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PRE-CONSTRUCTION, CONSTRUCTION AND POST-CONSTRUCTION PHASE

ENVIRONMENTAL MANAGEMENT PROGRAMME

FOR THE

PROPOSED EXPANSION OF THE NEXUS^{AG} STORAGE FACILITY FOR AGRICULTURAL CHEMICALS ON ERF 19134, PAARL, DRAKENSTEIN LOCAL MUNICIPALITY

APPLICANT:	Nexus^{AG} (Pty) Ltd
ENVIRONMENTAL CONSULTANT:	Sharples Environmental Services cc Author: Jamie Cloete Reviewer: Ameesha Sanker
DEA & DP PROJECT REFERENCE:	16/3/3/6/7/1/B3/28/1187/22
SES REFERENCE NUMBER:	CT/07/EMPR/08/22
DATE:	July 2022

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APPENDICES

APPENDIX 4 OF THE EIA REGULATIONS 2014 (AS AMENDED 2017)

This Environmental Management Programme has been drafted in accordance with Appendix 4 of the Environmental Impact Assessment Regulations 2014 (as amended 2017). The table below shows how the requirements of Appendix 4 have been included within this Environmental Management Programme.

REQUIREMENTS AS PER APPENDIX 4 OF THE EIA REGULATIONS 2014 (AS AMENDED 2017).	RELATIVE CONTENT WITHIN THIS EMPR.
(1) An EMPr must comply with section 24N of the Act and include— (a)details of– (i)the EAP who prepared this EMPr; and (ii)the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Appendix A - EAP CV
(b)a detailed description of the aspects of the activity that are covered by this EMPr as identified by the project description;	Section 4 – Description of the Activity
(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 should be avoided, including buffers;	Section 4 - Description of the Activity
Y(d)a description of the impact management outcomes, 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 8 - General Environmental Management Section 9 - Environmental Impact Management: Planning and Design Phase Section 10 - Environmental Impact Management: Pre-construction Phase Section 11 - Environmental Impact Management: Construction Phase Section 12 - Environmental Impact Management: Post Construction Rehabilitation Phase & Operational Phase
(f)a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraph (d) 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 provision for rehabilitation, where applicable;	Section 8 - General Environmental Management Section 9 - Environmental Impact Management: Planning and Design Phase Section 10 - Environmental Impact Management: Pre-construction Phase Section 11 - Environmental Impact Management: Construction Phase Section 12 - Environmental Impact Management: Post Construction Rehabilitation Phase & Operational Phase
(g)the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 15 - Roles and Responsibilities Section 17 - Monitoring, Record Keeping and Reporting
(h)the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 15 - Roles and Responsibilities Section 17 - Monitoring, Record Keeping and Reporting
(i)an indication of the persons who will be responsible for the implementation of the impact management actions;	Section 8 - General Environmental Management Section 9 - Environmental Impact Management: Planning and Design Phase

	Section 10 - Environmental Impact Management: Pre-construction Phase Section 11 - Environmental Impact Management: Construction Phase Section 12 - Environmental Impact Management: Post Construction Rehabilitation Phase & Operational Phase Section 15 - Roles and Responsibilities
(j)the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 8 - General Environmental Management Section 9 - Environmental Impact Management: Planning and Design Phase Section 10 - Environmental Impact Management: Pre-construction Phase Section 11 - Environmental Impact Management: Construction Phase Section 12 - Environmental Impact Management: Post Construction Rehabilitation Phase & Operational Phase Section 15 - Roles and Responsibilities
(k)the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 15 - Roles and Responsibilities Section 17 - Monitoring, Record Keeping and Reporting
(l)a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 9 - Environmental Impact Management: Planning and Design Phase Section 10 - Environmental Impact Management: Pre-construction Phase Section 11 - Environmental Impact Management: Construction Phase Section 12 - Environmental Impact Management: Post Construction Rehabilitation Phase & Operational Phase Section 15 - Roles and Responsibilities Section 17 - Monitoring, Record Keeping and Reporting
(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 16 - Environmental Awareness Plan Section 15 - Roles and Responsibilities
(n)any specific information that may be required by the competent authority.	

DOCUMENT DETAILS

Project Ref. No:	CT07
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Sharples Environmental Services cc Since 1998, SES has been actively engaged in the fields of environmental planning, assessment and management. We advise private, corporate and public enterprises on a variety of differing land use applications ranging from large-scale residential estates and resorts to golf courses, municipal service infrastructure installations and the planning of major arterials. Our consultants have over 20+ years of combined experience and we operate in the Southern, Eastern and Western Cape regions.

JAMIE CLOETE (Intern Environmental Assessment Practitioner) – Jamie obtained her Honours in Geography and Environmental Studies from Stellenbosch University. She also holds a Bachelor of Social Science degree in Environmental and Geographical Science from the University of Cape Town.

AMEESHA SANKER (**Environmental Assessment Practitioner**) - Ameesha obtained her BSc. In Geological Science (Environmental and Engineering), from the University of KwaZulu-Natal and a BSc. (Hons) in Environmental Management from UNISA. Her experience encompasses 9 years' in environmental management, assessments and compliance monitoring, predominantly in the infrastructure, water and sanitation industry.

BETSY-JANE DITCHAM (DIRECTOR OF CAPE TOWN) - Betsy has a Bachelor of Science Honours Degree in Wildlife Management from the University of Pretoria and a Bachelor of Science Degree (Zoology and Ecology) obtained from the University of Cape Town. She has more than 14 years' experience in the environmental field, including environmental assessments, legal compliance, on-site compliance monitoring, cleaner production and business greening and sustainability (carbon and environmental foot printing). In her time as a consultant, she has compiled a number of environment assessments and management plans for both private and governmental clients. Betsy is a director of Sharples Environmental Services and registered with EAPASA as a certified Environmental Practitioner (EAPSA # 1480.

1. INTRODUCTION

Sharples Environmental Services cc (SES) has been appointed by Nexus[AG] (Pty) Ltd to undertake the environmental assessment, in accordance with the National Environmental Management Act, 1998 (Act 107 of 1998), in terms of the Environmental Impact Assessment Regulations, 2014 (as amended 2017), for the Proposed Expansion of the Nexus[AG] Storage Facility for Agricultural Chemicals on ERF 19134, Paarl, Drakenstein Local Municipality. The site is located within the Industrial Area of Northern Paarl, between Oosbosch Street and Distillery Street and is zoned for industrial use.

Figure 1: Locality Map

Nexus[AG] aims to expand and centralise their existing warehouses and office infrastructure on ERF19134. Through the proposed expansion, the organisation can reduce excessive operational expenditure at multiple locations, allowing the organisation relief and continuation particularly given the changing economic climate, and straining logistical factors, such as rising fuel prices.

All relevant legislation, must be complied with and all applicable permits, licenses and authorisations, related to construction/expansion and operation of the proposed development, need to be attained prior to the commencement of construction activities on site, must be valid, and must be adhered to throughout the process as is relevant. The proponent is responsible for ensuring that compliance is met in terms applicable legislation, this includes, but is not limited to:

- The National Environmental Management Act, 1998 (Act 107 of 1998), in accordance with the EIA Regulations, 2014 (as amended 2017), associated with the approved environmental authorization and EMPr.
- The proponent must ensure compliance with the following legislation, as a minimum:

- Hazardous Substances Act, 1973 (Act No. 15 of 1973), as amended 1997.
- Drakenstein Local Municipality: Integrated Waste Management By-Law (2013)
- National Building Regulations and Building Standards Act, 1977 (Act 103 of 1977), ensure that the existing approval is still valid for construction.
- If applicable, the proponent must apply for permission to discharge industrial effluent into the sewage disposal system of the municipality as provided for in the Drakenstein Local Municipality's Water Supply, Sanitation Services and Industrial Effluent By-law (2004).
- Cape Winelands District Municipality's Fire Safety By-law, 2008, the applicant must apply for a Certificate of Registration for Use, Handling and Storage of Flammable Substances issued by the Chief Fire Officer.

The recommendations and mitigation measures prescribed in this EMPr have been formulated with the intention of addressing potential pre-construction, construction and operational phase impacts on the environment. Familiarity with the contents of this EMPr by the contractors and other individuals involved in the development project will assist in achieving "environmental best-practice", which ultimately ensures that the project arrives at a sustainable outcome.

1.1. Scope of Works

The proposed development will entail the expansion (indicated in red) of the existing infrastructure (indicated in grey) as per the figure below:

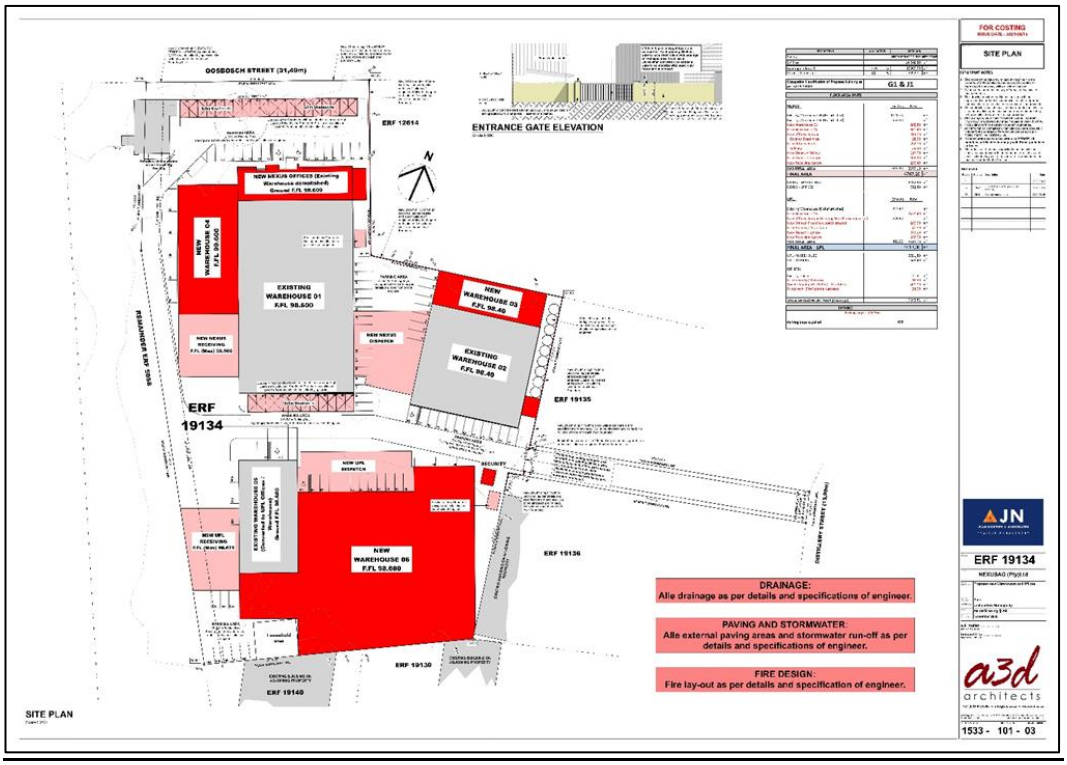

Figure 2: Project Layout Plan (Jean Nortier & Associates Project Management, 2022)

The proposed infrastructure is detailed to entail the following as per the figure below.

