspected for obstructions.<br>• No contaminated storm water may be released into the environment from the construction activities.<br>• Washing or cleaning of equipment or machinery must occur in a designated area and the contaminated wash water must be contained. Such an area could be a plastic drum, a container or a plastic lined pit. | • Applicant<br>• Construction contractor |
| The mixing of concrete. | Pollution of surface and/or groundwater resources. | To prevent the contamination of water during to concrete mixing. | • Concrete should ideally be mixed on an impermeable surface such as a concrete slab.<br>• Cement bags (new and used) must be stored under roof or in closed containers where they will not be exposed to the weather.<br>• Dry concrete must be removed and disposed of together with other building rubble.<br>• Ready-mix concrete trucks may clean chutes into foundations, but not elsewhere onsite. | • Applicant<br>• Construction contractor |
| The wastage of water (municipal water supply). | Wastage of water resources due to the irresponsible use of water. | To prevent wastage of water. | • Water pipes and hoses should be inspected on a regular basis and any leakages should immediately be repaired.<br>• Running water taps or hoses may not be left unattended. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| Hydrocarbon spillages or leakages from vehicles. | Pollution of surface and/or groundwater resources. | To prevent hydrocarbon spillages and/or leakages from vehicles and ensure that any spillages are cleaned effectively. | • Spill kits must be onsite to clean up any hydrocarbon spillages.<br>• Vehicles should regularly be inspected to ensure that any fuel or oil leaks are repaired.<br>• Any soil that has been contaminated by oil, diesel or petrol must be regarded as hazardous and disposed of at an appropriately licensed facility. Safe Disposal Certificates must be obtained and kept on record. | • Applicant<br>• Site manager |
| Incorrect management, storage and disposal of waste. | Pollution of surface and/or groundwater resources. | To ensure that construction waste is managed in an environmentally responsible manner. | • Waste must be managed according to its hazard classification (i.e. general vs. hazardous waste).<br>• General and hazardous waste streams must not be mixed.<br>• Waste stored onsite must be kept in appropriate containers with closable lids.<br>• Large volumes of waste may not accumulate onsite.<br>• Waste must be taken to appropriately licensed facilities for reuse, recycling, recovery or disposal (last resort). Safe Disposal Certificates must be obtained and kept on record.<br>• No waste may be burnt or buried onsite.<br>• The applicant must comply with the Steve Tshwete Local Municipality – Integrated Waste Management By-Laws, 2012.<br>• All waste must be stored in accordance with the Norms and Standards for the storage of waste (GN 926 of 29 November 2013). | • Applicant<br>• Site manager |
| Runoff of contaminated storm water. | Pollution of surface and/or groundwater resources. | To prevent the contamination of storm water. | • A storm water management plan must be developed and implemented at the filling station.<br>• Storm water must be diverted around areas where there are pollution sources.<br>• Storm water drainage infrastructure must be regularly inspected for obstructions.<br>• No contaminated storm water may be released into the environment from the construction activities.<br>• Washing or cleaning of equipment or machinery must occur in a designated area and the contaminated wash water must be contained.<br>• Wash water from the wash bay must be contained and not released into the environment. | • Applicant<br>• Site manager |
| The potential release of fuel from the storage tanks and hoses. | Pollution of surface and/or groundwater resources. | To prevent the release of fuel from the storage tanks and hoses and ensure that any spillages are cleaned effectively. | • An Emergency Response Plan must be compiled and implemented at the filling station.<br>• A leak detection system must be installed at the storage tanks.<br>• Fuel storage tanks, pipelines and associated infrastructure must undergo regular integrity assessments, as per the manufacturer's specifications.<br>• Fuel stock must be monitored on a daily basis and records must be kept on site.<br>• Observation wells must be installed adjacent to the underground storage tanks (Section 5.1.2 of SANS 10089:2010).<br>• Pressure tests must be undertaken on hoses, on an annual basis.<br>• A groundwater monitoring programme should be compiled and implemented on site. Groundwater quality monitoring should be conducted as per the monitoring programme.<br>• Spill kits must be readily available onsite and employees must be trained on the correct spill cleaning procedures.<br>• In the event that a leak or accidental spill occurred, a remediation plan must be compiled and executed.<br>• The applicant must comply with the Steve Tshwete Local Municipality – Petroleum Products By-Law, 2005. | • Applicant<br>• Site manager |
| Spillages during refuelling of vehicles. | Pollution of surface and/or groundwater resources. | To prevent the spillage of fuel and ensure that any spillages are cleaned effectively. | • Employees must be trained in the appropriate use of dispensing equipment.<br>• Spill kits must be readily available onsite and employees must be trained on the correct spill cleaning procedures. | • Applicant<br>• Site manager |
