





DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)
for the
PROPOSED DMG LOGISTICS (PTY) LTD FILLING STATION ON ERF 16 IN OSIZWENI C,
NEWCASTLE LOCAL MUNICIPALITY, KWAZULU NATAL
(submitted as part of the Basic Assessment Report)

April 2023



Report prepared for:	Report prepared by:
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PROJECT INFORMATION

Title:	EMPr for the Proposed DMG Logistics (Pty) Ltd Filling Station on Erf 16 in Osizweni C, Newcastle Local Municipality
Competent Authority:	KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (DEDTEA)
Reference #:	DC25/0001/2023
Applicant:	DMG Logistics (Pty) Ltd
EAP:	Pearl of Great Price Holdings
Compiled by:	Khululiwe Mathenjwa
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Date:	April 2022

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ACRONYMS & ABBREVIATIONS

EA Environmental Authorisation

ECO Environmental Control Officer

ELO Environmental Liaison Officer

EMPr Environmental Management Programme

DEDTEA: KwaZulu-Natal Department of Economic Development, Tourism and
Environmental Affairs

DEFINITIONS

Aspect - Element of an organisation's activities, products or services that can interact with the environment.

Auditing - A systematic, documented, periodic and objective evaluation of how well the Environmental Management Programme (EMPr) is being implemented and is performing with the aim of helping to safeguard the environment by facilitating management control which would include meeting regulatory requirements. Results of the audit help the organisation to improve its environmental policies and management systems, while keeping track of their compliance with the Environmental Authorization.

Clearing of vegetation - Clearing refers to the removal of vegetation through permanent eradication and in turn no likelihood of regrowth. 'Burning of vegetation (e.g. fire- breaks), mowing grass or pruning does not constitute vegetation clearance, unless such burning, mowing or pruning would result in the vegetation being permanently eliminated, removed or eradicated.

Corrective (or remedial) action - Response required in addressing an environmental problem that is in conflict with the requirements of the EMPr. The need for corrective action may be determined through monitoring, audits or management review.

Degradation - The lowering of the quality of the environment through human activities, e.g. river degradation, soil degradation.

Developer - Entity which applies for environmental approval and is ultimately accountable for compliance to conditions stipulated in the EA (Environmental Authorisation) and EMPr.

Environment - The surroundings within which humans exist and that are made up of land, water and atmosphere of the earth, micro-organisms, plant and animal life: or any part or combination of the two and the interrelationships among them, the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental Impact Assessment (EIA) - An Environmental Impact Assessment (EIA) refers to the process of identifying, predicting and assessing the potential positive and negative social, economic and biophysical impacts of a proposed development. The EIA includes an evaluation of alternatives; recommendations for appropriate management actions for minimising or avoiding negative impacts and for enhancing positive impacts; as well as proposed monitoring measures.

Environmental Management System (EMS) - Environmental Management Systems (EMS) provide guidance on how to manage the environmental impacts of activities, products and services. They detail the organisational structure, responsibilities, practices, procedures, processes and resources for environmental management. The ISO14001 EMS standard has been developed by the International Organisation for Standardisation.

Environmental Policy - A statement of intent and principles in relation to overall environmental performance, providing a framework for the setting of objectives and targets.

Habitat - A habitat is an ecological or environmental area that is inhabited by a particular species of animal, plant, or other type of organism. It is the natural environment in which an organism lives, or the physical environment that surrounds a species population.

Impact - A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time, space, magnitude and intensity.

Indigenous species - Flora and Fauna species that are naturally found in an area.

Infrastructure - The network of facilities and services that are needed for economic activities, e.g. roads, electricity, water, sewerage, etc.

Integrated Environmental Management- This is a philosophy used in the assessment of and management of the environment, during all actions, plans, activities, etc. that could affect the environment. Its aim is to ensure sustainability.

Mitigation - Measures designed to avoid, reduce or remedy adverse impacts. Actions that limit, stop or reverse the magnitude and/or rate of long-term effect on the environment.

Natural environment - Encompasses all living and non-living things occurring naturally on Earth or some region thereof. It is an environment that encompasses the interaction of all living species. Climate, weather, and natural resources that affect human survival and economic activity.

Policy - A set of aims, guidelines and procedures to help you make decisions and manage an organisation or structure. Policies are based on people or an organisation's values and goals.

Process - Development usually happens through a process - a number of planned steps or stages.

Resources - Parts of our natural environment that we use and protect, e.g. land, forests, water, wildlife, and minerals.

LEGISLATIVE REQUIREMENTS FOR AN EMPr

Table 1 below provides the Requirements for an Environmental Management Programme (EMPr) in terms of the 2014 EIA Regulations (Appendix 4) with reference to the relevant sections of this report or where these requirements are addressed.

Table 1: Requirements for an EMPr in terms of the 2014 EIA Regulations (Appendix 4)

Section	Content	Reference in report
An EMPr must comply with section 24N of the Act and include-		
1(a)	Details of (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Section 2.1
1(b)	A detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 6
1(c)	A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;	Section 1.1
1(d)	A description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including- (i) planning and design; (ii) pre-construction activities; (iii) construction activities; (iv) rehabilitation of the environment after construction and where applicable post closure; and (v) where relevant, operation activities;	Section 7
1(e)	A description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Section 7
1(f)	A description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to – (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; (ii) comply with any prescribed environmental management standards or practices; (iii) comply with any applicable provisions of the Act regarding closure, where applicable; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	Section 7
1(g)	The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 8
1(h)	The frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 7
1(i)	An indication of the persons who will be responsible for the implementation of the impact management actions;	Section 7
1(j)	The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 7

1(k)	The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 7 and 8
1(l)	A program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 8
1(m)	An environmental awareness plan describing the manner in which- (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	Section 5.3
1(n)	Any specific information that may be required by the competent authority.	None

1. INTRODUCTION

1.1 Project background

Pearl of Great Price Environmental Consulting (Pty) Ltd was appointed by DMG Logistics to conduct the Basic Assessment Process for the proposed Petroleum filling station on Erf 53 in Osizweni C New Castle Local Municipality, KwaZulu-Natal Province (see **Figure 1**).

The proposed filling station will incorporate the following:

- Infrastructure for Petrol 93 and 95, Diesel, Gas and Paraffin
- General dealer shop, ablution facilities, parking, car wash and truck stop.

Pre-planning and assessment work undertaken by the Applicant and their appointed Specialists has informed the selection of the proposed layout for development and this is elaborated on further in other sections of this report. Planning has taken note of electrical, water and sewerage provision, as well as stormwater management and environmental sensitive areas.

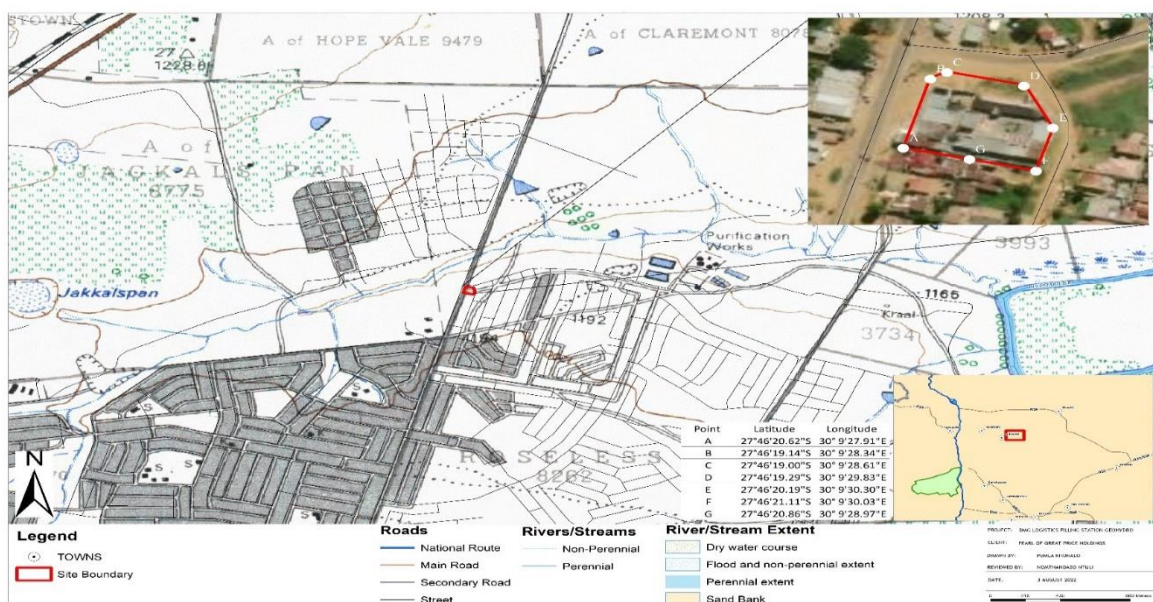


Figure 1: Locality Map of the Osizweni Filling Station.

1.2 Location and scope of proposed capacity upgrades

The proposed development consists of the construction of a modern corporate standard Filling Station with Underground Storage Tanks (UST's) on a site of 4599m² on ERF 53 at Osizweni C approximately 23 km East of the town of Newcastle, under the due restriction of Newcastle local municipality, Amajuba District, KwaZulu-Natal (KZN). A convenience store for motorists and general public, (offering items like take-away meals, bread, milk, cold drinks, sweets, tobacco products and utility cards (telephone, electricity etc.), as well as an ablution facilities and Parking bays. The site currently serves as the parking area for Khazin's Butchery and Shisanyama located immediately west of the site.