DESCRIPTION	% or FACTOR		AREA (m²)	
Zoning			NEIGHBERHOOD BUSINESS ZONE	
Erf Size			14 546,00	m²
Coverage allowed	75%	%	10909,50	m²
Proposed Coverage	65	%	9392,81	m²

Occupation Classification of Proposed building as per SANS 10400:	**G1 & J1**

FLOOR AREA: UNITS

NEXUS :	Existing	New	
Existing Warehouse 01 (Refurbished)	1728,70		m²
Existing Warehouse 02 (Refurbished)	663,40		m²
New Warehouse 03		288,80	m²
New Warehouse 04		601,40	m²
New Offices: Ground		314,70	m²
Covered Braai Area		28,50	m²
New Offices: First		282,70	m²
Balcony		38,30	m²
New Dispatch Offices		116,00	m²
New Dispatch Canopy		409,30	m²
New Receiving Canopy		295,40	m²
SUB-TOTAL AREA	2392,10	2375,10	m²
FINAL AREA		4767,20	m²
NEXUS - WAREHOUSE		3282,30	m²
NEXUS - OFFICES		713,40	m²

UPL :	Existing	New	
Existing Warehouse 05 (Refurbished)	213,40		m²
New Warehouse 06		2478,40	m²
New Offices: Ground (Existing Warehouse converted)	279,90		m²
New Offices: First (New space created)		285,50	m²
New Balcony / Braai Area		40,80	m²
New Dispatch Canopy		372,00	m²
New Receiving Canopy		343,00	m²
SUB-TOTAL AREA	493,30	3519,70	m²
FINAL AREA - UPL		4013,00	m²
UPL - WAREHOUSE		2691,80	m²
UPL - OFFICES		565,40	m²
OTHER:			
Existing House		171,81	m²
New Security / Entrance		16,30	m²
Double Shadeports (5x5m) - Total Area		400,00	m²
Pumproom (Firefighting purposes)		24,50	m²
TOTAL DEVELOPMENT AREA (Coverage)		9392,81	m²

PARKING	
Parking bays = 2,5x5m	
Parking Bays supplied	**108**

Figure 3: Planned Scope

Nexus^{AG} (Pty) Ltd stores the following chemicals/products on site:

Hazardous goods:

- Fertilizer 1A and 1B
- Pesticides Group IA
- Pesticides Group IB
- Pesticides Group II
- Pesticides Group III
- Pesticides Group IV

Non-hazardous storage:

- Protective Clothing
- Equipment
- Sanitizers
- Monitoring equipment

The combined capacity of the total hazardous goods/chemicals will fluctuate (this is as a result of various factors including: storage packaging, i.e., bottles/barrels, sacks, etc. or storage mode), on site at any given time, as this is the nature of such industry, however the combined storage capacity of the warehouses (once expanded) could potentially be utilized for hazardous storage is:

- approximately 21 344m^3 – 15 761m^3 (Nexus^{AG} warehouse).
- approximately 17 712m^3 (UPL warehouse).

Therefore, the increased capacity of the site as a result of expansion, will exceed 80m^3.

1.1.1. Development Concept from an Engineering Services Perspective

Figure 4: Locality Plan according to the Engineering Report

According to the engineering report dated 21 November 2016, entitled: "Basic Due Diligence Report on Structural and Civil Engineering Aspects of Premises & Buildings on ERF 19134, Paarl", by MPro Consulting Engineers (Pty) Ltd, the following conclusion and recommendations were made (Refer to Figure 4).

Buildings

Buildings are all in a fairly good condition to be utilised as they stand with some improvements in certain areas listed below:

Solar Panel Installation

- The orientation of majority of the roof slopes are not ideal for solar panel installation, except Warehouse B (approximately 450m^2 north facing slopes).
- The Asbestos roof sheeting will have to be removed, spoiled by an approved contractor, and replaced, if solar panels installation should be considered (approximately 900m^2 on warehouse B)
- Timber Roof trusses will have to be investigated by an Engineer for sufficient capacity for additional loading.

Concrete Floors

- The concrete floors in all the buildings are in a fair condition and can be used without restrictions.
- Edge breaks and corner breaks are visible in some locations and should be repaired to avoid further deterioration due to small, hard wheel loads and forklifts.
- A full assessment of the floor and the true extent of all the defects can only be fully assessed once the storage areas have been cleared.
- The ground floor in the small workshop is at different and varying levels. This should be addressed with a 150mm thick, 30 MPa concrete overlay, should the building be used for warehousing and storage with forklift traffic. Approximately, 600m^2. The unit cost of an overlay is approximately R380/m^2, including joint cutting and sealing.

General

- The damaged timber roof truss in warehouse B needs to be repaired in-situ, with replacement of missing and/or damaged members.
- The Engineers also recommend as a general and ongoing maintenance issue, the overall cleaning, waterproofing, repair, and painting of the buildings prior to occupations.

Services:
The existing services are all in use and serves the current operations to some extent. We recommend the following to be done prior to occupation:

Water/Fire water

- Replace missing Fire Hydrant on Oosbosch Street with new Standpipe Hydrant installation.
- Install new additional 80mm Fire Hydrant near small workshop (C) at 90m apart, as per the Fire Engineer's report.

Storm Water

- Install 2 x additional, heavy duty, SW grid inlets (600 x 450 mm) on hard stand and trafficked areas, and connect to existing SW system with 225mm Ø concrete pipe
- Repair and connect rainwater down pipes, via gulley grid inlets to existing SW system to dissipate storm water effectively.

Roads and Trafficked areas

- Allow for the rework, levelling, and compaction of approximately 4500m^2 of gravel hard stand, circulation area and roads, to receive new wearing course.
- Import, level, and compact new wearing course (G4 laterite, or similar), 150mm thick, approximately 3000m^2
- Interlocking paving – to be repaired (approximately 50m2) and additional paving added (approximately 50m2). Repair and replace approximately 80m concrete edging to block paving areas.

Cleaning of Services

- Allow for the inspection and cleaning of all internal services by a specialist contractor, prior to occupation.

Boundary Fences & Walls:

- Erect a new 1.8m Beta security fence, with electrified fencing top wires on the open boundary on Oosbosch Street, approximately 48m long (to match fence on east boundary).
- General maintenance and repairs, which might include replacement of sections of Vibracrete walls and electrified fencing on the western and southern boundaries. A separate assessment by a specialist installer should be made of the fences and walls.

General:

Entrance Gate – Motorisation and remote control of sliding gate at entrance (for consideration). See the figure below.

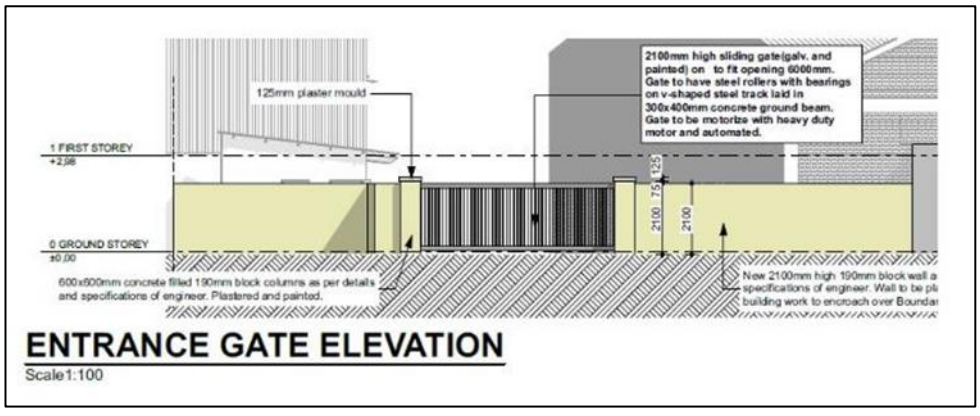

Figure 5: Entrance Gate to NexusAG ERF 191934 (Jean Nortier & Associates, 2020)

The Civil Engineering design report has been approved by Drakenstein Local Municipality, on the 2nd of August 2021. All conditions must be complied with during construction.

1.2. Specialist Input

This EMPr is informed by one specialist assessment and two technical report contributions to the basic assessment report, outlined in the tables below.