| Spillages during filling of storage tanks. | Pollution of surface and/or groundwater resources. | To prevent the spillage of fuel and ensure that any spillages are cleaned effectively. | • Vehicles must be left in gear and prevented from moving forwards or backwards during filling.<br>• Vehicles must be attended at all times and the filling process must be supervised.<br>• Vehicle engines must be switched off. The engines may only be switched on after filling has been completed and only after all covers, caps and valves have been closed. | • Applicant<br>• Site manager |
| Spillages from the sewerage network (pipelines) onsite. | Pollution of surface and/or groundwater resources. | To ensure that the sewerage network is kept in a good state of repair. | • Ablution facilities must regularly be cleaned.<br>• Should toilets run slowly or become blocked, this should be investigated to ensure that this is not due to a broken or blocked pipe underground.<br>• Any broken or blocked pipes must be repaired. | • Applicant<br>• Site manager |
| The wastage of water (municipal water supply) and electricity. | Wastage of resources due to the irresponsible use. | To prevent wastage of resources. | • Consumption of water and electricity must be monitored.<br>• Use energy efficient lighting, where possible.<br>• Switch off lights and appliances when not in use. | • Applicant<br>• Site manager |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| | | | • Water pipes and hoses should be inspected on a regular basis and any leakages should immediately be repaired.<br>• Running water taps or hoses may not be left unattended.<br>• High pressure hoses should be used, where possible. | |
| **Fauna** | | | | |
| **Construction Phase** | | | | |
| Construction activities. | Displacement of resident (common) species and any natural biota. | To prevent the resident species and natural biota. | • Fauna species may not be disturbed, captured or killed and must be avoided.<br>• Trenches must be inspected regularly to ensure that no animals are trapped. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Operational activities. | Displacement of resident (common) species and any natural biota. | To prevent the resident species and natural biota. | Same mitigation measures as under construction phase. | • Applicant<br>• Site manager |
| Operational activities. | Provision of artificial habitat for fauna species. | This is a positive impact and no mitigation measures are therefore required. | | Not applicable. |
| **Flora** | | | | |
| **Construction Phase** | | | | |
| Site clearance. | Loss of degraded / disturbed vegetation (Rand Highveld grassland). | To minimise the loss of vegetation. | • Remove only the vegetation where essential for construction and don't allow any disturbance to adjoining natural vegetation cover.<br>• Make use of predetermined roads and tracks.<br>• Once construction is complete, obsolete roads should be obliterated by by breaking the surface crust and erecting earth embankments to prevent erosion, while the natural species composition should be re-established.<br>• Colonisation of the disturbed areas by plants species from the surrounding natural vegetation must be monitored to ensure that vegetation cover is sufficient. | • Applicant<br>• Construction contractor |
| Construction activities. | Establishment and spread of alien invasive vegetation (onsite and further than the site). | To prevent the establishment and spread of alien invasive vegetation. | • Development and implement an alien invasive eradication plan.<br>• Use only indigenous plant species for gardens and rehabilitation.<br>• Eradicate any alien invasive vegetation observed onsite. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Operational activities. | Establishment and spread of alien invasive vegetation (onsite and further than the site). | To prevent the establishment and spread of alien invasive vegetation. | Same mitigation measures as under construction phase. | • Applicant<br>• Site manager |
| **Heritage Resources** | | | | |
| **Construction Phase** | | | | |
| Construction activities. | Disturbance or destruction of cultural and heritage resources. | To prevent the disturbance or destruction of cultural and heritage resources. | • If any cultural or heritage resources, sites, features or objects are exposed during the construction activities, all construction activities in the area must be stopped and a heritage specialist must be contacted to investigate the site and recommend the way forward. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Operational activities. | None anticipated. | | Not Applicable. | Not Applicable. |
| **Palaeontological Resources** | | | | |
| **Construction Phase** | | | | |
| Construction activities. | The disturbance and/or destruction of the fossil assemblages. | To prevent the unregulated/ uncontrolled destruction of fossil assemblages. | • A field assessment by a qualified palaeontologist must be conducted.<br>• A Protocol of Fossil Finds must be compiled and submitted to the South African Heritage Resources Agency. The protocol must be implemented during the construction phase. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Operational activities. | None anticipated. | | Not Applicable. | Not Applicable. |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| **Air Quality and Noise** | | | | |
| **Construction Phase** | | | | |