The following is to be built as part of the scope of works:

- **Six (6) USTs** with a total of **138 cubic metres** Tank capacity including -
 - 2 x 23 m³ for ULP 95 ((Unleaded Petrol 93 Octane)
 - 2 x 23m³ tanks for Diesel; and
 - 2 x 23m³ tanks for low Sulphur Diesel.
- Convenience store for motorists and general public
- Ablution facilities
- Parking bays

1.3 Purpose and objectives the document

This EMPr is the main output of the Basic Assessment process and has been compiled in accordance with the requirements of the National Environmental Management Act (No. 107 of 1998) (NEMA) legislation and Integrated Environmental Management (IEM) philosophy which aims to achieve a desirable balance between conservation and development (DEAT, 1992).

The purpose of this EMPr is to provide a framework within which the environmental risks and liabilities identified during the Basic Assessment process are managed for the duration of the project lifecycle. This document further provides mitigation measures to ensure legal compliance and environmental best practice during the construction of the proposed project.

The EMPr has the following key objectives:

- To ensure compliance of the with applicable environmental legislation and commitments made in the Basic Assessment Report;
- To communicate environmental expectations and requirements of the project;
- To ensure that the roles and responsibilities of the various parties involved in the implementation of the EMPr are clearly outlined;
- To reduce adverse environmental impacts as a result of the project activities; and
- To ensure continuous improvement in terms of the environmental performance of the project.

Other general objectives of this environmental management programme report are to -

- a) Protect biodiversity and minimise loss of natural habitat
- b) Prevent/minimise damage to and loss of soils
- c) Prevent/minimise pollution of soils, water and air
- d) Prevent damage to cultural heritage resources
- e) Control and minimise disturbing noise as far as possible
- f) Minimise disturbance of infrastructure and activities of affected parties (adjacent properties, road users)
- g) Maintain good communication with affected parties
- h) Minimise health and safety risks (including crime)

Relevant appendices to this EMPr shall be attached in the Final Draft or prior to construction.

These may include:

- i. Sensitive Areas & Vegetation Rehabilitation Plan (with plant rescue, plant translocation, alien invasive plant control, erosion control and soil management guidelines).
- ii. Wetland and Riparian Areas Rehabilitation Plan.
- iii. Erosion and Soil Management Plan
- iv. Storm Water Management Plan
- v. Traffic Management Plan
- vi. Noise Management Plan

The Draft EMPr shall also be subject an audit in terms of Regulation 34 of the Environmental Impact Assessment Regulations (GN 326). Any amendments to this EMPr will be subject to Regulation 35-37 of the Environmental Impact Assessment Regulations (GN 326).

2. PREPARATION OF THIS EMPR

In accordance with the Regulation 13 of the EIA Regulations (GN R982 of 2014) as amended, the proponent is required to appoint an independent registered Environmental Assessment Practitioner (EAP) to undertake the Environmental Impact Assessment (EIA) process for any activities regulated in terms of the NEMA. As such, DMG Logistics (Pty) Ltd appointed Pearl of Great Price Holding an independent consulting firm to undertake the Basic Assessment process. Both Pearl of Great Price and associated specialist are not subsidiaries of the proponent or have vested interested in the proposed activity. The details of the project proponent and EAP are provided below:

2.1 Detail of project proponent

Company Name: DMG Logistics (Pty) Ltd
Contact person: Mr. Meluleki G Duma
Designation: Director
Address: PO Box 51335
Osizweni,2952
Telephone Number: +27 72 407 3251
E-mail: khazins@gmail.com

2.2 Detail of project EAP

Company Name: Pearl of Great Price Holding
Contact person: Khululiwe Mathenjwa Designation:
Environmental Assessment Practitioner
Address: 220 Drakensberg Drive
Aviary Hill, Newcastle
3300
Telephone Number: +27 73 274 7370 / +27 72 289 5734
E-mail: info@pogpohs.co.za

This EMPR was prepared by Khululiwe Mathenjwa has twenty (20) years working experience in Environmental Management. She holds a B.Sc Degree in Chemistry and Geographical Sciences has a number of post graduate certificates in all aspects of Environmental Management and Environmental Management Compliance Monitoring and Enforcement. Her project experience spans tools such as Environmental Impact Assessments (EIAs), Basic Assessments (BA), Water Use Licence Applications (WULAs) and Waste Management Licence Applications (WMLs). She has applied these in sectors such as sewerage, river rehabilitation, mixed-use developments, bulk water, roads, electricity, mining industries and landfills. She's therefore acquainted with NEMA and other legislation within Environmental Management.

Details and CVs of the EAP are contained in **Appendix A** of this report.

3. APPLICABLE LEGISLATION

The environmental legislation applicable to this project includes but is not limited to that indicated in **Table 1**. The proposed project have been taken into account by, and are in line with national, provincial and municipal development goals and planning frameworks.

Table 1: Applicable legislation, policies and guidelines

Title of legislation, Policy or guideline	Administering authority	Date
National Environmental Management Act (Act 107 of 1998) – for its potential to cause degradation of the environment (Section 28).	Department of Environmental Affairs	1998
Environmental Conservation Act (Act 73) – for potential environmental degradation.	Department of Environmental Affairs	1989
National Water Act (Act 36 of 1998) – for potential to cause pollution of water resources defined under the Act (Section 19 and 21)	Department of Water Affairs and Forestry	1998
Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) – for protection of agricultural resources and for control and removal of alien invasive plants.	National Department of Agriculture	1983
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) – for protection of biodiversity.	Department of Agriculture and Environmental Affairs & Ezemvelo KZN Wildlife	2004
The National Heritage Resources Act (Act No 25 of 1999 as amended) – for the identification and preservation of items of heritage importance.	Department of Arts and Culture (Amafa KwaZulu-Natal)	1999
Integrated Environmental Management Guideline: Guideline on Need and Desirability (2017).	Department of Environmental Affairs	2017
Public Participation Guideline in Terms of National Environmental Management Act, 1998 Environmental Impact Assessment Regulations (2017).	Department of Environmental Affairs	2017
Guideline 7: Detailed Guide to Implementation of the Environmental Impact Assessment Regulations (2006)	Department of Environmental Affairs and Tourism	2007
ADDITIONAL POLICIES/ACTS		
Spatial Planning and Land Use Management Act (Act 16 of 2013) - Provides the overarching framework for spatial planning and land use management. The applicable zonings and town planning approvals are in place.		

Title of legislation, Policy or guideline	Administering authority	Date
<p>Occupational Health and Safety Act (Act 85 of 1993), as amended - Sets out the framework for the health and safety of persons at work, the health and safety of persons in connection with the activities of persons at work, and the requirements for the advisory council for occupational health and safety.</p>		
<p>National Road Traffic Act (Act 93 of 1996) - Sets out the regulations relating to the transportation of dangerous goods and substances by road.</p>		
<p>Petroleum Products Act (Act 120 of 1977), as amended - The Act regulates the distribution and sale of petroleum.</p>		
<p>SANS/SABS Operating Standards: The various components of the proposed fuel station, such as tank material and size, vent pipes, monitoring wells (sizes and positioning), etc., would comply with the relevant South African National Standards (SANS) and the South African Bureau of Standards (SABS) requirements. These include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • SANS 1535 (Manufacturing and Materials) • SANS 10 400TT (Fire Protection) 53 Sections 1-6 (the application of the National Building Regulations-Installation of Liquid Fuel Dispensing Pumps and Tanks). • SANS 10131: 2004 Section 5 (the storage and handling of liquid fuel – large consumer installations). • SANS 10089 Parts I, II & III (leak detection/monitoring). • SANS 1010 		

4. ROLES AND RESPONSIBILITIES

In order to ensure the sound development and effective implementation of the EMPr, it is necessary to identify and define the responsibilities and authority of the various personnel and organisations that will be involved in the project. The implementation of this EMPr requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during the construction phase. The following key roles must be provided for during the implementation of the EMPr:

- Developer/ Proponent;
- Contractors (C)
- Consulting Engineers (CE);
- Engineer's Representative (ER);
- Environmental Officers (EO);
- Environmental Site Representative (ESR);
- Environmental Control Officer (ECO);
- Project Manager (PM); and
- Authorities (competent authority (CA))

The stakeholders are discussed below.

4.1 Developer/Proponent

The Project Developer is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent authority (CA). Where required, an environmental control officer (ECO) must be contracted by the Project Developer to objectively monitor the implementation of the EMPr according to relevant environmental legislation, and the conditions of the environmental authorisation (EA). The Project Developer is further responsible for providing and giving mandate to enable the ECO to perform responsibilities, and he must ensure that the ECO is integrated as part of the project team while remaining independent.

Responsibilities:

- Be fully conversant with the conditions of the EA;
- Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s);
- Issuing of site instructions to the Contractor for corrective actions required;
- Monitor the implementation of the EMPr throughout the project by means of site inspections and meetings. Overall management of the project and EMPr implementation; and
- Ensure that periodic environmental performance audits are undertaken on the project implementation.

4.2 Contractor and Service Providers:

The Contractor appoints the EO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where specified, to provide Method Statements setting out in detail how the impact management actions contained in the EMPr will be implemented during the development or expansion for overhead electricity transmission and distribution infrastructure activities.

Responsibilities

- project delivery and quality control for the development services as per appointment;
- employ a suitably qualified person to monitor and report to the Project Developer's appointed person on the daily activities on-site during the construction period;
- ensure that safe, environmentally acceptable working methods and practices are implemented and that equipment is properly operated and maintained, to facilitate proper access and enable any operation to be carried out safely;
- attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones;
- ensure that contractors' staff repair, at their own cost, any environmental damage as a result of a contravention of the specifications contained in EMPr, to the satisfaction of the ECO.

4.3 Consulting Engineer

The Consulting Engineer (CE) is contracted by the developer to design and specify the project engineering aspects. Generally, the engineer runs the works contract and oversee the overall implementation of the project as well as the compliance of the EMPr and incorporate any environmental consideration recommended in this EMPr into the design. The CE may also fulfil the role of PM on the proponent's behalf (see PM).