Table 1: Specialists and specialist studies informing this EMPr

STUDY	*SPECIALIST*	*SENSITIVITY THEME AIMING TO BE ADDRESSED*
Aquatic Compliance Statement	FEN Consulting	Aquatic/Hydrology Biodiversity

Table 2: Technical Report Contribution to the EMPr

STUDY	*TECHNICAL SPECIALIST*
Structural and Civil Engineer's Report	MPro Consulting Engineers (Pty) Ltd - Henk Burger (Pr. Eng 970607)
Geotechnical Investigation	GeoCroukamp - Leon Croukamp (Pr. Sci. Nat)

2. ABOUT THIS EMPR

This document is intended to serve as a guideline to be used by Nexus[AG] (Pty) Ltd and any person/s acting on behalf of Nexus[AG] (Pty) Ltd, during the pre-construction, construction, post-construction rehabilitation and operational (maintenance) phases of the development. This EMPr provides clear direction on the selection and implementation of appropriate environmental management and control techniques during the life cycle of the development. In line with the mitigation hierarchy (See figure below), the overarching goal of this EMPr is to anticipate and provide measures that must be implemented to ensure that any environmental impact that may be associated with the development is avoided, or where such impacts cannot be avoided entirely, are minimised and mitigated appropriately. The mitigation hierarchy was considered during the BAR planning process, to appropriately manage environmental impacts.

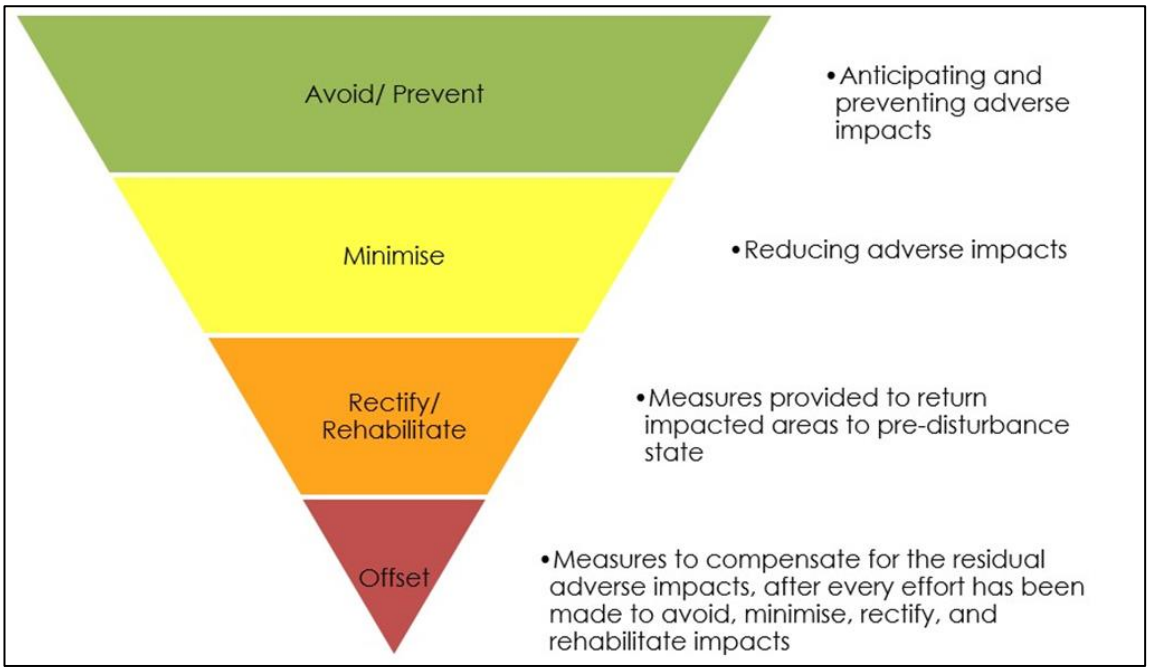

Figure 6: Mitigation Hierarchy

This EMPr has been prepared in accordance with the requirements of an EMPr as specified in the Environmental Impact Assessment Regulations, 2014 (as amended 2017), and with reference to the "Guidelines for Environmental Management Programmes" published by the Department of Environmental Affairs and Development Planning (2005).

The rehabilitation, mitigation, management, and monitoring measures prescribed in this EMPr must be seen as binding to Nexus[AG] (Pty) Ltd, and any person acting on its behalf, including but not limited to agents, employees, associates, guests or any person rendering a service to the development site.

2.1. Important caveat to the report

In the past, some developments have had a devastating impact on the environment even though they had EMPr's in place, while other developments have had a low impact even though no management plans have been compiled.

The Implementing Agent and the attitude of the construction team play an integral role in determining the impact that the development will have on the environment. The Proponent needs to ensure that all the role-players are aware of the constraints that this EMPr, and associated Environmental Authorization, places on the development and construction team and are prepared to be actively involved in enforcing these constraints. To ensure that the outcome of this development is sustainable and compliant, will depend on the cooperation, mutual respect and understanding of all parties involved.

3. HOW TO USE THIS DOCUMENT

It is essential that this EMPr be carefully studied, understood, implemented, and adhered to as far as reasonably possible, throughout all phases of the proposed development. Nexus[AG] (Pty) Ltd must retain a copy of this EMPr, and an additional copy must always be kept on site during the pre-

construction, construction and post-construction rehabilitation (if applicable) phases of the development.

This EMPr must be included in all contracts compiled for contractors and subcontractors employed by Nexus[AG] (Pty) Ltd, as this EMPr identifies and specifies the procedures to be followed by engineers and contractors, as well as sub-contractors, to ensure that the adverse impacts of construction and maintenance activities are either avoided or reduced. Appointed contractors must make adequate financial provision to implement the environmental management measures specified in this document.

This EMPr must be seen as a working document, which may be amended as and when needed, to accommodate changing circumstances on site or in the surrounding environment, or to accommodate requests/ conditions issued by the competent authority, the Department of Environmental Affairs & Development Planning (DEADP). Amendments to this EMPr must first be approved by the competent authority, in writing, before being implemented.

4. DESCRIPTION OF THE ACTIVITY

Nexus[AG] (Pty) Ltd (ERF 19134) proposes to expand their storage facility for Agricultural Chemicals. The site is located within the Industrial Area of Northern Paarl, between Oosbosch Street and Distillery Street and is zoned for industrial use. The site is directly accessible off of Distillery Street. It is surrounded by other warehouses and businesses to the north, east and south. To the west is the Berg River and municipal owned ERF 5058. The property size of the proposed expansion will be approximately 14 546m^2. There are currently warehouses based all over the Boland area, however, through the proposed expansion, the organization can reduce excessive operational expenditure at multiple locations, allowing the organization relief and continuation, particularly given the changing economic climate, and straining logistical factors, such as rising fuel prices.

The expansion of Erf 19134 will not exceed the existing boundary of the site.

Figure 7: Proposed Site Locality within the Surrounding Paarl Area

Figure 8: Locality Map

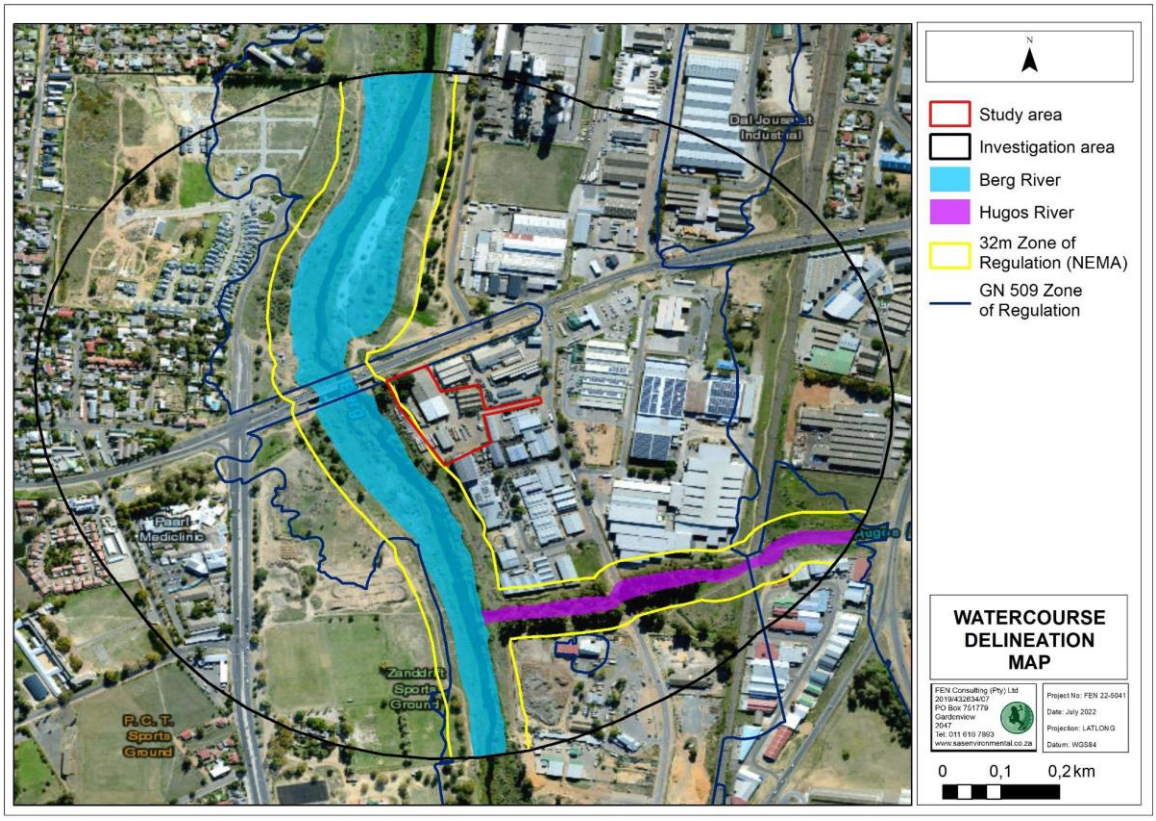

Figure 9: Watercourse Delineation Map (FEN Consulting)

Figure 9 above superimposes the proposed development site indicating the areas of environmental sensitivities and buffers.

The expansion of the proposed storage facility (ERF 19134 - location indicated in the figures above) will occur in an Industrial Area. Figure 10, below depicts the expansion (indicated in grey) of the current infrastructure (indicated in red).