| Construction activities. | Generation of dust by construction vehicles. | To prevent the generation of dust. | • Implement dust suppression techniques.<br>• Limit vegetation clearance until it is necessary for soil stripping.<br>• Retain vegetation and soil in position for as long as possible before stripping.<br>• A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields:<br>▪ The date of the complaint;<br>▪ The name and surname of the person lodging the complaint;<br>▪ Details of the complaint; and<br>▪ How and when the complaint was addressed. | • Applicant<br>• Construction contractor |
| Construction activities. | Release of emissions from construction vehicles. | To minimise emissions from construction vehicles. | • Regular maintenance of vehicles to minimise the release of emissions.<br>• Speeds bumps and traffic signs should be erected to prevent speeding onsite. | • Applicant<br>• Construction contractor |
| Construction activities. | Generation of nuisance and noise from construction vehicles and equipment / machinery. | To prevent the generation of excessive noise. | • Noisy activities must be scheduled during times of the day that will result in the least disturbance to adjacent sensitive receptors. Noisy work must also be avoided over weekends and public holidays.<br>• No amplified music is allowed onsite.<br>• Sirens and/or hooters may only be used during emergencies and drills.<br>• Noisy work must be avoided on weekends and public holidays.<br>• Vehicles must not be left idling unnecessarily.<br>• All vehicles must be regularly maintained.<br>• A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields:<br>▪ The date of the complaint;<br>▪ The name and surname of the person lodging the complaint;<br>▪ Details of the complaint; and<br>▪ How and when the complaint was addressed.<br>• The applicant must comply with the Steve Tshwete Local Municipality – Nuisance Management By-Laws, 2010. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Operational activities. | Generation of dust by vehicles onsite. | To prevent the generation of dust. | • Implement dust suppression techniques, if required (for example, if there are any unpaved areas).<br>• A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields:<br>▪ The date of the complaint;<br>▪ The name and surname of the person lodging the complaint;<br>▪ Details of the complaint; and<br>▪ How and when the complaint was addressed. | • Applicant<br>• Site manager |
| Operational activities. | Release of emissions from vehicles. | To minimise emissions from vehicles. | • Regular maintenance of vehicles to minimise the release of emissions.<br>• Fuel caps must be replaced immediately after refuelling has been completed.<br>• Speeds bumps and traffic signs should be erected to prevent speeding onsite. | • Applicant<br>• Site manager |
| Operational activities. | Generation of emissions during refilling of vehicles as well as refilling of storage tanks. | To minimise the generation of emissions during refilling of vehicles and storage tanks. | • Any empty tanks must be kept closed.<br>• Storage tanks must be opened immediately before refilling and closed immediately after refilling has been completed. | • Applicant<br>• Site manager |
| Operational activities. | Generation of nuisance and noise from vehicles. This also includes nuisance and noise | To prevent the generation of excessive noise. | • No amplified music is allowed onsite.<br>• Sirens and/or hooters may only be used during emergencies and drills.<br>• Noisy work must be avoided on weekends and public holidays. | • Applicant<br>• Site manager |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| | from operational and maintenance activities. | | • Trucks must not be left idling unnecessarily. Drivers should be instructed to also not hoot or rev trucks unnecessarily.<br>• All vehicles and equipment must be regularly maintained. Loose or rattling parts should be repaired.<br>• A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields:<br>▪ The date of the complaint;<br>▪ The name and surname of the person lodging the complaint;<br>▪ Details of the complaint; and<br>▪ How and when the complaint was addressed.<br>• The applicant must comply with the Steve Tshwete Local Municipality – Nuisance Management By-Laws, 2010.<br>• Silencers must be fitted to equipment and machinery, where possible. | |
| **Soil** | | | | |
| **Construction Phase** | | | | |
| Hydrocarbon spillages or leakages from vehicles, including construction vehicles. | Soil pollution. | To prevent hydrocarbon spillages and/or leakages from construction vehicles and ensure that any spillages are cleaned effectively. | • Use drip trays for any machinery and/or vehicle repair work.<br>• Immediately repair any leaking machinery or vehicles.<br>• Place oil drums on impermeable surfaces or plastic liners.<br>• Immediately clean any hydrocarbon spillages and dispose of as hazardous waste. Safe Disposal Certificates must be obtained and kept on record. | • Applicant<br>• Construction contractor |
| Spillages from chemical toilets. | Soil pollution. | To prevent spillages from chemical toilets and ensure that any spillages are cleaned effectively. | • Sufficient ablution facilities must be provided.<br>• Chemical toilets must be serviced regularly.<br>• Proof of safe disposal of contents of chemical toilets should be kept on record.<br>• Any spillages from the chemical toilets must immediately be cleaned and the contaminated soil disposed of as hazardous waste. Safe Disposal Certificates must be obtained and kept on record. | • Applicant<br>• Construction contractor |