4.4 The Environmental Control Officer (ECO)

The Environmental Control Officer (ECO) is appointed by the developer as an independent monitor of the implementation of the EMPr. He/she must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. The ECO must attend relevant project meetings, conduct inspections to assess compliance with the EMPr and be responsible for providing feedback on potential environmental problems associated with the development. In addition, the ECO is responsible for:

- Assisting in ensuring that the necessary environmental authorisations and permits have been obtained prior to construction commencing.
- Reviewing the Contractor's construction Method Statements.
- Monthly site inspections of all construction areas with regard to compliance with the EMPr.

- Monitoring and verifying adherence to the EMPr, the EA and approved Method Statements at all times.
- Monitoring and verifying that environmental impacts are kept to a minimum.
- Taking appropriate action if the specifications are not followed.
- Monitoring the undertaking by the Contractor of environmental awareness training for all new personnel coming onto site.
- Advising on the removal of person(s) and/or equipment not complying with the specifications.
- Auditing the implementation of the EMPr and compliance with the EA on a monthly basis.
- Compiling a final audit report regarding the EMPr and its implementation during the construction period after completion of the contract and submitting this report to the Employer and the authorising authority.

The ECO has the right to enter the site and do monitoring and auditing at any time, subject to compliance with health and safety requirements applicable to the site (e.g. wearing of safety boots and protective head gear).

i. Liaison with Authorities

The ECO will be responsible for liaising with the competent authority. The ECO must submit monthly environmental audit reports to the authorities. These audit reports must contain information on the contractor and developer's levels of compliance with the EMPr. The audit report must also include a description of the general state of the site, with specific reference to sensitive areas and areas of non-conformance. The ECO must indicate suggested corrective action measures to eliminate the cause of the non-conformance incidents. In order to keep a record of any impacts, an Environmental Log Sheet is to be kept on a continual basis.

ii. Liaison with Contractors

The ECO is responsible for informing the contractors of any decisions that are taken concerning environmental management during the construction phase. This would also include informing the contractors of the necessary corrective actions to be taken.

4.5 Environmental Officer (EO)

The Environmental Officer (EO) is employed by the Developer will report to the Project Manager and are responsible for implementation of the EMPr, environmental monitoring and reporting, providing environmental input to the Project Manager and Contractor's Manager, liaising with contractors and the landowners as well as a range of environmental coordination responsibilities.

Responsibilities

- Be fully conversant with the EMPr;
- Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures;

- Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s)
- Confine the development site to the demarcated area;
- Conduct environmental internal audits with regards to EMPr and authorisation compliance
- Assist the contractors in addressing environmental challenges on site;
- Assist in incident management:
- Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared;
- Assist the contractor in investigating environmental incidents and compile investigation reports;
- Follow-up on pre-warnings, defects, non-conformance reports;
- Measure and communicate environmental performance to the Contractor;
- Conduct environmental awareness training on site together with ECO and EO;
- Ensure that the necessary legal permits and / or licenses are in place and up to date;
- Acting as Developer's Environmental Representative on site and work together with the ECO and contractor;

4.6 Environmental Site Representative (ESR)

Each Contractor affected by the EMPr should appoint an ESR, who is responsible for the on-site implementation of the EMPr (or relevant sections of the EMPr). The Contractor's representative can be the site agent; site engineer; a dedicated environmental officer; or an independent consultant. The Contractor must ensure that the Contractor's Representative is suitably qualified to perform the necessary tasks and is appointed at a level such that she/he can interact effectively with other site Contractors, labourers, the Environmental Control Officer and the public. As a minimum the ESR shall meet the following criteria:

- Be on site throughout the duration of the project and be dedicated to the project;
- Ensure all their staff are aware of the environmental requirements, conditions and constraints with respect to all of their activities on site;
- Implementing the environmental conditions, guidelines and requirements as stipulated within the EA, EMPr and Method Statements;
- Attend the Environmental Site Meeting;
- Undertaking corrective actions where non-compliances are registered within the stipulated timeframes;
- Report back formally on the completion of corrective actions;
- Assist the ECO in maintaining all the site documentation;
- Prepare the site inspection reports and corrective action reports for submission to the ECO;
- Assist the ECO with the preparing of the monthly report; and
- Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint an ESR representing that company

4.7 Project Manager

The Project Manager (PM) has overall responsibility for managing the project, Contractors, and Consultants and for ensuring that the environmental management requirements are met. All decisions regarding environmental procedures must be approved by the PM. The PM has the authority to stop any construction activity in contravention of the EMPr in accordance with an agreed warning procedure.

4.8 Competent Authority

The Competent Authority (CA) will be responsible for approving the EMPr and issuing of the Environmental Authorisation (if applicable). Once the project has been approved, the competent authorities will be accountable for ensuring that the Developer complies with the conditions of the Environmental Authorisation and requirements stipulated in this EMPr and other environmental legislations. This will be achieved by reviewing audit reports submitted by the Environmental Control Officer. and conducting regular site visits should the need for this arise. Other authorities may also be involved in the reviewing and approval process of this EMPr.

5. OPERATIONAL CONTROLS

The operations that are associated with the identified environmental aspects must be consistent with the objectives and conditions of the EMPr. The typical operational controls that must be put in place for a construction site are as follows:

5.1 Environmental-related method statements

Environmental-related method statements are written submissions to the Engineer by the Contractor, in collaboration with environmental personnel involved in the project. The method statements set out the plant, materials, labour and method that the Contractor proposes using to carry out an activity (identified by the Engineer) to address specific requirements and ultimately this EMPr.

All method statements, including those which may be required as ad-hoc or emergency construction method statements, must be submitted for approval prior to the commencement of any activity. Any changes to the method of works must be reflected by amendments to the original approved method statement and re-approved on the understanding that such changes are environmentally acceptable and in line with the requirements of this EMPr.

Typical environmental method statements that may be required for a construction development at the discretion of the ECO include:

- Removal of indigenous vegetation;
- Removal of alien vegetation;
- Dust Control;
- Concrete mixing and management;

- Management of Fire;
- Handling and storage of oils and chemicals;
- Management of accidental spills;
- Management of contaminated materials;
- Solid waste management;
- Management and storage of reusable materials; and
- Site refuelling of construction vehicles and plant on site.

5.2 Emergency preparedness

In the event of emergency, the following elements must present and easily accessible on site for the management of such emergency:

5.2.1 Emergency contact details

The Contractor must ensure that the numbers of the following persons are displayed at a prominent place on site at all times:

- The local Police Stations;
- The nearest Ambulance/hospital;
- Resident Engineer, project Manager and Representative of the Contractor; and
- Representative of the Developer.

These details, which must be updated should the need arise.

5.2.2 Spill kits and first aid

The Contractor must ensure that spill kits, first-aid and associated equipment are present onsite and easily accessible for the potential occurrence of hazardous and/or material spills. Labourers should be trained in the use thereof.

5.3 Environmental training and awareness

Prior to commencement of site establishment and construction activities, all the teams involved in work on the project are to be briefed on their obligations towards environmental controls and methodologies in terms of this EMPr. The importance of the environmental awareness training is to also ensure all workers understand the risks involved as well as how to adequately implement mitigation measures. The education/awareness programme should be aimed at all levels of management and construction workers within the Contractor's team. All new employees arriving on site shall undergo environmental awareness programme.

It is recommended that the environmental awareness training be undertaken by the ESR and the programme must include:

- Induction of all personnel in a language and method most suitable; and
- Signing of an attendance register and declaration of ensuring environmental protection. Proof of the induction must be kept.

Indicative topics that may be included/ covered in the environmental induction:

- What is the environment and why must it be protected?

- What are the environmental sensitivities of the area in which activities are being undertaken?
- How construction activities can adversely impact of the environment;
- What are the mitigation measures for adverse impacts?
- What is the social responsibility of all site employees during construction?
- How should environmental incidents be recorded?

Awareness posters and pamphlets must also be provided to create environmental awareness throughout the site.

Refresher environmental awareness training must be conducted and when the need arises.

5.3.1 *Toolbox talks*

The Environmental Site Representative must also ensure daily toolbox talks include alerting the workforce to particular environmental concerns associated with the tasks for that day or the area / habitat in which they are working, etc.

It is also recommended that the toolbox talks are conducted in an interactive way as to ensure the employees understand the content and purpose of the EMPr requirements. The Contractor shall keep records of the environmental subjects discussed in the toolbox talk sessions. Signed registers documenting all employees' attendance must also be kept on record.

5.4 Site documentation

The following is a list of some examples of documentation that should be kept on site and made available to the ECO and/or any other relevant parties on request:

- This EMPr;
- The Project's Environmental Authorisation;
- Site daily diary;
- Site instruction book;
- A Complaints register;
- Copies of environmental audit reports;
- Proof of environmental training undertaken by the Contractor and the ECO;
- Schedules for environmental audits;
- Minutes of project meetings;
- Agreements;
- Non-compliance and corrective action reports; and
- Method statements signed by the Contractor, the ECO and Engineer.
-

5.5 Communication procedures

- Site instructions: The site instruction journal entries will be used for the recording of instructions as they relate to implementation of the EMPr, and/or any work orders given by the Engineer.

- ***Site Meetings:*** A clear channel of communication and coordination between the Developer and the Contractor is very crucial in any construction project. One way of ensuring this is through regular site meetings. The purpose of the meetings will be to discuss general progress of construction. Some of the environmental aspects to be discussed in the meeting shall include:
 - *Efforts to lower the environmental, social and health risks involved;*
 - *Discuss and resolve non-conformance to environmental legislation / policies or the EMPr; and*
 - *Report on environmental performance of the construction works.*

5.6 Other general guidelines

The following measures provide guideline solutions to frequently anticipated issues on most development activities.