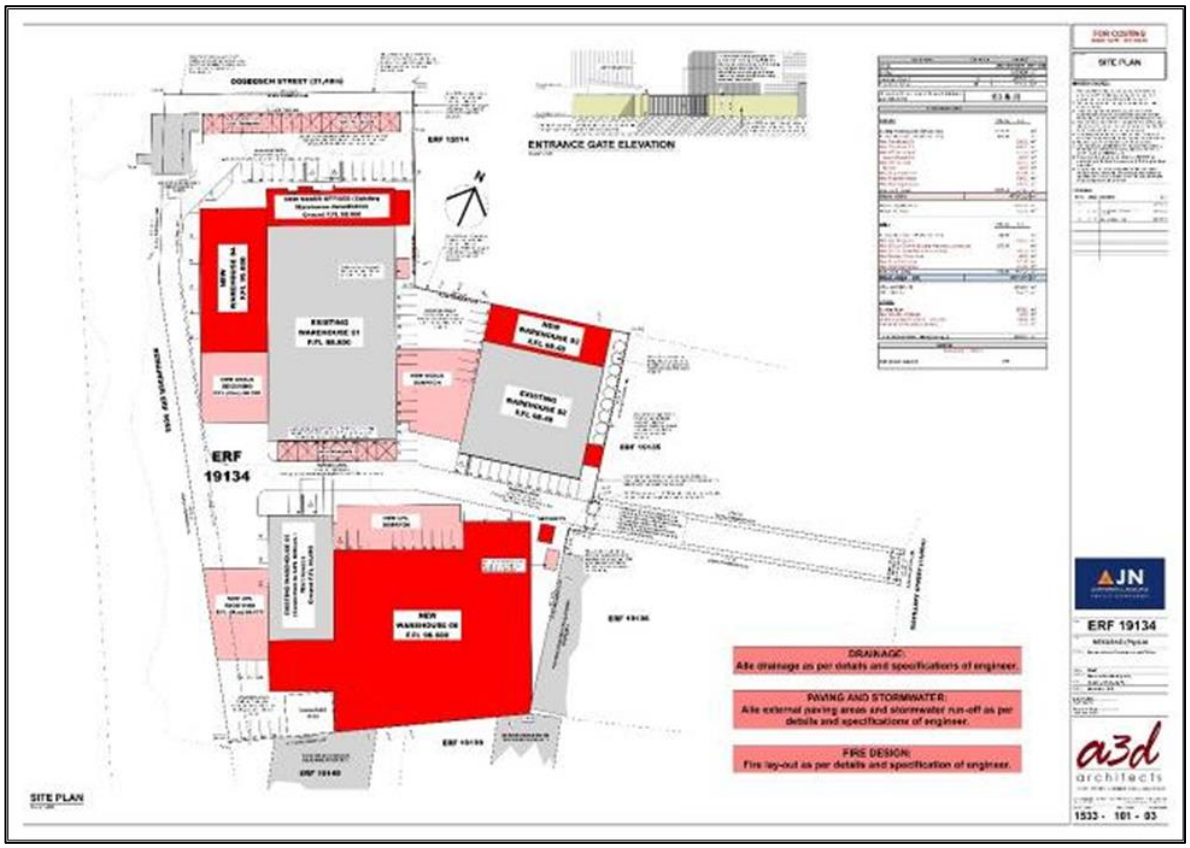

Figure 10: Proposed Expansion of ERF 19134

Details of the proposed expansion and its sizes are as follows:

DESCRIPTION	% or FACTOR		AREA (m²)	
Zoning			NEIGHBERHOOD BUSINESS ZONE	
Erf Size			14 546,00	m²
Coverage allowed	75%	%	10909,50	m²
Proposed Coverage	65	%	9392,81	m²

Occupation Classification of Proposed building as per SANS 10400:	G1 & J1

FLOOR AREA: UNITS			
NEXUS :	Existing	New	
Existing Warehouse 01 (Refurbished)	1728,70		m²
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Pumproom (Firefighting purposes)		24,50	m²
TOTAL DEVELOPMENT AREA (Coverage)		9392,81	m²

PARKING	
Parking bays = 2,5x5m	
Parking Bays supplied	108

Figure 11: Details of the proposed infrastructure and sizes

Nexus[AG] stores the following chemicals/products on site:

Hazardous Goods
• Fertilizer 1A and 1B • Pesticides Group IA • Pesticides Group IB • Pesticides Group II • Pesticides Group III • Pesticides Group IV

Non- hazardous Goods
• Protective Clothing • Equipment • Sanitizers • Monitoring equipment

The combined capacity of the total hazardous goods/chemicals will fluctuate (this is as a result of various factors including: storage packaging, i.e., bottles/barrels, sacks, etc. or storage mode), on site at any given time, as this is the nature of such industry, however the combined storage capacity of the warehouses (once expanded) utilized for hazardous storage is:

- approximately 21 344m^3 – 15 761m^3 (Nexus^{AG} warehouse).
- approximately 17 712m^3 (UPL warehouse).

Table 3: Summary Table of Site and Farm Details

Province	Western Cape	
District Municipality	Cape Winelands and Overberg District	
Local Municipality	Drakenstein Local Municipality	
Ward number(s)	Ward No 19	
Nearest town(s)	Paarl	
SG Code	Erf 19134	C05500080001913400000
Co-ordinates of the property boundaries as shown in the adjacent table and figure:		

Table 4: Property Boundary Coordinates

Point	Longitude (E)	Latitude (S)
A	18°58'21.91"E	33°42'56.60"S
B	18°58'24.01"E	33°42'55.96"S
C	18°58'24.87"E	33°42'57.32"S
D	18°58'26.60"E	33°42'57.04"S
E	18°58'27.05"E	33°42'58.25"S
F	18°58'30.42"E	33°42'57.55"S
G	18°58'30.55"E	33°42'57.76"S
H	18°58'27.16"E	33°42'58.63"S
I	18°58'27.50"E	33°43'0.05"S
J	18°58'24.88"E	33°43'1.33"S
K	18°58'22.30"E	33°42'58.17"S

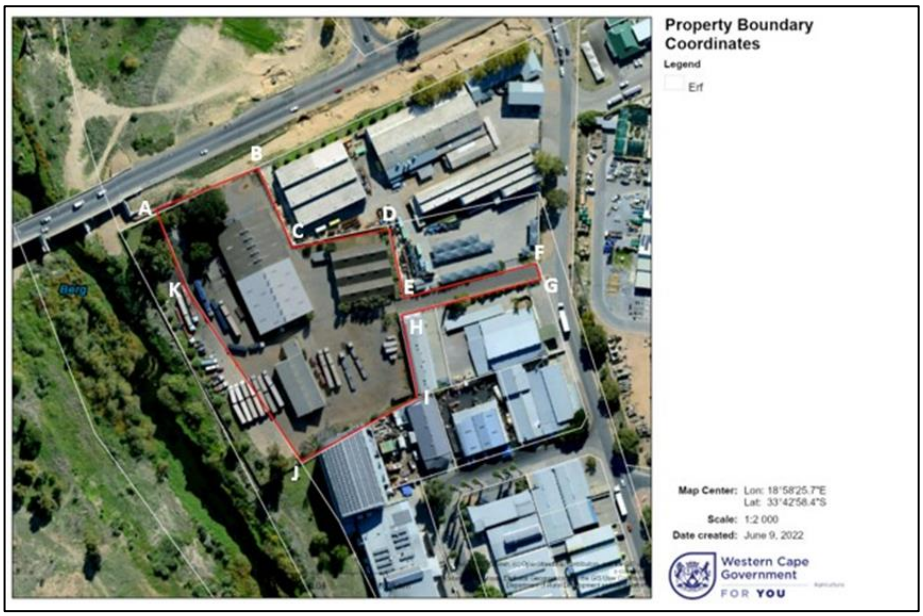


Figure 12: Property Boundary Coordinates

5. DESCRIPTION OF RECEIVING ENVIRONMENT

5.1. Vegetation

The site has been significantly transformed into hardened surfaces. No specialist input was required.

5.2. Aquatic & Biodiversity

According to the CapeFarmMapper, 2022 (Figure 13) an Ecological Support Area (ESA) 2, was indicated along the western boundary of the site, based on the aquatic feature (the Berg River). The area indicated as an ESA, has been significantly transformed with no natural areas, and the edge of the adjacent site is indicated by Vibracrete walls.

Therefore, the proposed development will not be influenced by an ESA, as this feature is not present on site, and vice versa, as confirmed by the aquatic specialist.