| The incorrect management, storage and disposal of waste (general and hazardous waste), including construction waste. | Soil pollution. | To ensure that construction waste is managed in an environmentally responsible manner. | • Waste must be managed according to its hazard classification (i.e. general vs. hazardous waste) and general and hazardous waste streams should not be mixed.<br>• Waste stored onsite must be kept in appropriate containers with lids that can be closed.<br>• Large volumes of waste may not accumulate onsite.<br>• Waste must be taken to appropriately licensed facilities for reuse, recycling, recovery or disposal. Safe Disposal Certificates must be obtained and kept on record.<br>• No waste may be burnt or buried onsite.<br>• The applicant must comply with the Steve Tshwete Local Municipality – Integrated Waste Management By-Laws, 2012.<br>• All waste must be stored in accordance with the Norms and Standards for the storage of waste (GN 926 of 29 November 2013). | • Applicant<br>• Construction contractor |
| The mixing of concrete. | Soil pollution. | To prevent the contamination of soil during to concrete mixing. | • Concrete should ideally be mixed on an impermeable surface such as a concrete slab.<br>• Cement bags (new and used) must be stored under roof or in closed containers where they will not be exposed to rain.<br>• Dry concrete must be removed and disposed of together with other building rubble.<br>• Ready-mix concrete trucks may clean chutes into foundations, but not elsewhere onsite. | • Applicant<br>• Construction contractor |
| The clearance of vegetation and the removal of topsoil and subsoil. | Soil erosion. | To prevent soil erosion. | • Limiting vegetation clearance until it is necessary for soil stripping.<br>• A temporary storm water management plan must be developed and implemented.<br>• Implement adequate erosion prevention measures, such as measures to dissipate runoff water velocities.<br>• Implement adequate storm water management measures. | • Applicant<br>• Construction contractor |
| Construction activities to create foundations for buildings and other associated infrastructure. | Soil compaction. | To prevent soil compaction. | • Soils should be moved when dry, as far as possible.<br>• Excessively heavy vehicles should not be used for earthmoving activities. This will minimise compaction of the soil. | • Applicant<br>• Construction contractor |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| Incorrect storage practices. | Degradation of topsoil. | To conserve/ protect topsoil. | • Topsoil and subsoil must be stored on separate stockpiles.<br>• Cover topsoil stockpiles to prevent the soil being washed away during rainfall events.<br>• Topsoil must be replaced during rehabilitation and landscaping. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Hydrocarbon spillages or leakages from vehicles. | Soil pollution. | To prevent hydrocarbon spillages and/or leakages from vehicles and ensure that any spillages are cleaned effectively. | Same mitigation measures as under construction phase. | • Applicant<br>• Site manager |
| The potential release of fuel from the storage tanks and hoses. | Soil pollution. | To prevent the release of fuel from the storage tanks and hoses and ensure that any spillages are cleaned effectively. | • An Emergency Response Plan must be compiled and implemented at the filling station.<br>• A leak detection system must be installed at the storage tanks.<br>• Fuel storage tanks, pipelines and associated infrastructure must undergo regular integrity assessments, as per the manufacturer's specifications.<br>• Fuel stock must be monitored on a daily basis and records must be kept on site.<br>• Observation wells must be installed adjacent to the underground storage tanks (Section 5.1.2 of SANS 10089:2010).<br>• Pressure tests must be undertaken on hoses, on an annual basis.<br>• Spill kits must be readily available onsite and employees must be trained on the correct spill cleaning procedures.<br>• In the event that a leak or accidental spill occurred, a remediation plan must be compiled and executed.<br>• The applicant must comply with the Steve Tshwete Local Municipality – Petroleum Products By-Law, 2005. | • Applicant<br>• Site manager |
| Spillages during refuelling of vehicles. | Soil pollution. | To prevent the spillage of fuel and ensure that any spillages are cleaned effectively. | • Employees must be trained in the appropriate use of dispensing equipment.<br>• Spill kits must be readily available onsite and employees must be trained on the correct spill cleaning procedures. | • Applicant<br>• Site manager |
| Spillages during filling of storage tanks. | Soil pollution. | To prevent the spillage of diesel and/or paraffin and ensure that any spillages are cleaned effectively. | • Vehicles must be left in gear and prevented from moving forwards or backwards unintentionally during filling.<br>• Vehicles must be attended at all times and the filling process must be supervised.<br>• Vehicle engines must be switched off. The engines may only be switched on after filling has been completed and only after all covers, caps and valves have been closed. | • Applicant<br>• Site manager |
| The incorrect management, storage and disposal of waste (general and hazardous waste). | Soil pollution. | To ensure that waste is managed in an environmentally responsible manner. | Same mitigation measures as under construction phase. | • Applicant<br>• Site manager |