- The prevention of any site degradation due to non-compliance, administrative or financial problems, and inactivity during the construction phase, illegal activities, delays caused by archaeological finds etc. are ultimately the responsibility of the applicant / developer as per Section 28 of NEMA, 1998 (as amended) which discusses 'Duty of Care and remediation of environmental change'.
- The study area must be clearly defined and surveyed according to the proposed activities. All workforce members and other construction personnel are not to go beyond the defined footprint.
- The Contractors must adhere to agreed and approved access points and no-go areas.
- Damage to private or public property such as fences, gates and other infrastructure may occur at any time. All damages are to be repaired as soon as practically possible.
- Landowners of the site and adjacent properties and/or mast owners must be informed of the starting and completion dates of the construction activities.
- The Contractor must adhere to all conditions of contract including this EMPr.
- All private and public manmade structures near the project site must be protected against damage at all times and any damage must be rectified immediately.
- Proper documentation and record keeping of all complaints and actions taken must be kept at the site office.
- Regular site inspections and good control over the site activities should be undertaken.
- A positive attitude towards environmental management by all site personnel must be motivated through regular and effective awareness and training sessions.
- Social issues in terms of safety for human life, on employees should be encouraged. All construction areas and activities should be cordoned off and no casual access be gained, where deep trenches or open electrical infrastructure are to be exposed.

6. PROJECT PHASES AND ASSOCIATED ACTIVITIES

The point of departure for this EMPr is to take a pro-active route by addressing potential problems before they occur. This should limit corrective measures needed during the construction and operational phases of the development. Additional mitigation will be included throughout the project's various phases, as required and if necessary.

The EMPr deals with the following phases as detailed below:

6.1 Planning and Design Phase (P)

Overall Goal for Planning and Design: Undertake the planning and design phase of the development in a way that:

- Ensures that the design of the plant responds to the identified environmental constraints and opportunities.
- Ensures that the best environmental options are selected for all components of the project.

The EMPr offers an ideal opportunity to incorporate pro-active environmental management measures with the goal of attaining sustainable development.

Pro-active environmental measures minimize the chance of impacts taking place during the construction and operational phase. There is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g. this EMPr) during the planning phase, the necessary corrective action can be taken to further limit potential impacts. In order to meet this goal, actions plan for the planning and design phase have been identified together with monitoring requirements.

6.2 Construction phase (C)

The bulk of the impacts during this phase will have immediate effect (e.g. noise-, dust- and wetland pollution). If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts will then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management from the developer.

6.3 Rehabilitation and demobilisation phase (R)

Rehabilitation in this document refers to the reinstatement of the temporarily disturbed areas affected by the construction or due to construction related activities, to a state that resemble the conditions prior to the disturbances. It therefore does not address the rehabilitation of the wetlands at the proposed watercourse crossing from example a management category C to a B (Kleynhans, 1996 & Kleynhans, 1999). In order to improve the management category, the current impacts due to urbanisation and increased stormwater energy, erosion and pollution should be address and these fall outside the scope of this document.

This phase will involve restoring the land impacted during the construction phase back to its original state. This process will mainly on rectifying the negative impacts that have been caused during construction by the removing pollution or contaminants and other dangerous substances, removal of contaminating waste material, removal of alien plant species and improvement of the soil.

6.4 The Operational Phase (O)

By taking pro-active measures during the planning and construction phases, potential environmental impacts emanating during the operational phase will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete.

7. ENVIRONMENTAL CONTROLS AND MANAGEMENT PROGRAMME IMPLEMENTATION

The point of departure for this EMPr is to ensure a pro-active rather than re-active approach to environmental performance by addressing potential problems before they occur. This will limit corrective measures needed during the construction activities. This section describes the potential environmental impacts which may result from the identified aspects, the objectives of mitigating these impacts as well as the targets used to measure the level of environmental compliance.

The following **Table 2 to 5** forms the core of this EMPr for the construction and operational phases of the development. This table should be used as a checklist on site, especially during the construction phase. Compliance with this EMPr must be audited bi-monthly during the construction phase and once immediately following completion of construction. This must be followed up with annual audits for a period of two years during the operational phase.

Table 2: PLANNING AND DESIGN PHASE OF DEVELOPMENT

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
P1: ENVIRONMENTAL AUTHORISATIONS AND DOCUMENTATION	i. A copy of the Environmental Authorisation and this EMPr and other developer environmental obligations shall be kept on site during the construction phase. ii. Copies of all other project permits must be acquired and kept on site.	<ul style="list-style-type: none"> Contingencies for minimising negative impacts anticipated to occur during the planning stages of the project. Ensure compliance with legal and other permitting requirements 	<ul style="list-style-type: none"> No fines due to unauthorised activities or absence of authorisations. Compliance with Authorisations and Permits conditions 	Once-off	<ul style="list-style-type: none"> Developer Contractor ESR ECO
P2: ENVIRONMENTAL MANAGEMENT PROGRAM (EMPr)	i. The following documents must be prepared must also be kept on site. <ul style="list-style-type: none"> Copy of this EMPr along with a signed declaration of understanding of the contents of the EMPr; Site daily diary / instruction book / incident reports; Copies of Environmental Audit Reports; A Complaints register; Proof of Environmental training undertaken by the ECO Proof of Environmental training undertaken by the Contractor; Schedules for environmental audits; Non-compliance and corrective action reports compiled by the Contractor; and Method statements signed by the Contractor and approved by the Eco and the Engineer. 	<ul style="list-style-type: none"> Contingencies for minimising negative impacts anticipated to occur during the planning stages of the project. Document and file all environmental related information about the project. 	<ul style="list-style-type: none"> Environmental file that is up to date. 	Ongoing	<ul style="list-style-type: none"> Contractor ESR ECO

Table 2: PLANNING AND DESIGN PHASE OF DEVELOPMENT

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
P3: ENVIRONMENTAL REPRESENTATIVE ON SITE	i. An independent ECO must be appointed to monitor and to provide environmental advisory services on site. ii. Appoint a suitably qualified ESR to manage daily environmental issues on site.	<ul style="list-style-type: none"> No construction activities must commence without an ESR on site. Official appointment of ESR on site. 	<ul style="list-style-type: none"> Monthly environmental audits. Weekly/daily environmental checklists. 	Ongoing	<ul style="list-style-type: none"> Contractor ESR ECO
P4: SITE ESTABLISHMENT	i. The contractors must provide and maintain a Site layout indicating the proposed location of all key infrastructure which are: <ul style="list-style-type: none"> Ablution facilities Eating areas Smoking area Waste storage areas Working areas Cement storage and concrete mixing areas (where applicable) Stockpile areas for topsoil and cleared vegetation Parking area ii. The following infrastructure should not be permitted on site: <ul style="list-style-type: none"> Vehicle washing areas Hazardous material storage areas with the exception of cement storage areas where applicable Cooking Areas iii. Working footprint and area to be cleared should be limited to the access road, vehicle turning point and working area. iv. Establishment/ erection camp site(s) has been allowed for. However, the working area must be on already disturbed areas.	<ul style="list-style-type: none"> Ensure no unnecessary degradation of the environment around the working area. Should resettlement be required, the process will need to be undertaken with great care and in accordance with international norms and standards to prevent potential disruptions to the project and manipulation of the situation by opportunistic groups for gain. Land acquisition negotiations must be conducted timeously and professionally and in accordance with DMG Logistics's 	<ul style="list-style-type: none"> No vegetation cleared or disturbed outside the working footprint 	Once off	<ul style="list-style-type: none"> Contractor ESR ECO

Table 2: PLANNING AND DESIGN PHASE OF DEVELOPMENT

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	v. Prior to the commencement of project activities, the site layout must be agreed upon by the developer, the ECO and the Engineer. The locations of key infrastructure such as toilets, eating and smoking areas, bins, stockpile areas, etc.	policies and the country's legal framework.			
P5: EXISTING SERVICES AND INFRASTRUCTURE	i. The Contractor shall ensure that measures to protect existing services (e.g. access roads, powerlines and other masts) are not damaged as a result of the construction activities. ii. Where infrastructure is damaged, the landowner and relevant service provider must be notified within 24 hours. iii. The Contractor shall be responsible for the repair and reinstatement of any existing infrastructure that is damaged or services which are interrupted. iv. A time limit for the repairs must be stipulated by the RE in consultation with the Contractor and the affected service provider. v. DMG Logistics must identify any existing unlawful structures in the vicinity or in the road reserve where construction will take place and notify the relevant property owners concerned. Property owners will not be compensated for the loss of unlawful building or structures in the road reserve. The owner will be responsible for the cost of demolition or removal of these structures.	<ul style="list-style-type: none"> Avoiding impact on surrounding services such as access roads and surrounding masts All services providers with services in the vicinity of the site must be notified prior to construction 	<ul style="list-style-type: none"> No impacts of services and infrastructure within the vicinity of the site 	Ongoing	<ul style="list-style-type: none"> Contractor Developer RE ESR ECO
P6: ENVIRONMENTAL AWARENESS TRAINING AND INDUCTION	i. The ECO must undertake an initial environmental induction during the site establishment for all key site staff. ii. Environmental induction/ training shall be repeated by the ESR and extended in the weekly Toolbox Talks. This should also include awareness programmes (i.e. emergency and use of spill kits etc).	<ul style="list-style-type: none"> Raise awareness about the importance of environmental protection 	<ul style="list-style-type: none"> Records of environmental training and awareness programmes Reduce and manage potential 	Weekly	<ul style="list-style-type: none"> Contractor ECO ESR