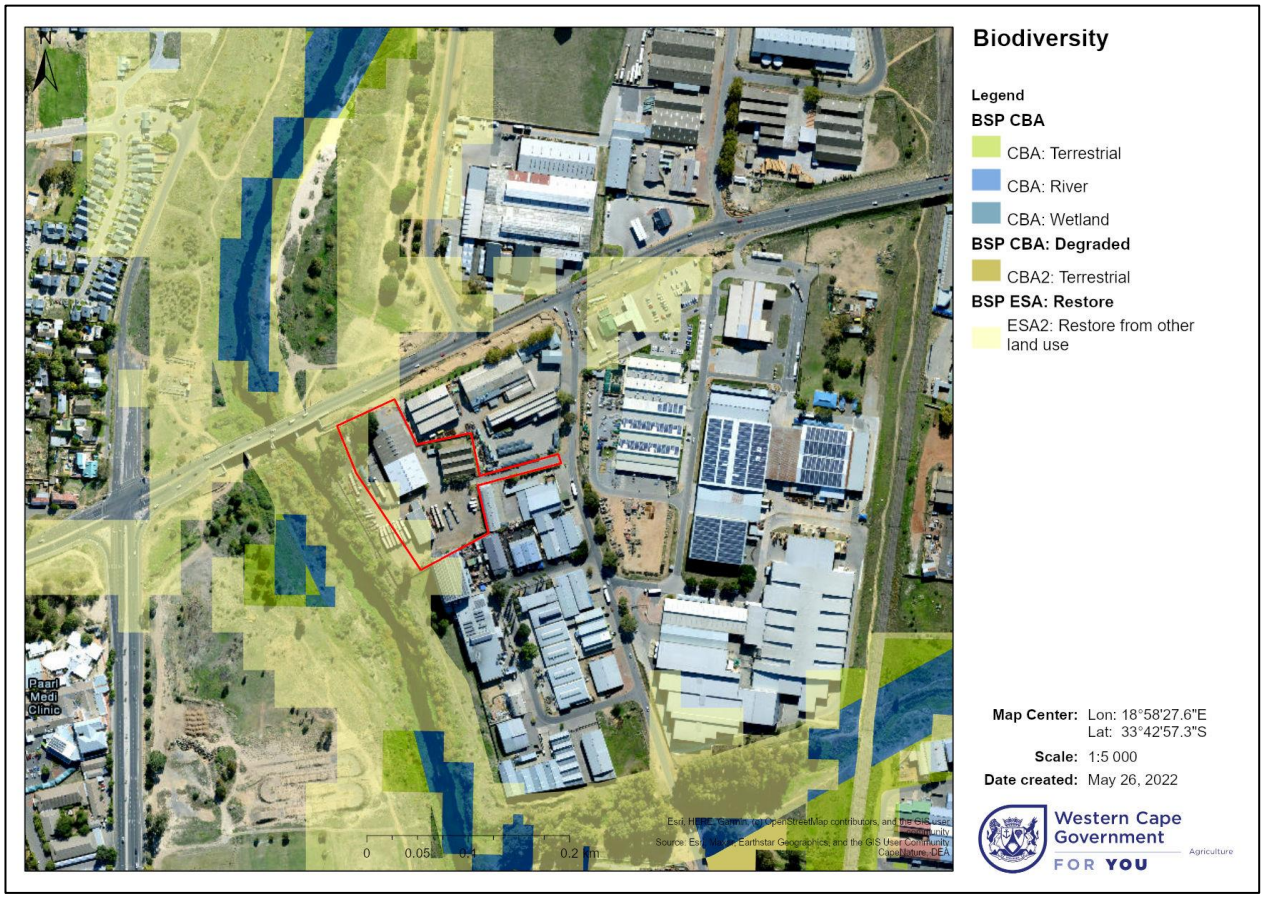


Figure 13: Biodiversity Map.

The aquatic specialist has recommended that control measures be integrated into the EMPr, as per Section 11 and 12.

5.3. Faunal

Animal species flagged by the DEA Screening Tool included:

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-*Circus ranivorus*
Medium	Invertebrate-*Conocephalus peringueyi*
Medium	Invertebrate-*Brinckiella aptera*
Medium	Invertebrate-*Aneuryphymus montanus*

- ***Aves-Circus ranivorus***
    - Common Name: African Marsh Harrier.
- ***Invertebrate - Conocephalus peringueyi***
    - Common Name: Peringuey's Meadow Katydid (grasshopper)
- ***Invertebrate - Brinckiella aptera***
    - Common Name: Mute Winter Katydid (grasshopper)
- ***Invertebrate-Aneuryphymus montanus***
    - Common Name: Yellow-winged Agile Grasshopper.

Given the significantly transformed site and surrounding areas, confirmed by the EAP, it was unlikely that these species would thrive in this environment. Therefore, no specialist input was required.

5.4. Aquatic Features

FEN Consulting was appointed to undertake the Aquatic Compliance Statement, it was confirmed by Ms R. Mathakutha (Cand. Sci. Nat - SACNASP – Reg. No. 120040) that no natural watercourses were identified within the study area. However, the Berg River is located outside and along the western boundary of the study area (approximately 26 m to the west of the study area). The Berg River flows in a generally northerly direction and is met by the Hugos approximately 272 m south of the study area.

It was determined that the site is partially located within 32 m of a watercourse (the Berg River). Should the proposed expansion activities be located outside the 32 m ZoR in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998), suitable control measures must be implemented during the construction and operational phase of the proposed expansion activities (integrated into Section 11 and 12 of the EMPr). Further to this the study area may potentially be subject to the GN509 ZoR as it relates to the National Water Act, 1998 (Act No. 36 of 1998). As such, it is recommended that the proponent consult with the Department of Water and Sanitation (DWS), to determine the relevant authorisation process that should be followed in terms of the requirements of the National Water Act 1998 (Act No. 36 of 1998). However, it must be noted that if the control measures as listed in this memo are implemented, the proposed expansion activities are expected to pose a

low-risk significance to the Berg River and it is the opinion of the freshwater ecologist that registration by means of confirmation of General Authorization is possible.

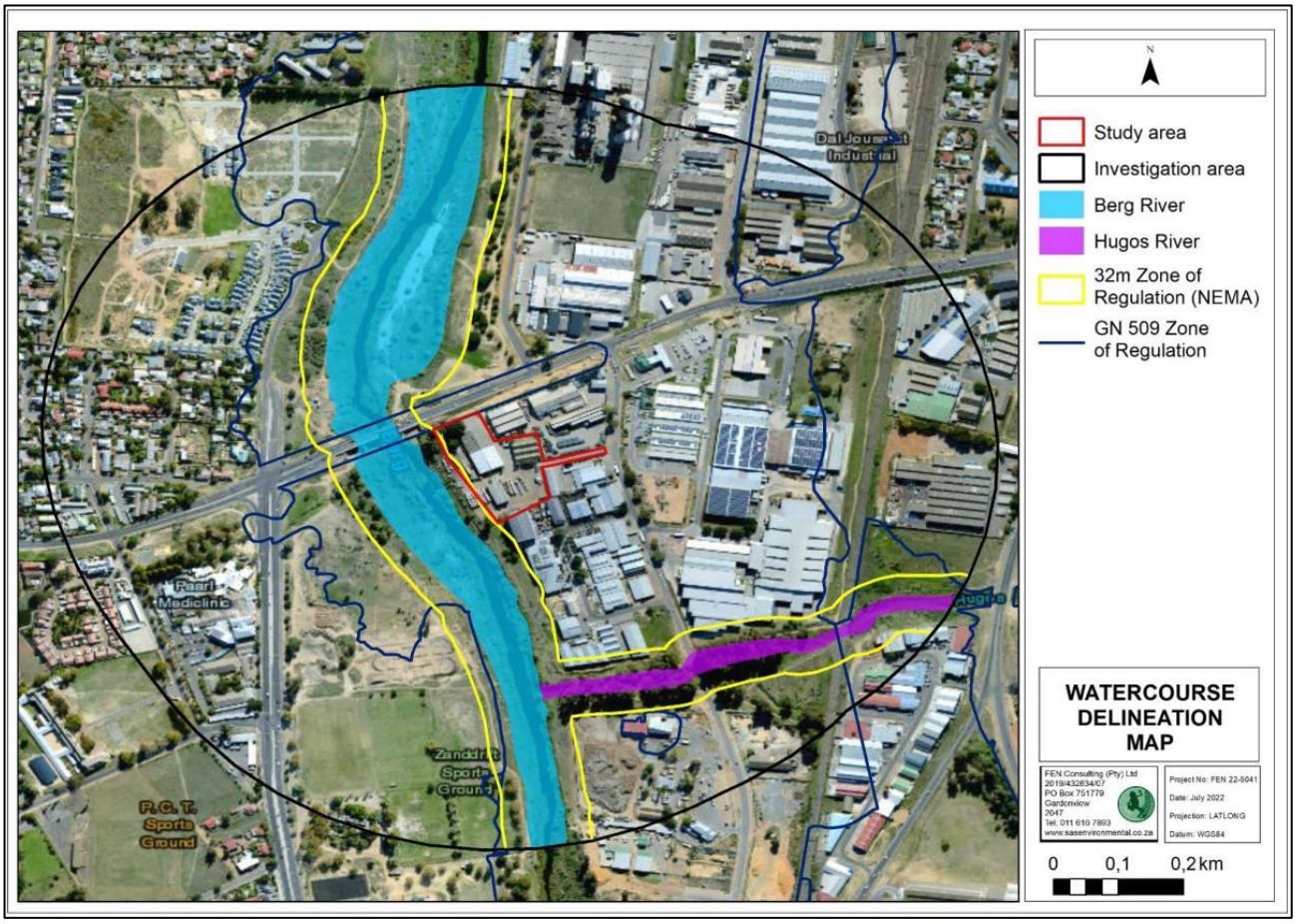


Figure 14: Aquatic features delineated (CapeFarmMapper, 2022).

5.5. Paleontological, Archaeological, Heritage and Cultural Landscapes

The proposed expansion was not applicable to Section 38(1) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999). However, the Fossil Finds Procedure is included as an Appendix D of the this EMPr.

5.6. Civil Aviation

The site is located approximately 5km's west of the Paarl Landing Field, the closest aerodrome. However, the development will not exceed the maximum permissible building height (including roof) as is applicable, nor will the height exceed the surrounding buildings. Therefore, no further action was required.

5.7. Groundwater & Geology

A geotechnical study was undertaken on November 2016 by Leon Croukamp *(Pr.Sci.Nat)* of GeoCroukamp, entitled: 'Geotechnical investigation for Nexus[AG], Erf 19134, Paarl, western Cape', attached as Annexure A to the Engineering Report.

The findings of this report were as follows:

- Soil profiles and DCP tests indicated a relatively stiff layer from surface to approximately 0.45m.
- Soil profiles showed loose material exceeding a depth of 3m's.
- The water table was not encountered in any of the test pits but test pit NX4 indicated a fluctuating water table at 2m depth.
- Sidewall stability should be carefully monitored, and all safety precautions adhered to.

Based on the findings, all recommendations have been integrated into this EMPr, under sections 9, 10, 11 and 12.

The proposed design and layout plan have taken the Geotechnical Report document into account, and the building plans have been approved, letter dated the 15th of September 2021, from Drakenstein Municipality, therefore the civil works have been guided by specialist input, that has supported the proposed development.