| Spillages from the sewerage network (pipelines) onsite. | Soil pollution. | To ensure that the sewerage network is kept in a good state of repair. | • Ablution facilities must regularly be cleaned.<br>• Should toilets run slowly or become blocked, this should be investigated to ensure that this is not due to a broken or blocked pipe underground.<br>• Any broken or blocked pipes must be repaired. | • Applicant<br>• Site manager |
| **Socio-economic** | | | | |
| **Construction Phase** | | | | |
| Construction activities. | Generation of a number of job opportunities. | | This is a positive impact and no mitigation measures are therefore required. | Not applicable. |
| Construction activities. | Potential increase in crime due to the influx of workers. | To prevent an increase in incidents of crime in die area. | • Reference checks should be conducted on all workers before they are appointed.<br>• Workers should not be allowed to leave the construction site during the day and should be transported to and from the site on a daily basis. | • Applicant<br>• Construction contractor |
| Construction activities. | Stimulation of the local economy. | | This is a positive impact and no mitigation measures are therefore required. | Not applicable. |
| **Operational Phase** | | | | |
| Operational activities. | Generation of a number of job opportunities. | | This is a positive impact and no mitigation measures are therefore required. | Not applicable. |
| Operational activities. | Stimulation of the local economy. | | This is a positive impact and no mitigation measures are therefore required. | Not applicable. |
| **Traffic** | | | | |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| **Construction Phase** | | | | |
| Construction actives. | Increase in traffic volumes to the site. | To minimise the effect of an increase in traffic volumes. | • Ensure that construction vehicles are roadworthy and that drivers comply with road rules.<br>• Loads must be securely fastened and may not exceed the tonnage limitations for each vehicle. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Operational activities. | Increase in traffic volumes to the site. | To minimise the effect of an increase in traffic volumes. | • Ensure optimal operation of the filling station to ensure minimal impact on traffic flow. | • Applicant<br>• Site manager |
| **Fire Risk** | | | | |
| **Construction Phase** | | | | |
| Construction actives. | The potential for fire establishment at the construction area and its subsequent risk to human life and infrastructure. | To prevent the occurrence of fires. | • Access to fire-fighting equipment must at all times be unobstructed.<br>• Emergency numbers must be clearly displayed at the construction site.<br>• Welding, hot-work and flame-cutting may not be conducted within 15m of the fuel storage tanks. Where such activities are undertaken, fire-fighting equipment must be at hand.<br>• The storage of oil or diesel contaminated rags or soil must be in designated, enclosed containers. The container(s) must be kept in a designated area away from the fuel tanks. | • Applicant<br>• Construction contractor |
| **Operational Phase** | | | | |
| Operational activities. | The potential for fire establishment or explosions at the fuel depot and its subsequent risk to human life and infrastructure. | To prevent the occurrence of fires and/or explosions. | • An Emergency Response Plan must be compiled for the filling station.<br>• A site plan showing the following must be compiled and displayed at the fuel depot:<br>▪ Fire-fighting equipment;<br>▪ Emergency assembly point(s);<br>▪ Access routes;<br>▪ The fuel storage tanks and their contents; and<br>▪ Pipelines and valves.<br>• Fire-fighting equipment must be maintained as required in SANS 1475-1: 2010. Hoses must be inspected on an annual basis and any defective or damaged hoses must be replaced.<br>• The fire-fighting system and all fire-fighting equipment must be inspected on an annual basis by a suitably qualified person and records kept on file.<br>• The fire-fighting system and all fire-fighting equipment must be to the satisfaction of the municipal fire authority.<br>• All repair and maintenance work must be supervised.<br>• No repairs or maintenance may be undertaken on fuel storage tanks whilst they are being loaded or unloaded.<br>• Before any hot-work can be conducted within the fuel storage tanks, a gas-free certificate must be issued and all pipelines must be disconnected. Electrical equipment must be locked-out and isolated before repair work can commence. Notices must be hung or placed on equipment during repair work to prevent the accidental switching on of said equipment. A qualified person must give permission for the equipment to be turned on again after the repair work has been completed.<br>• Access to fire-fighting equipment must at all times be unobstructed.<br>• Emergency numbers must be clearly displayed at the fuel depot.<br>• Employees must be trained on the use of fire-fighting equipment.<br>• Fire drills must be conducted on a regular basis and records kept on file.<br>• The volume and tone of emergency sirens (such as the fire alarm) must be clearly audible above ambient noise levels, at the site perimeter.<br>• Welding, hot-work and flame-cutting may not be conducted within 15m of the fuel storage tanks. Where such activities are undertaken, fire-fighting equipment must be at hand. This is not applicable to repairs being undertaken on the fuel storage tanks themselves.<br>• Signage indicating the risks associated with the fuel depot must be displayed. “No-smoking” and “No Open Flame” signs must also be clearly displayed. | • Applicant<br>• Site manager |