Table 2: PLANNING AND DESIGN PHASE OF DEVELOPMENT

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> iii. Proof of all environmental training and awareness undertaken must be kept on site, both training material used and attendance registers. iv. It is the Contractor's responsibility to provide ongoing environmental training to ensure that all labourers have sufficient understanding to pass this information onto the construction staff. v. Use of environmental awareness posters on site where necessary, especially for the protection of the certain plant species around the working area. vi. The Contractor must ensure that all subcontractors are informed of the importance of the adherence to the EMPr and their labourers are also inducted. 		Environmental impacts		
P7: NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION	<ul style="list-style-type: none"> i. Notify EDTEA and relevant organs of states (i.e. the Local Municipality) of the commencement date of construction activities 	<ul style="list-style-type: none"> • Notify relevant stakeholders in writing, at least 10 days prior to commencement of site preparation. 	Stakeholder satisfaction	Once off	<ul style="list-style-type: none"> • Contractor • ESR

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
C1: WASTE MANAGEMENT	<ul style="list-style-type: none"> i. Adequate refuse bins must be provided. ii. Bins must be emptied at least once a week or as and when the need arises. iii. Overspill of the bin should not occur, and neither should waste be allowed to lie on the ground near the bin or anywhere else on site. iv. Proof of safe disposal must be obtained from the service provider and kept in the environmental file. v. A waste disposal management plan for the removal of vegetation must be compiled vi. The contractor must provide labourers with plastic bags or other containers to allow for the storage of litter during the clean-up of the construction site on a daily basis. These areas must then be inspected by the contractor or his / her ESR to ensure compliance with this requirement. <p><u>Ablution facilities: the site has adequate number of ablution toilets that are connected to the municipal sewer reticulation system, however should the need arise where potable chemical toilets are used the following must be adhered to:</u></p> <ul style="list-style-type: none"> i. Adequate chemical toilets for the staff on site must be provided. ii. Under no circumstances should pit toilets be constructed on site. iii. Under no circumstances shall indiscriminate excretion and urinating be allowed other than in supplied facilities. iv. The location of all toilets must be approved by the ECO and must not be located on areas that are already disturbed on site. v. Chemical toilets must be emptied / serviced on a regular basis to prevent them overflowing. 	<ul style="list-style-type: none"> • Minimise unwarranted environmental damage outside the footprint • Maintain a clean and healthy working environment • Control potential influx of vermin and flies and rats • Minimise potential of diseases onsite and influence the health of the employees 	<ul style="list-style-type: none"> • No signs of pollution • No complaints received from the landowners / I&AP's/ other mast owners 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<p>vi. Disposal of contents from the use of portable toilets for sanitation must be agreed upon with the Water and Sanitation Authority in the area.</p> <p>vii. Waste from chemical/ portable toilets must be disposed of in a license disposal facility. Proof of this must be obtained from the service provider and made available during the environmental audits.</p> <p>Eating Areas:</p> <p>i. The Contractor must, in conjunction with the ECO, designate restricted eating areas for eating during normal working hours.</p> <p>ii. Under no circumstance should informal food traders be allowed on site.</p> <p>iii. Open fires must not be permitted anywhere on site.</p> <p>iv. The feeding, or leaving of food, for stray or other animals in the area is strictly prohibited.</p>				
<p>C2: DUST AND AIR QUALITY MANAGEMENT</p>	<p>i. The Contractor must provide and maintain a method statement for “dust control”. The method statement must provide information on the proposed source of water to be utilised and the details of any licenses or permits required.</p> <p>ii. The construction site must be watered during dry and windy conditions to control dust fallout.</p> <p>iii. Dust production must be controlled by regular watering of access roads and roads and working areas, should the need arise.</p> <p>iv. Construction vehicles must adhere to low speeds to avoid the generation of dust on the construction site</p> <p>v. All vehicles transporting material that can be blown off (e.g. soil, rubble, etc.) must be covered with a tarpaulin, and adhere to speed limits on public roads</p> <p>vi. Excessive dust conditions must be reported to the ECO.</p>	<ul style="list-style-type: none"> • Reduce dust fall out at construction site • Minimise loss of valuable soil material 	<ul style="list-style-type: none"> • No visible signs of dust around the site • No complaints from I&As regarding dust • No incidences reported to ECO • No visible evidence of dust contamination on the surrounding environment 	<p>Daily</p>	<ul style="list-style-type: none"> • Contractor • ESR • ECO

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> vii. A continuous dust monitoring process needs to be undertaken during construction. viii. Speed restriction of no more than 10km/h must be implemented for all construction vehicles within the construction site ix. All construction vehicles must be maintained to avoid adverse impacts on air quality as a result of a lack of maintenance 		<ul style="list-style-type: none"> • Method statements adhered to 		
C3: NOISE MANAGEMENT	<ul style="list-style-type: none"> i. Noise levels will generally increase as the construction activity will add on to the traffic experienced in the project construction area. DMG Logistics should come up with Noise management or reduction mechanism to ensure that construction of the road will not expose nearby residence to high noise exposure (exceeding 45db) for longer periods of time than necessary. DMG Logistics can also incorporate noise reduction measures into the road design (mainly road surfacing where feasible). ii. Vibrations experienced by close neighbours to the road being upgraded and constructed should be taken into account in road design, to ensure that the risk of unnecessary vibration is minimised. iii. All construction vehicles must be in a good working order to reduce possible noise pollution. iv. Contractors must endeavour to limit unnecessary noise, especially loud talking, shouting or whistling, radios, sirens or hooters, motor revving, etc. v. The Contractor must inform all I&APs in writing 24 hours prior to any planned activities that will be unusually noisy or any other activities that could reasonably have an impact on the neighbouring residents. vi. All construction activities must be limited to daylight hours which are between 06:00 and 18:00 in the summer months and between 07:00 and 17:00 in the 	<ul style="list-style-type: none"> • Effectively manage noisy activities emanating from construction activities. 	<ul style="list-style-type: none"> • No complaints from site staff and landowners about noise from site. 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	winter months unless otherwise stated in the environmental authorization and or as agreed with the landowner or as stipulated in other guiding documents by the Municipality or other key stakeholders. vii. Blasting must not take place on site under any circumstances				
C4: CEMENT STORAGE AND CONCRETE HANDLING	i. Mixing of concrete must only be permitted on site in designated and disturbed areas approved by the ECO ii. Under no circumstances should concrete be mixed directly on the ground but on an adequate liner iii. Cement bags must be stored in a designated and secure area on site. Empty cement bags must be placed in litter bins iv. All concrete spillages must be cleaned immediately	<ul style="list-style-type: none"> • Maintain noise levels below “disturbing” as defined in the National Noise Regulations • Minimise the nuisance factor of the development 	<ul style="list-style-type: none"> • No complaints from surrounding landowners or I&AP’s 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO
C5: STOCKPILE AND SOIL MANAGEMENT	i. Stockpiles of any material only be placed within demarcated areas which will not create nuisances to adjacent mast owner by blocking access roads, access to masts, etc. ii. The stockpiles must not be located within 100m from the edge of the watercourse or riparian area iii. All stockpiles must be covered to prevent wind and water erosion during seasons when wind or rainfall is prevalent iv. Stormwater runoff from any stockpile sites and other related areas must be contained as far as possible v. Stormwater must be discharged via many smaller outlets rather than few larger ones to spread out flows vi. Infiltration of all stormwater runoff generated by the proposed development should be maximised as far as practically possible	<ul style="list-style-type: none"> • Minimise scaring of the soil surface and land features • Minimise disturbance and loss of soil • Minimise contamination of stormwater run-off 	<ul style="list-style-type: none"> • No visible erosion scars once construction is completed 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> vii. The central collection and concentration of stormwater must be minimised as far as practically possible viii. Stockpiles are to be stabilised if signs of erosion are visible ix. Topsoil stockpile must be separated to allow for reuse of the soil for rehabilitation x. Topsoil stockpiles must be clearly demarcated as no-go areas. Although it is noted that there is minimal topsoil on site, this must be conserved for rehabilitation purposes xi. Topsoil stockpiles should not be higher than 2.5 meters to avoid compaction, while the slopes of the stockpiles should not be steeper than 1 vertical to 1.5 meters horizontally xii. Topsoil stockpiles must be monitored for invasive vegetation growth. Contractors must remediate as and when required in consultation with the ECO xiii. To reduce the loss of soil by erosion, the contractor must ensure that disturbance on site is kept to a minimum and in areas agreed upon with the ECO xiv. The contractor is responsible for rehabilitating all eroded areas in such a way that the erosion potential is minimised after construction has been completed 				
C6: HANDLING OF HAZARDOUS GOODS AND SUBSTANCES	<ul style="list-style-type: none"> i. Should there be storage of hydrocarbons on site, the Contractor must provide method statements for the “handling & storage of oils and chemicals” (where these will be kept on site) and “accidental spills management” ii. All chemicals kept on site must be clearly labelled and stored with MSDs iii. Leaking equipment must be repaired immediately or be removed from site to facilitate repair iv. Drip trays must be placed under all vehicles that stand for more than 24 hours. Vehicles suspected of 	<ul style="list-style-type: none"> • Prevention of pollution of the environment • Ensure hazardous substances are transported, used and disposed in a responsible manner 	<ul style="list-style-type: none"> • No pollution of the environment • No litigation due to transgression of pollution control acts • Method statements as set out by the 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<p>leaking must not be left unattended. The drip trays must be large enough to catch any hydrocarbons that may leak from the vehicle while standing.</p> <ul style="list-style-type: none"> v. Where possible and practical all maintenance of vehicles and equipment must not be done on site vi. Leaking equipment must be repaired immediately or be removed from site for repair vii. Spill kits must be obtained from reputable service providers and restocked once any material within the kit has been depleted viii. Contaminated material or spilled hazardous substances must be removed by service provider or by the Contractor to a licenced facility. Proof of all removal (i.e. waste manifest) must be kept by the Contractor. ix. Labourer must be trained on how to use the spill kits x. A record must be kept of all spills and the corrective action taken. 		contractor adhered to.		
C7: FIRE MANAGEMENT	<ul style="list-style-type: none"> i. The Contractor must provide smoking areas for construction workers ii. Fire extinguishers and an outdoor ashtray or similar suitable container must be provided in all smoking areas iii. Under no circumstances should fires be lit on site iv. Serviced fire extinguishers must be kept at the smoking area. At least one serviced fire extinguisher should be available on site at all times v. All site personnel in senior positions and who will be on site on a full-time basis must be trained on the usage of fire extinguishers vi. The Contractor to ensure that no person smokes in any place in which a flammable liquid is used or stored 	<ul style="list-style-type: none"> • Minimise risk of veld fires and loss of natural habitat • Maintain safety on site and the community in general 	<ul style="list-style-type: none"> • No veld fires started by the contractor's workforce • No claims from landowners for damages due to veld fires • Method statement adhered to 	Daily	<ul style="list-style-type: none"> • ECO • ESR • Contractor