6. LEGAL FRAMEWORK

6.1. The National Environmental Management Act, Act No 107 of 1998 (NEMA), and the Environmental Impact Assessment Regulations 2014 (as amended 2017) (EIA)

The National Environmental Management Act, 1998 (Act No. 107 of 1998) as per EIA Regulations, 2014 (as amended 2017), gives effect to the Constitution of the Republic of South Africa by providing a framework for co-operative environmental governance and environmental principles that enable and facilitate decision-making on matters affecting the environment. NEMA requires that an environmental authorisation be issued by a competent authority (CA) before the commencement of an activity listed in the Environmental Impact Assessment Regulations, 2014 (as amended 2017), in terms of the Listing Notices G.N. 324, 325, 326 & 327 published on the 7th of April 2017.

Due to the fact that this development proposal consists of activities listed in the EIA Regulations, Listing Notice 1, a Basic Assessment Process was required, and the respective reports (Basic Assessment Report and Appendices) will be submitted to the DEA&DP, for assessment, before the decision is made on whether or not the environmental authorization is issued to the proponent, Nexus^{AG} (Pty) Ltd.

The following table indicates the activities necessary for the expansion of the proposed ERF 19134 to be compliant with the latest NEMA Regulations:

Table 5: Listed Activities in terms of the NEMA Environmental Impact Assessment Regulations, 2014 (as amended 2017), that are triggered.

Activity #	Listing Notice 1. Description of Activity as per GN No. R 327	Relevance to Development
51	The expansion and related operation of facilities for the storage, or storage and handling, of a dangerous good, where the capacity of such storage facility will be expanded by more than 80 cubic metres.	The proposed expansion will allow for an increase in capacity of the existing storage area by more than 80m^3. Therefore, this trigger is applicable.

6.2. Other applicable legislation

The proponent is responsible for ensuring that all contractors, labourers and any other appointed person/entity acting on their behalf, remain compliant with the conditions of the received authorisations, as well as the provisions of all other applicable legislation, including inter alia:

National Legislation:

- National Environmental Management Act (NEMA) (Act 107 of 1998), Environmental Impact Assessment (EIA) Regulations of 2014 as amended 2017.
- NEMA Environmental Impact Regulations (GN NO. R. 982 of 2014) s19, Appendix 4.
- National Water Act, 1998 (Act No. 36 of 1998) – verification of the need for a Water Use Application will be advised by DWS
- National Environmental Management: Waste Act (Act 59 of 2008);
- National Building Regulations and Building Standards Act 103 of 1977.
- National Framework for Sustainable Development (2008)
- Spatial Planning and Land Use Management (SPLUMA) Act 16 of 2013
- Agricultural Remedies Regulations (GN R. 935 of 2006)
- Hazardous Substances Act (Act 15 of 1973), as amended 1997
- SANS 10206: 2010 – The Handling, Storage and Disposal of Pesticides
- Occupational health and Safety Act (Act No. 85 of 1993)

Provincial Legislation:

- Western Cape Provincial Spatial Development Framework (PSDF), 2014
- Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)(2011) Environmental Impact Assessment Guidelines on Need and Desirability

Local Legislation:

- Cape Winelands District Municipality: Municipal Health Services By-law (2010)
- Cape Winelands District Municipality: Fire Safety By-law (2008)
- Drakenstein Local Municipality: Building Control by-law (2020)
- Drakenstein Local Municipality's Water Supply, Sanitation Services, and Industrial Effluent By-law (2004)
- Drakenstein Local Municipality: Draft Five- Year Spatial Development Framework (SDF) 2022-2027
- Drakenstein Local Municipality: Five- Year Spatial Development Framework (2018)
- Drakenstein Local Municipality: Integrated Development Plan (IDP) 2021/26 (2021)
- Drakenstein Local Municipality: Integrated Economic Growth Strategy (2019)
- Drakenstein Local Municipality: Zoning Scheme By-law (2018)
- Drakenstein Local Municipality: By-law on Municipal Land Use Planning (2018)
- Drakenstein Local Municipality: Integrated Waste Management By-law (2013)

The above listed legislation has general applicability to most development applications, and it is the responsibility of Proponent to ensure that all contractors and employees are aware of their obligations in terms of these Acts, as well as to ensure that any relevant licenses/permits/approvals are obtained prior to the commencement of the relevant activity. This EMPr does not detract from any other legal requirements.

7. SCOPE OF THIS EMPR

This EMPr describes the measures that must be implemented in order to avoid, minimise, manage and monitor the potential environmental impacts of the development, during all phases of the project life cycle, namely:

- Planning and Design Phase
- Pre-construction Phase
- Construction Phase
- Operational Phase

Each phase has specific impacts or issues unique to that phase of the development activity. General environmental management measures that must be applied throughout the project lifecycle (as and where applicable) are described in Chapter 8 below. Specific management measures that must be implemented to address the associated impacts that may arise during each phase are provided in **Chapters 9-12** of this EMPr. Brief management statements are provided, as well as a description of the desirable impact management outcomes.

8. GENERAL ENVIRONMENTAL MANAGEMENT

The following general management measures are intended to protect environmental resources from pollution and degradation during all phases of the project life cycle. These measures must be implemented as and where applicable, reasonable and practicable, during the pre-construction, construction and post-construction and operational (maintenance) phases of the proposed development.

Code of Conduct

The purpose of the Code of Conduct (CoC) is to minimise the impact of the activities associated with the construction phase on the environment. The rules and regulations prescribed in this CoC are intended to ensure that the impacts on the environment are not prejudiced by the construction activities. Failure to adhere to or any breach of this CoC will result in a fine being levied against the offending or defaulting party / individual.

Labourers during the construction phase must conserve the natural environment, endorsing the principles of sustainable use and minimum impact. They must also be sensitive to the impact of their operation on the environment within which they work and minimise any adverse impacts.

This EMPr forms an integral part of the activities during the construction/facility established phase and as such, is legally enforceable. In addition to the restrictions and controls provided for in this EMPr, the environmental controls comprise the following:

Engineers

- Unless otherwise stated by the holder, only a registered engineer must be appointed for the construction phase of the development.
- The engineer shall provide work or services of a quality and scope, and to a level, which are commensurate with accepted standards and practices.
- The engineer shall be impartial in decision-making, provision of advice and judgement.

Contractors and sub-contractors

- Unless otherwise determined, only appropriately registered contractors shall be appointed.
- It shall be the responsibility of the holder to ensure that the contractors abide by and comply with the rules and regulations of the Code of Conduct.
- Contractors shall at all times be responsible for their sub-contractors and employees whilst they are on the development property.

Rules and Regulations
It is of vital importance that engineers, and contractors understand and acknowledge that they are working on an environmentally sensitive development and agree to conform to all environmental controls specified in this EMPr, and any additional environmental permits/licenses, as well as any additional input by the ECO. In addition to this EMPr, the environmental controls comprise of the following:

- **Building Plan Controls**
  - A copy of the approved and signed building plans must be available on site during the construction phase of the development.
  - Variations of the building plans must be approved by the engineer / holder prior to being implemented, where applicable.

- **Site tidiness**
  - The contractor must keep the appearance of the site neat and tidy at all times. Building rubble must be removed from site at regular intervals, and litter must be removed from the site on a daily basis. Refuse drums must be available on site which waste can be placed in. The drums must be emptied on a regular basis and the waste taken to a licenced local waste disposal facility.

- **Safety**
  - The contractor shall comply with the Health and Safety Act (Act No. 85 of 1993), as amended, together with such regulations promulgated hereunder.

8.1. Site Access and Traffic Management

The site is accessed via an 8m wide servitude road ("pan-handle") of 85 meters long from Distillery Road, Paarl.

All construction vehicles need to adhere to traffic laws and regulations, drivers must be sensitised to the fact that they are working in an area with a potentially high volume of foot and vehicle traffic. The speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. As far as possible, care must be taken to ensure that the local traffic flow pattern is not significantly disrupted, and vehicle operators therefore need to be educated in terms of "best-practice" operation in order to minimise unnecessary traffic congestion or dangers. These practices include, but are not limited to, not unnecessarily obstructing the access point or traffic lanes used to access the site; considering the load carrying capacity of road surfaces and adhering to all other prescriptive regulations regarding the use of public roads by construction vehicles.

Adequate signage that is both informative and cautionary to passing traffic must be erected to warn other road users (motorists and pedestrians) about the presence of construction vehicles. Signage would need to be clearly visible and include, amongst others, the following:

- Identifying working area as a construction site;

- Cautioning against relevant construction activities;
- Prohibiting access to construction site;
- Clearly specifying possible detour routes and / or delay periods;
- Possible indications of time frames attached to the construction activities, and; If a sign board is accommodated, this should list the name, proponent, contractors and engineers that are working on the site and potentially the ECO.

Other mitigation measures include:

- No construction to take place over or during the December construction shut-down period without prior permission from the relevant authorities.
- Construction vehicles must adhere to the load carrying capacity of road surfaces and adhere to all other prescriptive regulations regarding the use of public roads by construction vehicles.
- ECO to do awareness training with the contractor and labourers and to highlight the traffic related risks before construction commences (see Section 16 for the Environmental Awareness Plan and Appendix C for the Environmental Awareness Training Booklet).
- Where possible, construction traffic that may obstruct traffic flow on the surrounding roads must be scheduled for outside of peak traffic times.
- Ensure appropriate behaviour of operators of construction vehicles.
- If needed, appropriate traffic management measures and/ or points men (traffic marshals) must be utilized to assist vehicles entering/ exiting the site, particularly where vehicles must cross the path of oncoming traffic.

8.2. Site demarcation

The working areas must be clearly demarcated on site during the pre-construction or construction phases of the development, as appropriate.