| Aspect | Impact and Nature | Impact Management Outcomes | Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation | Responsible party/ person(s) |
|---|---|---|---|---|
| | | | • The storage of oil or diesel contaminated rags or soil must be in designated, enclosed containers. The container(s) must be kept in a designated area away from the fuel tanks. | |

## 8.2 Applicable Environmental Management Standards and Practices

- South African National Standard (SANS) 10089-1, 2008. The petroleum industry Part 1: Storage and distribution of petroleum products in above-ground bulk installations.
- SANS 10089-3:2010, Edition 4: The installation, modification, and decommissioning of underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations.
- SANS 1535:2007: Glass-reinforced polyester-coated steel tanks for the underground storage of hydrocarbons and oxygenated solvents and intended for burial horizontally.
- SANS 1475-1: 2010: The production of reconditioned fire-fighting equipment Part 1: Portable and wheeled (mobile) rechargeable fire extinguishers.
- Norms and Standards for the Storage of Waste (GN 926 of 29 November 2013).

## 8.3 Applicable provisions of the NEMA, 1998, as amended, regarding closure

The provisions of NEMA, 1998, pertaining to closure are not applicable to this proposed development as the development does not include the prospecting, exploration or extraction of a mineral or petroleum resource.

## 8.4 Applicable provisions of the NEMA, 1998, as amended, regarding financial provision for rehabilitation

The provisions of NEMA, 1998, pertaining to financial provision for rehabilitation are not applicable to this proposed development as the development does not include the prospecting, exploration or extraction of a mineral or petroleum resource.

## 8.5 Method of monitoring the implementation of the impact management actions

**Construction Phase**

An independent Environmental Control Officer (ECO) must be appointed to conduct monthly compliance audits during the construction phase of the proposed development. The audits must verify compliance with the Environmental Authorisation and this Environmental Management Programme and a formal report must be compiled after each audit. The reports must be submitted to the Competent Authority. Once the construction phase has been completed, a post-construction audit must be conducted by the independent ECO and the report also submitted to the Competent Authority.

**Operational Phase**

An internal ECO must be appointed to conduct monthly compliance audits during the operational phase of the proposed development and to ensure that corrective actions are implemented where required. Reports resulting from these audits do not need to be submitted to the Competent Authority.

An independent ECO must be appointed to conduct annual compliance audits during the operational phase of the proposed development. The audits must verify compliance with the Environmental Authorisation and this Environmental Management Programme and must comply with the requirements of Appendix 7 of the Environmental Impact Assessment Regulations of 2014, as amended. A formal report must be compiled after each audit and the reports must be submitted to the Competent Authority.