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> vii. The contractor must further affix a suitable and conspicuous no smoking sign notice at all entrances to areas prone to fire viii. No flammable material, including cotton waste, paper, cleaning rags or similar material should be stored with flammable liquids 				
C8: CONTAMINATION OF SURFACE WATER & GROUNDWATER	<ul style="list-style-type: none"> i. Vehicles shall be properly maintained and serviced no minimise oil leaks occurring on site. ii. Spill trays must be provided for refuelling of plant vehicles. iii. Oil spillages should be monitored regularly iv. Employees on site should be trained on spillage emergency response plan v. -Stockpiled soil and rock should have stormwater management measures implemented. vi. Excavated soil should be covered with a temporal liner to prevent contamination. vii. Backfill the material in the same order it was excavated to reduce contamination of deeper soils with shallow oxidized soils. 	<ul style="list-style-type: none"> • To minimize the likelihood of surface & groundwater contamination. 	<ul style="list-style-type: none"> • Approved site plan Visual Inspection Incident Report 	Throughout Construction	Construction Manager
C9: FAUNA MANAGEMENT	<ul style="list-style-type: none"> i. Make use of existing access roads as much as possible to reduce the vegetation clearance ii. Off-road driving must be prohibited iii. No intentional killing or poaching of any animals may be allowed on site and it must be a condition of employment that any employee caught poaching must be disciplined accordingly. iv. Where a snake is encountered on site and must be removed, a specialist must be called in to safely relocate the snake v. All construction activities must be limited to daylight hours. vi. Ensure that all construction personnel are provided with appropriate training in ecological awareness, as appropriate to their work activities 	<ul style="list-style-type: none"> • Minimise disturbance to animals and their habitats • Minimise interruption of breeding patterns of birds 	<ul style="list-style-type: none"> • No complaints from any I&AP • No evidence of killing or poaching of animals on site 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO • Faunal/ Avifaunal Specialist (where applicable)

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	vii. Any necessary nest management measures taken during the operational phase be in accordance with provincial and national legislation.				
C10: FLORA MANAGEMENT	i. All areas planned for clearing of vegetation must be demarcated prior to the commencement of the construction ii. Clearing of vegetation should only be limited to the site footprint, vehicle turning area, access roads as well as a 2m buffer area around each of these areas iii. Strict measures should be put in place to avoid impacts on surrounding undisturbed vegetation and these areas should be designated as No-Go areas iv. Construction workers must not remove flora or collect seed from any plants outside the areas on which vegetation clearing has not been planned. v. Under no circumstances should chemicals be used in the removal of plant species vi. Only indigenous plants must be used in the rehabilitation of disturbed areas vii. At least one serviced fire extinguisher should be available on site at all times and all site personnel in senior positions and who will be on site on a full-time basis must be trained on the usage of fire extinguishers viii. All construction vehicles and equipment as well as construction material should be free of plant material ix. Prevention of erosion, and where necessary rehabilitation of eroded areas x. Rehabilitation of disturbed vegetation as soon as undertaken as soon as construction has ended in the area that has been disturbed xi. No poaching of protected plant species within the vicinity of the site will be allowed (these include the cycads, aloe plants)	<ul style="list-style-type: none"> Minimal disturbance to vegetation where such vegetation does not interfere with construction Minimise scarring of the soil surface and land features Removal of alien plant species to encourage indigenous plant growth 	<ul style="list-style-type: none"> No litigation due to removal of vegetation without necessary permission No visible erosion scars once construction is completed The footprint has not exceeded the agreed boundaries 	Daily	<ul style="list-style-type: none"> Contractor ESR ECO Ecological Specialist (where applicable)

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	xii. Any relocation or removal protected/ endangered species must be approved by the relevant authority				
C11: MANAGEMENT OF HERITAGE RESOURCES AND ARTEFACTS	<p>i. Should any historically significant finds (e.g. artefacts, human remains or sites of cultural or archaeological importance) be uncovered, work must cease and the Provincial Heritage Resources Agency as well as the local South African Police Service (SAPS) must be notified of the find. Work in the area can only be resumed once the site has been completely investigated by Heritage Agency as well as SAPS has given permission to the Developer/ Contractor to resume activities.</p> <p>ii. The Contractor must be trained to recognise any heritage features</p> <p>iii. Artefacts may not be removed under any circumstances</p>	<ul style="list-style-type: none"> • Avoid damage to heritage resources • Report all finds of human remains or other heritage resources • Implement chance find procedures in case where possible heritage finds area made 	<ul style="list-style-type: none"> • Limited or no damage to heritage resources 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO • Heritage Specialist (If rewquired)
C12: SIGNAGE	<p>i. The construction management needs to communicate the commencement and duration of construction activities to the community.</p> <p>ii. Clear signage needs to be put up to make and keep the community aware of construction activities so as to prevent any hazardous occurrences.</p> <p>iii. Provide adequate safety warning signage on the roads.</p>	<ul style="list-style-type: none"> • To monitor the signage and lighting used to notify and direct people to the filling station. 	<ul style="list-style-type: none"> • Clear signage needs to be put up to make and keep the community aware of construction activities so as to prevent any hazardous occurrences. • adequate safety warning signage on the roads. 	Daily	<ul style="list-style-type: none"> • Contractor • ESR • ECO • RE
C13: VISUAL AND AESTHETICS	<p>i. Clearly demarcate the construction site to limit the area of disturbance</p>	<ul style="list-style-type: none"> • Minimise visual impacts • To achieve the goal of reducing the visual 	<ul style="list-style-type: none"> • No complaints regarding the visual aspect of 	Daily	<ul style="list-style-type: none"> • Developer • Contractor • ESR

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> ii. Clearly demarcate the construction site to limit the area of disturbance iii. Locate construction site and stockpiles in the least visible area iv. Remove all waste, including cleared vegetation from site as soon as possible unless the material will be reused on site. A dedicated area for the placement of waste must be identified and demarcated v. Domestic waste generated from the site camp must be kept in bins with lids and removed every week or more often as the need arises and be disposed of at a registered landfill. Proof of this disposal must be kept by the Contractor. 	<p>intrusion of the proposed development and to assist in blending the proposed development into the surrounding character</p> <ul style="list-style-type: none"> • Provide additional screening to increase the visual absorption capacity of the site 	<p>the project from I&AP's and local residents.</p> <ul style="list-style-type: none"> • No evidence of windblown litter 		<ul style="list-style-type: none"> • ECO
C14: MANAGEMENT OF SOCIAL ASPECTS	<ul style="list-style-type: none"> i. All adjacent mast owners and landowners must be informed of the commencement of construction activities at least 30 days prior to commencement or as otherwise stated in the Environmental Authorisation. ii. Adjacent land owners must be informed timeously, at least 7 days of any planned service stoppages in their areas. iii. As far as possible and based on the Developers' required skills for the construction of the proposed infrastructure, locals must be employed on the project in consultation with the Ward Councillor. iv. Ensure that, wherever possible, labour is sourced locally albeit in some cases it may be only general labour. Sub-contractors should be sourced locally and nationally where the requisite skills exist. Wherever feasible, employ local service providers. v. The lack of employment opportunities provided for members of local communities may result in unrest or protest thus affecting the business of the project. Small to medium enterprises may also try to create disturbances to get some of work attached to them. 	<ul style="list-style-type: none"> • To ensure that communities in the vicinity of the facility are involved in the project and are able to improve their economic conditions through the acquisition of employment 	<ul style="list-style-type: none"> • The local community benefits from the employment opportunities created during the construction phase 	Ongoing	<ul style="list-style-type: none"> • Developer • Contractor • ESR • ECO