8.2.1. Construction Working Area

The existing boundary wall and fence must be considered as the outer boundary of the development area. The outer boundary of the development area must be surveyed and pegged. This demarcation boundary is to ensure that construction activities are restricted to only the site, and to prevent unnecessary disturbance of hardened or soil surfaces and vegetation outside of the development footprint. Controlled access to the site must be ensured via the access gate on the eastern boundary on Distillery Street.

The existing boundary fence of the working area must be enclosed with, at least, shade netting, droppers & wire, or similar – as is feasible and practical. This temporary enclosure must be retained and maintained for the duration of the construction period, it must not be removed until construction concludes, as approved by the appointed ECO and Site Engineer.

8.2.2. No-Go Areas

No specific no-go areas have been designated for the proposed site development. As previously mentioned in section 5, to the west of ERF 19134, outside the site's boundary is the Berg River. It is generally recommended that **any area beyond the boundary of ERF 19134 must be considered a no-go area**. To avoid disturbance from expanding beyond the approved footprint, all works for the proposed development shall remain within the boundary of the site.

No-go areas in general could include areas with slopes of 1:4 and steeper, greenbelt / corridor areas, public open spaces, demarcated/barricaded trees, streams and/or other wetlands outside of the approved development area. However, none of these exist on this site. No-go areas outside the approved development area must be off-limits to all construction workers, vehicles, and machinery during all phases of the development. No vegetation may be cleared from within the no-go areas, and no dumping of any material (waste, topsoil, subsoil etc.) may occur in these areas. Construction workers must be informed of the no-go areas, and if necessary appropriate signage can be used to enforce the demarcation.

8.2.3. Demarcation of the Site Camp

The area chosen for the site camp and associated facilities must be the minimum area reasonably required to accommodate the site camp facilities and must be located on the existing hardened surface on the site, within the fenced extent of the site. Site selection must be done in consultation with the ECO.

8.3. Site Camp and Associated Facilities

The set up and organisation of the site camp is paramount to ensuring compliance. An environmental file is to be created by the contractor and be situated within the site camp throughout the construction phase and with the applicant thereafter. The environmental file is to include the following;

- A copy of the Environmental Authorisation
- A copy of General Authorisation or any other relative permits/licences/authorisations
- A copy of the approved EMPr
- Waste slips
- Disposal slips or cleaning slips (ablution cleaning)
- Receipts for the donation of salvaged plant material;
- All EMR's (Environmental Monitoring Reports) and ECO instructions as well as audit reports
- Copies of Environmental Induction Register/S
- The Protocol for chance Palaeontological Findings (Appendix D: Protocol for Chance Fossil Finds)
- A Complaints Register
- Updated method statements
- Risk Management, prevention, and emergency procedure/s applicable to site activities
- An Incident Register

The following general management measures pertaining to the set-up, operation and closure of a site camp must be applied where appropriate, reasonable, and practicable:

8.3.1. Fencing & Security

The site camp area must be secured to prevent any unauthorised individuals from entering the site camp and possibly getting injured or posing a safety and/or security risk. Adequate signage must be displayed, designating the site office / camp as a restricted area to non-personnel. A site register is recommended to record any daily visitors and activities, for record keeping purposes.

8.3.2. Fire Fighting Equipment

Adequate firefighting equipment must be readily accessible and functioning. Extinguishers must be in a working condition and within their service period. A fire extinguisher must always be present wherever any "hot works" (e.g. welding, grinding etc.) are taking place. It is recommended that all construction workers receive basic training in fire prevention and basic fire-fighting techniques and are informed of the emergency procedure to follow in the event of accidental fires.

Open fires and smoking must be prohibited on site, particularly close to flammable storage areas. However, it is noted that despite this, incidents may arise where fires are created after hours by security, and labour may attempt to smoke on site. In these cases, measures must be taken to ensure that activities are managed appropriately according to the fire management plan.

Therefore, should an uncontrolled and/or unpermitted fire occur on site after hours, the following procedure must be followed:

- Ensure that the security is aware that creating uncontrolled and/or unpermitted fires within the site are prohibited.
- Should they choose to create one beyond the demarcated area, they are solely responsible for the management.
- He/she must ensure that:
    - They utilize a metal barrel and contain the fire within, outside of the proposed site.
    - It may not be positioned close to any vegetation, no-go area, natural areas or flammable material.
    - Do not leave fire unattended.
    - Monitor and extinguish any embers that may escape.

Should the contractor choose to, he/she may designate a smoking area within the site camp, of which the contractor is solely responsible for the management of this activity on site, and any incidents that may occur. Should the Contractor choose to do this at his own risk, it must contain the following features as minimum:

- Appropriate signage.
- A barrel/bucket filled to 50% capacity with sand, for disposal of used cigarettes.
- An appropriately weighted lid, that cannot be easily displaced by volatile weather conditions
- The bin and designated area must be positioned in such a manner that it is not directly affected by heavy winds.
- This bin must be emptied as is necessary and must not be allowed to reach 75% capacity.

This area must not be located close to flammable storage areas (permanent and temporary). In the case of accidental fires, the contractor must (if required/significant) alert the Local Authority's Fire Department as soon as a fire starts prior to the fire becoming uncontrollable.

The EAP does not recommend that any uncontrolled/unpermitted fires or smoking areas be established on site.

8.3.3. Waste Storage Area

Sufficient bins for the temporary storage of construction related waste must be provided inside the site camp and/or at the working area and must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. Label each waste receptacle for waste separation, and ensure waste is contained either by use of lids or by ensuring waste receptacles

are emptied prior to filling up, so that they are not susceptible to wind dispersion. Sufficient signage and awareness must be created to ensure that these bins are properly used.

8.3.4. Hazardous Substances Storage Area

Fuels, chemicals, lubricants and other hazardous substances must be stored in a demarcated, secured, bunded and clearly sign-posted area within the site camp away from the sensitive areas. Ensure that when substances are transferred, this is done on an impermeable and/or bunded surface, to contain any spillage. Spillage, should it occur, must be disposed of appropriately. The disposal of hazardous waste must take place at the Vissershok Waste Management Facility in the Cape Town Metropole.

Any accidental release of a hazardous substance during the construction and operational phase of the proposed development, must be reported to the relevant authorities, including the Department of Environmental Affairs and Development Planning's Directorate: Pollution and Chemicals Management, in terms of Section 30(3) of the NEMA.

8.3.5. Potable Water

An adequate supply of potable water must be provided to construction workers at the site camp. It is the Contractors duty to ensure that the labour has adequate access to potable water throughout construction phase, and to monitor weather conditions, to ensure that labour has enough drinking water on hotter days, or construction activity must cease, until conditions are safe to continue. To conserve water, it is recommended that buckets of water are used to clean tools and machinery, rather than running water.

8.3.6. Ablution Facilities

Chemical toilets must be maintained on the site camp for the duration of the construction phase and rehabilitation, on a level surface and secured from blowing over and located in such a way that the toilets will not cause any form of pollution. As per the SANS10400 requirement, one ablution facility for every 8 male workers and 2 ablution facilities for every 8 female workers will be provided.

The ablution facilities must not be linked to the river system in any way or stormwater network. Toilets must be serviced regularly and kept in an orderly state. The contractor must ensure that no spillage occurs when the toilets are cleaned, serviced or moved. The toilet facilities must be emptied and cleaned on a weekly basis, by an appropriately registered service provider. Proof of this weekly servicing must be obtained and filed in the Environmental File on site. Performing ablutions outside of the provided toilet facilities is strictly prohibited.

8.3.7. Eating Area & Rest Area

A dedicated area within which construction workers can rest and eat during breaks must be provided within the site camp. Seating and shade must be provided, along with appropriate bins.

8.3.8. Vehicle & Equipment Maintenance Yard

Where possible, construction vehicles and equipment that require repair must be removed from site and taken to a workshop for servicing. If emergency repairs and/or basic maintenance of construction vehicles or equipment are necessary on site, such repair work must be undertaken within the

designated maintenance yard area away from any watercourses. Repairs must be conducted on an impermeable surface, and/or a tarpaulin and/or drip trays must be laid down prior to emergency repairs taking place, in order to prevent any fuel, oil, lubricant or other spillages from contaminating the surrounding environment. The captured wastewater must be disposed of appropriately, at a registered facility.

8.3.9. Housekeeping

The site camp and related site camp facilities must be kept neat and orderly at all times, in order to prevent potential safety risks and to reduce the visual impact of the construction activities.

8.4. Protection of fauna

Construction workers are to be sensitised to the fact that they may encounter fauna during the construction period. This must be included in the environmental awareness training completed with all site personnel before any construction commences (see Section 16 for Environmental Awareness Plan and Appendix C for Environmental Awareness Training Booklet). Environmental Awareness Training must educate labour on conduct in terms of faunal management throughout construction phase, including but not limited to:

- No person/s may harm, kill, capture or keep any fauna.
- Appropriate access control must be put in place to reduce the risk of animal species gaining access to the development area, only where applicable.
- Where possible, avoid interactions, particularly with fauna that can inflict harm, if such fauna is identified on site contact local SPCA other animal protection and removal services.
- Ensure emergency numbers for local service providers such as SPCA, and other animal protection and removal services, are available at the site camp.
- Include infographic of harmful animals common to the area, such as snakes, to aid in identification, if necessary
- Maintain good housekeeping, so that fauna cannot hide amongst waste and material.

If any fauna is encountered by construction workers, the ECO is to be notified. If the ECO is not on site, the site manager is to be informed. Rescued fauna must be released into a nearby area of similar habitat away from any construction. Contact details for animal rescue services and/or snake wrangler, from the local area, should be available on site, in case of an emergency.

Use shade cloth over existing fence line (boundary of working area), to stop animals from wandering onto site.

8.5. Topsoil and subsoil management

It is recommended that topsoil be removed from any area where physical disturbance of the surface will occur, including within the footprint of the development site (working area) and possibly within the site camp, ablution area, vehicle maintenance yard, refuelling area and temporary waste storage area. Topsoil removal and stockpiling must be undertaken only after consultation with the ECO. The following soil management measures must be implemented:

- Excavated topsoil and subsoil must be stockpiled for the duration of the active construction period and utilised for the final landscaping and rehabilitation of disturbed areas on site or disposed of appropriately with a corresponding disposal slip recorded in the Environmental File.