## 8.6 The frequency of monitoring the implementation of the impact management actions

**Construction Phase**

Monthly independent ECO compliance audits.

**Operational Phase**
Monthly internal ECO compliance audits and annual external ECO compliance audits.

## 8.7 Persons who will be responsible for the implementation of the impact management actions

The applicant is ultimately responsible for the implementation of the impact management actions, during all phases of the development, even where the implementation of the actions may be contracted out to a third party. During the construction phase, sub-contractors will for the most part be carrying out the required impact management actions and these actions should therefore be adequately communicated to the contractors. During the operational phase, the applicant will be mostly responsible for carrying out the required impact management actions along with the site manager.

The applicant must appoint a designated person for the function of internal/in-house ECO and an external, suitably qualified Environmental Assessment Practitioner for the function of external, independent ECO.

## 8.8 Time periods within which the impact management actions must be implemented

**Planning and Design Phase**
The management actions for the Planning and Design Phase must be completed before the Pre-construction Phase is commenced with.

**Pre-construction Phase**
The management actions for the Pre-construction Phase must be completed before the Construction Phase is commenced with.

**Construction Phase**
The management actions for the Construction Phase must be completed prior to the completion of the Construction Phase (i.e. before the Operational Phase is commenced with). Rehabilitation should be conducted concurrent with construction as far as possible. Any additional rehabilitation should be conducted within one year from the completion of construction.

**Operational Phase**
The management actions for the Operational Phase must be implemented during the Operational Phase, on a continual basis.

## 8.9 Mechanism for monitoring compliance with the impact management actions

Please refer to Sections 8.5 and 8.6 of this EMPr.

## 8.10 Program for reporting on compliance, taking into account the requirements as prescribed by the EIA Regulations, 2014, as amended

*Table 4: Reporting program*

| Type of reporting | Reporting Frequency | Authority to report to |
|---|---|---|
| **Construction Phase** | | |
| Monthly independent ECO compliance audits | Monthly, for the duration of the construction phase | Competent Authority (MDARDLEA) |
| Post-construction phase independent ECO compliance audit | Once-off, upon completion of the construction phase | Competent Authority (MDARDLEA) |
| **Operational Phase** | | |
| Monthly independent ECO compliance audits | N/A – Internal | N/A – Internal |
| Annual external ECO compliance audits | Annually | Competent Authority (MDARDLEA) |

# 9. ENVIRONMENTAL AWARENESS PLAN

The applicant will ensure that its employees are adequately informed of the environmental risks that may result from work that they conducted onsite and how these risks must be dealt with in order to avoid pollution or the degradation of the environment, through the implementation of this Environmental Awareness Plan.

The Environmental Awareness Plan for the Sotran Filling Station consists of two parts, namely, initial Induction Training and ongoing job-specific, Toolbox-talk Training. The same training material will be utilised during both the Induction Training and Toolbox-talk Training.

**Induction Training**

Before any employees or contactors commence work at the filling station, each individual must undergo an Induction Training session. This is required during the following phases of the proposed project:

- Pre-Construction phase;
- Construction phase (including rehabilitation); and
- Operational phase.

An attendance register must be kept by Sotran 5 CC and each individual who has completed the Induction Training must complete the attendance register. This will also function as an acknowledgement that each individual has understood the training received.

**Toolbox-talk Training**

Toolbox-talk Training must be conducted biannually during the operational phase of the proposed development and all operational employees must attend these sessions.

An attendance register must be kept by Sotran 5 CC and each individual who has completed the Toolbox-talk Training must complete the attendance register. This will also function as an acknowledgement that each individual has understood the training received.

**Training Material**

The same material will be used for both the Induction Training and Toolbox-talk Training sessions and will cover the following topics:

- What is meant by the term “environment”;
- Why the environment requires protection;
- The environmental risks that may result from work that is performed at the fuel depot, during the above mentioned phases of the project;
- How the identified risks may impact upon the environment;
- How the identified risks can be mitigated;
- The protection of workers who refuse to do environmentally hazardous work, as provided for in the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended;
- Environmental Management Programme conditions that are specifically applicable to employee’s work onsite;
- Fire-fighting procedures; and
- Hydrocarbon spill response procedure, including spill kit usage training.

The training can be presented in a verbal format if required.

# 10. SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

No specific information has been required by the Competent Authority at this stage of the application process.