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	vi. In the event of protests occurring, there may be costly project delays due to lost days, as well as potential for violent confrontation, destruction of project and non-project related infrastructure and equipment, and ultimately injuries and/or fatalities. In addition, protest action is likely to result in road closures which will compound disruptions to traffic and the associated impacts such as increased commuter time. The potential for protest action and how it may affect construction contracts, is an issue which needs to be considered very carefully in DMG Logistics's planning. DMG Logistics should conduct open and transparent procurement in accordance with procurement policies and encourage appointed Contractors to make use of both local and non-local sub-contractors				
C15: TRAFFIC MANAGEMENT	i. There must be an erection of signage warning motorists about the presence of construction vehicles ii. Construction activities must be limited to daytime hours iii. Construction vehicles travelling on public roads must adhere to speed limits iv. Construction vehicles must not dispose of soil or other material on roads. Where this occurs, the material must immediately be removed before the end of the working day	<ul style="list-style-type: none"> To ensure that public roads around the site are safe and the flow of traffic is not disrupted 	<ul style="list-style-type: none"> No incidents of reported vehicle/pedestrian accidents Adequate signage and alternative routes for traffic to flow 	Daily	<ul style="list-style-type: none"> Contractor ECO ESR
C16: MANAGEMENT OF HEALTH AND SAFETY IMPACTS	<i>Detailed Health and Safety issues will be addressed in reports compiled by the Health and Safety Officer</i> i. Contractor must appoint a Health and Safety Officer for the construction phase of the project ii. Suitable Personal Protective Equipment (PPE) must be worn at all times by all employees on site during the construction and maintenance phases of the project	<ul style="list-style-type: none"> To ensure safety of employees, site visitors as well as surrounding landowners Minimise the potential for impacts associated with loss of human lives and risk of injuries 	<ul style="list-style-type: none"> No complaints from surrounding landowners and communities 	Daily	<ul style="list-style-type: none"> Contractor Health and Safety personnel ESR

Table 3: CONSTRUCTION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> iii. With the exception of the project team members, no persons should be allowed to enter the construction site area iv. The site and crew are to be managed in strict accordance with the OHS Act v. The contractor must ensure that all emergency procedures are in place prior to commencing work. Emergency procedures must include (but not be limited to) fire, spills, contamination of soil, accidents to employees and limiting casual access to the construction site for workers, use of hazardous substances and materials, etc. vi. The Contractor must ensure that lists of all emergency telephone numbers / contact persons are kept up to date and that all numbers and names are posted at relevant locations throughout the construction site vii. The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. The contact details of this emergency centre, including police and ambulance services must be available at prominent locations around the construction site viii. A Health and Safety Officer as well as an independent firm must be appointed to audit the site's compliance with the OHS Act during construction 	<ul style="list-style-type: none"> • Reduce the likelihood of the occurrence of traffic accidents as result of the presence of construction vehicles 			

Table 4: REHABILITATION PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
R1: PROLIFERATION OF EXOTIC VEGETATION AND WEEDS IN DISTURBED AREAS	<ul style="list-style-type: none"> All exotic flora and weeds to be eradicated in an environmentally friendly manner 	<ul style="list-style-type: none"> To ensure that indigenous plants are well established 	well established indigenous plants	Monthly for the first year after rehabilitation.	Developer
R2: DAMAGE TO PLANTS ESTABLISHED AS PART OF REHABILITATION	<ul style="list-style-type: none"> All areas under rehabilitation must be cordoned off as no-go areas. If necessary, these areas should be fenced off The survival rate of plant species established as part of rehabilitation must be monitored and replanted where necessary 	<ul style="list-style-type: none"> To ensure that indigenous plants are well established 	well established indigenous plants	Weekly for the first two months after establishment and after that, monthly for the first year after construction	Developer
R3: SOIL EROSION	<ul style="list-style-type: none"> All areas that have been eroded by construction activities must be rehabilitated accordingly 	<ul style="list-style-type: none"> To ensure there are no visible erosion scars 	no visible erosion scars	Monthly for the first year after construction. Frequency must be increased during the rainy season	Developer

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
O1: FUEL STORAGE	<ul style="list-style-type: none"> i. Adherence to legislative petroleum requirements and when appropriate other appropriate legislation following industry best practice. <ul style="list-style-type: none"> o Ensure all staff are adequately trained (retain training records) o Storage tanks and dispense pumps are adequately maintained and monitored o Appropriate wet stock management procedures are used ii. Identify hazardous areas and control all sources of ignition - use appropriate warning and hazard signs. 	<ul style="list-style-type: none"> • Management of the storage of petrol may pose several risks: Fire/explosion, environmental damage, health effects when handled by individuals. 	No evidence of fuel leak	Throughout operations	Developer
O2: VEHICLE MOVEMENT	<ul style="list-style-type: none"> i. Devise a safe system of traffic movement, e.g. a one-way system for entering and exiting the forecourt. ii. Display clear information/warning signs setting out the traffic control arrangements. iii. Provide sufficient designated parking areas close to the shop and away from the pumps. iv. Provide mechanical protection to vulnerable structures such as fuel tanks and liquified petroleum gas (LPG) storage areas. 	<ul style="list-style-type: none"> • Management of considerable movement of cars and other vehicles on the forecourt which could lead to accidental collision with structures, people and other vehicles. 		Throughout operations	Developer
O3: FIRE & EXPLOSION RISKS	<ul style="list-style-type: none"> i. Keep all escape routes and fire exits clear and make regular checks to ensure that this is the case. ii. Clear rubbish regularly (remember sand used for cleaning or containing petrol spills will be flammable) 	<ul style="list-style-type: none"> • Reduction of obstructed exits e.g. accumulations of packaging can 		Throughout operations	Developer

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<p>and should be disposed of safely, by a hazardous waste disposal company if necessary)</p> <ul style="list-style-type: none"> iii. Employees should be trained on fire safety and there should be fire marshals. iv. Local emergency fire brigade number should be known to everybody v. The prescribed fire safety precautions in terms of the Occupational Health and Safety Act must be adhered to. vi. The UST's, underground pipes and dispensing pumps should be monitored regularly for leaks. vii. Tanker delivery driver must be present during delivery of fuel with the emergency cut off switch and a fire extinguisher. viii. The filling station management must develop an EMERGENCY PLAN. All staff must be adequately trained in the implementation of this plan. ix. The following signs must be installed <ul style="list-style-type: none"> o "NOSMOKING" o "NO NAKED OPEN FLAME" o "NO CELLPHONES" 	prevent escape and provide fuel for fires			
O4: HEALTH & SAFETY IMPACTS	<ul style="list-style-type: none"> i. Relevant operational staff must receive training on the correct operation of the storage tanks, as well as maintenance and repair procedures when leaks are detected. ii. An emergency response plan must be available on site and employees must be familiar with the plan. 	Minimize occupational risk to employees as well as surrounding land users and occupiers.	Visual inspection	Throughout operations	Developer

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> iii. The correct PPE should be used on the site. iv. Appropriate Health & Safety signage must be placed on and around the tank. v. Fire extinguishers and sand bags must be readily available onsite and easily accessible. vi. Firefighting equipment must comply with SANS 1151 (Portable rechargeable fire extinguishers - Halogenated hydrocarbon type extinguishers), and be inspected regularly. vii. No smoking may be permitted on site. viii. No cell phones may be used during fuel dispensing. ix. Overfill and spillages during tanker refuelling and fuel dispensing should be prevented by the installation of automatic cut off devices. x. Tanker delivery drivers must be present during delivery of fuel with the emergency cut off switch and a fire extinguisher. xi. A closed coupling must be used when fuel is being transferred from the bulk delivery vehicle to the USTs to prevent fugitive emissions. 				
O5: RELEASE OF VOLATILE ORGANIC COMPOUNDS DURING REFUELLING OPERATIONS AND	<ul style="list-style-type: none"> i. Regular monitoring, cleaning and follow ups should be performed at the filling station bousers. ii. All the cars working on site must be serviced to reduce the potential release of organic compound and air pollution on site o 	Minimize occupational risk to employees as well as surrounding land users and occupiers	Visual inspection	Developer	Throughout operations

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
EXHAUST EMISSIONS OF VEHICLES WORKING ON SITE					
O6: SOIL AND/OR SURFACE & GROUND WATER POLLUTION	<ul style="list-style-type: none"> i. Employees on site should be trained on spillage emergency response plan. ii. -Storm water originating from the filling station surfaces should be treated as dirty water iii. A detection system that detects all the leaks must be implemented in all fuel storage and transmission lines and tanks. iv. A monitoring system should be implemented for the sewage system to identify any leaks or spills. v. Manage construction in compliance with the relevant environmental, water and occupational health and safety legislation and EMPr. vi. Actively monitor and manage soil erosion and dust. vii. Where possible and practical limit the exposure of soil to the minimum necessary for working area at any one time. viii. A closed coupling must be used when fuel is being transferred from the bulk delivery vehicle to the USTs. ix. An Emergency Response Plan must be in place for the site, this must clearly describe emergency 	Minimise impact to soil and/ or groundwater that may occur as a result of leaks.	Incident reporting and waste documentation	Developer Emergency Response Plan Remediation Plan	Throughout operations

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<p>procedures and include emergency contact numbers</p> <p>x. If contamination or leakage is detected, the developer's Emergency Response Plan must be followed.</p> <p>xi. Following a leak or accidental spill, a remediation plan must be compiled and executed.</p> <p>xii. Accidental spills that may occur on the forecourt must be cleaned up immediately using a spill absorbent, which must then be removed by a licensed contractor.</p> <p>xiii. Fuel stock must be monitored on a daily basis and these records must be kept on site.</p> <p>xiv. USTs must have corrosion protection.</p> <p>xv. Inspection wells will be installed within the UST containment area, at all four corners of the containment area. These wells must be inspected on a monthly basis so that leaks can be detected early.</p>				
O7: EROSION MANAGEMENT	<p>i. No accumulation of surface water must be allowed around the perimeter of the structures and the entire development must be properly drained.</p> <p>ii. Down pipes should discharge into a lined or precast furrow. This furrow should discharge the water 1,5 meters away from the foundation onto a paved or grassed surface sloping away from the building.</p>	Control and limit erosion on site	<ul style="list-style-type: none"> Incident Report Visual Inspection by the Construction manager to check any spillages 	Immediately after construction	Developer

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> iii. Preferably, if no gutters or paving is to be provided around structures, a 1,5-meter-wide sealed concrete apron should be cast along the perimeter of the structures the water must be channelled away from the foundation. iv. Leaks in water bearing services should be attended to without undue delay. v. The contractor shall be responsible for rehabilitating all eroded areas in such a way that the erosion potential is limited after construction has been completed vi. All slopes that are disturbed during construction should be stabilised immediately to prevent erosion vii. Re-vegetation should be done immediately after construction, especially in sloped areas viii. Disturbed areas that require rehabilitation should be mulched to encourage vegetation re-growth ix. Bare ground exposed after vegetation removal must be rehabilitated as soon as possible xvi. The contractor shall be responsible for rehabilitating all eroded areas in such a way that the erosion potential is limited after construction has been completed 		<ul style="list-style-type: none"> • A register of complaints should be registered by the Construction Manager • Visual Inspection by Construction manager 		
O8: JOB CREATION	i. All recruitment must be in-line with the Developer's Employment Equity Policy.	Maximize employment benefits	Developer's equity policy	Throughout operation	Developer

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	<ul style="list-style-type: none"> ii. The policy will also promote the employment of women to ensure that gender equality is attained as defined in the Employment Equity Act No 55 of 1998. iii. Where possible, priority should be given to job seekers from the local area. iv. Developers must build the capacity of employees through development plans, technical, health and safety training and provide them with relevant training certificates. 		Certificates	phase	
O9: CHANGE IN CHARACTER OF THE AREA (HERITAGE/HISTORIC VALUE)	<ul style="list-style-type: none"> i. Manage construction in compliance with the NHRA. ii. Manage construction activities in accordance with the accepted/ approved construction EMPr. 	Ensuring that the heritage character of the area is retained as far as possible.		Visual inspection	Developer
O10: STORMWATER MANAGEMENT	<ul style="list-style-type: none"> iii. All surface spillages must be contained on site through channels and trenches, these must be diverted to an oil / water separator or sump of sufficient capacity; iv. The courtyard will be concrete paved to prevent infiltration of fuel into the subsurface soils with surface runoff designed to flow towards a centralised collection point which is connected to an oil/water separator; v. The area around the filler points will be concreted and the drainage connected to the oil/water separator; vi. The oil / water separator should be regularly checked and kept clean to prevent blockage and overflow 	Minimise surface water pollution	On-going		Developer

Table 5: OPERATIONAL PHASE OF DEVELOPMENT:

DESCRIPTION OF MANAGEMENT ASPECT	MITIGATION MEASURES	MANAGEMENT OBJECTIVES	MEASURABLE OUTCOME TARGETS	FREQUENCY OF ACTION	RESPONSIBLE PARTY
	vii. Any material collected must be disposed at an appropriately registered waste disposal site; and All accidental surface spills of oil or fuel must be contained on-site and diverted to the oil/water separator.				

8. REPORTING, MONITORING AND REVIEWING

To ensure continuous improvement in terms of the environmental performance of the project, the site must be audited and monitored against the EMPr requirements bi-monthly. The EMPr must also reviewed to ensure its applicability. This is detailed in subsequent sections.

8.1 Reporting on EMPr compliance

In order to ensure sufficient levels of compliance with the EMPr, regular environmental monitoring conducted twice a month and the results of the monitoring be reported on regular basis. In order to control the reporting on the EMPr Compliance, it is imperative that the following be borne in mind:

- Typical report description;
- Document control procedures;
- System for documenting environmental training; and
- Frequency of reports.

Each of these are briefly discussed below:

8.1.1 Typical report description

A typical report used to indicate the level of environmental compliance on the project must adhere to **Appendix 7** of NEMA EIA Regulations, 2014, as amended, which must include the following

(a) details of the—

- (i) independent person who prepared the environmental audit report; and
- (ii) expertise of the independent person that compiled the environmental audit report;

(b) a declaration that the independent auditor is independent in a form as may be specified by the competent authority;

(c) an indication of the scope of, and the purpose for which, the environmental audit report was prepared;

(d) a description of the methodology adopted in preparing the environmental audit report;

(e) an indication of the ability of the EMPr, and where applicable, to—

- (i) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on-going basis;
- (ii) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
- (iii) ensure compliance with the provisions of environmental authorisation, EMPr, and where applicable, the closure plan;

(f) a description of any assumptions made, and any uncertainties or gaps in knowledge;

(g) a description of any consultation process that was undertaken during the course of carrying out the environmental audit report;

- (h) a summary and copies of any comments that were received during any consultation process; and
- (i) any other information requested by the competent authority.

In addition to the above, the **Environmental Audit Report** must include the following

- Project Background Information;
- Terms of Reference of various project team members;
- Scope of audit and the audit period;
- Objectives of the Environmental Audit;
- Methods used for undertaking of Compliance Audits;
- Roles and Responsibilities of different parties involved in ensuring the compliance of the EMPr;
- Summary of main findings;
- Checklist used for checking compliance;
- Photographs of observations of audit; and
- Any other documents deemed important to support the audit findings.

8.1.2 Document control procedures

To ensure the Environmental Auditing Reports are of good quality, these must undergo an internal review prior to submission to relevant parties. An indication of the document history indicating as a minimum the revision number and date as well as the names and signatures of the compiler, reviewer and approver must be provided.

8.1.3 System for documenting environmental training

The Developer, Project Manager, Contractors and subcontractors must develop a system for documenting environmental monitoring, training and reporting. This system must as a minimum include the following:

- Plans on relevant parties to train and the frequency of training to ensure that all parties; working on the site/providing services are aware of the necessity to adhere to the EMPr;
- An indication of items to be discussed in typical training sessions; and
- Typical documents/material to be used for training and proof of the undertaking of training.

8.1.4 Frequency of audit reports

The reports compiled to record the findings of the audit must be provided at frequencies required by the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) where stated, or by DMG Logistics. Copies of the Audit Reports must be provided to DEDTEA where required.

8.2 Monitoring of the EMPr

In order to ensure that the EMPr is being correctly implemented and remains relevant to site activities, the following must be undertaken:

8.2.1 *Environmental auditing*

Internal Audits as well as External Audits (where required by the Competent Authority) of the EMPr must be undertaken at the periods and according to procedures outlined below unless the Competent Authority includes other conditions:

- ***Internal Audits*** - these must be undertaken at periods and according to procedures prescribed by the Developer/Project Manager (if applicable). Records associated with this auditing must be kept. The Contractor shall undertake their own Internal Audits and must communicate their procedure to the ECO. All Internal Audits must also be aligned to the DMG Logistics' audit process in terms of internal environmental policy requirements. Where required, the Competent Authority will also be provided with copies of all audit reports.

- ***External Audits*** – if required by the Competent Authority, these must be undertaken by a suitably qualified and experienced Environmental Control Officer (ECO). Similar to the Internal Audits, these must entail the checking of Environmental Compliance based on the EMPr and the Environmental Authorisations as well as any other requirements including environmental best practice. All External Audits must also be aligned to the DMG Logistics' audit process in terms of internal environmental policy requirements. In order to undertake the external audits, the ECO must adopt the following methods and approaches as a minimum:
 - Review of background information to acquaint the ECO with various aspects of the project;
 - Document review;
 - Observations during site walkabout. Photographs must be undertaken during the walkabout;
 - Interviews and Questioning (open-ended questions will be asked); and
 - Completion of checklists to report and discuss the findings of each of the areas within the construction site.

Audit reports will be compiled and submitted to the relevant parties within the project. These must include the DMG Logistics as the Project Developer, the Project Manager and the Contractor.

8.2.2 *Corrective actions*

The Contractor must compile an Environmental Action Plan to ensure that the non-compliances are addressed and ensure that the issues are addressed within a certain target date set by the ECO. The Contractor must ensure that corrective actions arising as a result of non-compliances are undertaken and recorded accordingly. These records must be kept for review by the ECO and/or any other party with authority to undertake this exercise.

8.3 **Review of the EMPr**

The EMPr must be reviewed by and with the Project Team, should the need arise. The discussion of this item must preferably be led by the ECO. The frequency of the review of the

EMPr must be decided between the ECO and DMG Logistics. All records of this review must be kept by the ECO on behalf of the Project Manager and DMG Logistics.

Any amendments to the EMPr must be communicated to the Project Team by the ECO. Proof of the communication must be kept.

8.3.1 Amendment of the EMPr (where required)

The NEMA EIA Regulations, December 2014, as amended regulate the procedures and criteria for the submission and consideration of the EMPr including its content. It must be noted that the EMPr is a living document that can be amended should the need for this arise. The amendment must however be undertaken according to the EIA Regulations that will be relevant at the time of the required amendment. It must be noted that the NEMA EIA Regulations 2014 (Sections 34-37) (which were applicable during the compilation of this EMPr) introduce a defined process with regard the amendment of the EMPr as outlined below:

- **First amendment** applies to the amendment of the EMPr as a result of audit findings.
- **Second amendment** pertains to an amendment of a specific impact management action of an EMPr.
- **Third amendment** gives opportunity to the holder of the EA to amend the EMPr, and also requires the involvement of the Competent Authority (CA) and the undertaking of Public Participation (PP).

It is important that the Developer and the Contractor follow these defined processes during the implementation phase as deviating from this process is regarded as a non-conformance.

In terms of the NEMA EIA Regulations 34, Government Notice No 982, of Government Gazette No 40772, Developers must ensure compliance with the conditions of the EMPr by undertaking an Environmental Audit in a structured and systematic manner. This audit must provide for recommendations regarding the need to amend the EMPr, and where applicable the Closure Plan. It is a requirement of the environmental compliance audit process that risks to the environment are identified and these possible risks should be taken into account during the planning and construction phase of the development. These risks are presented in this EMPr. The implementation of this EMPr, through the appointed Contractor, remains the responsibility of the Developer, i.e. DMG Logistics.

9. APPENDIX A: EAP CV