- Excavated subsoil must be stockpiled separately from topsoil and have adequate signage to illustrate which are topsoil and subsoil.
- The topsoil & subsoil storage area must be located on a level area outside of any surface drainage channels.
- Topsoil and subsoil stockpiles must be stored in a berm of not more the 1.5m high and they must be adequately protected from being blown away or eroded by storm water. If necessary, shade cloth or other suitable measures must be used to stabilise and protect the stockpile from wind/water erosion. Topsoil stockpiles must not be covered with tarpaulin, as this may smother and decrease the virility of topsoil.
- Ideally, topsoil is to be handled twice only, once to strip and stockpile, and once to replace, level, shape and scarify, or disposed of.
- If soil stockpiles will be stored for an extended period of time, the stockpiles must be kept clear of weeds and alien vegetation growth by regular weeding, (or application of herbicides if agreed with the ECO).
- Soil material that will not be re-utilised on site may be removed from site and taken to an appropriate site for re-use or disposed of at an appropriate facility, with a disposal slip to record this activity.
- Topsoil containing indigenous plant seeds must be transferred immediately to rehabilitation areas (when one is identified) rather than being stockpiled, as stockpiling kills important fungi, microbes, seeds and soil fauna. Topsoil stockpiles of this kind must not exceed 1.5 m in height and must not be compacted.
- Note that the topsoil must be the final layer applied to a rehabilitated/ re-landscaped site, after subsoil/ spoil material has been placed and shaped on the site (not applicable).
- Ensure stockpiles are bunded, especially if positioned along fence line.

8.6. Integrated waste management approach

It is recommended that an integrated waste management system is adopted on site. The system must be based on waste minimisation and must incorporate reduction, recycling, re-use and disposal where appropriate. Separate waste bins/skips that are weather and animal proof must be provided for recyclable waste, general waste and hazardous waste. Recovered builder's rubble & green waste may be stockpiled on the ground within the site camp, or in separate skips until removal. These bins/skips must be emptied, and the waste taken to a registered recycling facility. The receipts from the facility must be kept on file and must be available on request.

The non-recyclable and non-reusable waste (e.g. builder's rubble, etc.) generated on site must be disposed of at a landfill site licensed in terms of the applicable legislation. The receipts from the facility must be kept on file and must be available on request.

Chemical toilets present a risk to the surrounding environment and must be managed accordingly. Chemical toilets must be kept within the site camp (not be linked to the storm water drainage system), on a level surface and secured from blowing over. Chemical toilets must be regularly emptied, and the waste disposed of at an appropriate wastewater disposal/ treatment site. Care must be taken to prevent spillages when moving or servicing chemical toilets.

Hazardous substances such as diesel, oil and detergents will be present on site throughout the construction phase of the proposed development. Hazardous substances pose a greater risk to the surrounding environment than general substances and therefore need to be managed accordingly. A designated storage area within the site camp that is clearly demarcated must be set aside for the

storage of hazardous substances and is to be treated as a no-go zone to unauthorised personnel. Appropriate signage, Material Safety Data Sheets (MSDSs), recently serviced fire extinguishers and spill kits must accompany the hazardous substances. Appropriate storage of hazardous substances is important while drip trays must always be utilised when decanting of hazardous substances and when refilling chemical/ fuel storage tanks. If any spills do occur, the soil must be excavated and disposed of as hazardous waste.

Cement and concrete batching will be permitted on site but may only take place on designated bunded/impermeable surfaces, as agreed with the ECO. Used cement bags must be disposed of as hazardous waste.

8.7. Erosion control and stormwater management

A stormwater management plan is to be developed (by the engineer) with appropriate ecological input and be developed based on Sustainable Drainage Systems (SUDS). The SUDS systems attempt to maintain or mimic the natural flow systems as well as prevent the wash-off of urban pollutants to receiving waters.
Stormwater management has been flagged as an important aspect to be addressed, by the Engineers, due to the flat landscape, and poor drainage predicted for the site.

Due to the generally flat topography of the site, erosion and sedimentation is considered minimal, however, if excessive rainfall is experienced, ponding may occur. Stockpiled soils and materials can be displaced in heavy rainfall and windy conditions, resulting in sediment dispersal. Given that construction is planned to be phased over a 6-year period, only the area to be developed at a particular phase of construction must be cleared in order to ensure there is no unvegetated areas which will be subject to wind and water erosion.

Stockpiles need to be effectively managed and maintained as they have the potential to contribute to runoff and dispersion of sediment. To prevent this, the following management measures must be implemented:

- Stockpiles of topsoil & spoil material must be protected from wind & water erosion.
- Excess soil that is not planned for construction use, should be removed from the site, as soon as possible.
- Any erosion runnels/ gullies/ channels that form on site must be infilled with appropriate material, compacted, rehabilitated as needed and appropriate erosion control measures put in place to prevent recurrent erosion at that site. Rehabilitation of erosion channels must be ongoing during the construction phase and not left until the end of the construction period

8.8. Excavations and Earthworks

Any major earthworks with bulldozers and heavy machinery must be under constant supervision and operators are to be aware of all the environmental obligations, as there is always the potential to inflict damage to the sensitive areas. Any unnecessary or excessive heavy machinery movement must be kept to a minimum i.e. only what is absolutely necessary. Areas to be excavated must be clearly demarcated. Areas, which have already been excavated and entail fairly significant earthworks, must be similarly demarcated to avoid the spreading of construction activities into more sensitive areas.

All excavated material must be stored on a flat surface away from any sensitive or area susceptible to erosion. The location must be decided upon in consultation with the ECO. Stored material must be

protected from wind and water erosion, and this may entail covering the material with suitable shade cloth material or similar (if and when necessary). The shade cloth may need to be weighed down in such a manner that any stream flow is directed away from the stockpile, reducing the risk of erosion.

In the unlikely event that any heritages resources, including evidence of graves, human remains, archaeological material and paleontological material, are uncovered during construction activities; these must be immediately reported to the archaeologist who will inform Heritage Western Cape. Burials must not be disturbed or removed until inspected by a professional archaeologist. In case of the unexpected uncovering of fossil bones in the surficial cover-sands and soil, or buried archaeological material, or unmarked graves, the Fossil Finds Procedure (FFP) included as Appendix D of this EMPr, must be followed.

8.9. Visual Impact

The proposed development has the potential to cause a visual impact during the construction period. To minimise the potential visual impact, all working areas, storage facilities, stockpiles, waste bins, rainwater tanks and the site camp must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. Waste must be managed according to this EMPr. Good housekeeping practices on site must be maintained to ensure the site is kept neat and tidy. The site camp may require visual screening via shade cloth or other suitable material. The use of reflective materials and excessive lighting must be avoided, and construction vehicles must enter and leave the site during working hours (7:30 – 17:30).

8.10. Noise management

Additional noise is expected during the construction period due to construction activities. It is important that noise complaints register must be open and available on site, all construction activities must be restricted to normal construction working hours (7:30 – 17:30) as far as possible. Work on site must be well-planned and must proceed efficiently so as to limit the duration of the disturbance. This is to be done by ensuring that all equipment is in good working condition and fitted with mufflers/exhaust silencers if necessary. Noise levels must comply with the relevant health & safety regulations and SANS codes and must be monitored by the Health & Safety Officer as necessary and appropriate, and all affected parties must be informed of the excessive noise factors.

8.11. Dust management

Although the generation of dust is synonymous with construction sites, care needs to be taken to prevent excessive dust from impacting the surrounding environment and community. Majority of the dust causing activities will take place during the construction period. Exposed surfaces, such as stockpiles and cleared areas must be provided with a suitable cover as soon as possible or wetted down. Dust levels specified in the National Dust Control Regulations (GN 827 of November 2013) may not be exceeded.

A Complaints Register must be available at the site office for inspection by the ECO, in case of complaints, such as those related to dust. This must form a part of your Environmental File.

8.12. Heritage Resources

In the unlikely event that any heritages resources, including evidence of graves, human remains, archaeological material and paleontological material, are uncovered during construction activities; these must be immediately reported to Heritage Western Cape. Burials must not be disturbed or removed until inspected by a professional archaeologist. In case of the unexpected uncovering of fossil bones in the surficial cover-sands and soil, or buried archaeological material, or unmarked graves, the Fossil Finds Procedure (FFP) included as Appendix D of this EMPr, must be followed.

8.13. Site closure and rehabilitation

Upon completion of the construction phase, and after each maintenance event, all disturbed areas, including the working area (disturbance corridor), temporary access road, and all areas utilised for the site camp and associated site camp facilities would usually require rehabilitation as follows:

- On completion of the construction operations, the site camp area must be cleared of all site camp facilities, ablution facilities, fencing, signage, waste and surplus material.
- All areas within the working area and site camp that have become devoid of vegetation or where soils have been compacted due to construction activities must be scarified or ripped to improve filtration and reduce run-off.
- All demarcation fencing, including all droppers, wires, netting and barrier tape must be removed from site and taken to an appropriate site for re-use or disposal.
- Surfaces are to be checked for waste products from activities such as concreting or asphalting and cleared in a manner approved by the ECO. Any soil contaminated with hydrocarbons (oil, fuel, etc) or other hazardous substance must be collected and disposed of as hazardous waste to a licenced disposal facility.
- All construction waste is to be removed from the site and disposed of at an appropriate facility. Unpermitted burying or burning of waste or rubble on site is strictly prohibited.
- Topsoil that was removed and stockpiled before construction, must be replaced by spreading it evenly over the areas from which it was removed. This topsoil (and the seedbank it contains) will facilitate the re-vegetation of the site.
- Disturbed areas, especially areas where excavations have taken place, must be shaped as appropriate (original topography must be restored where possible), and covered with a layer of stockpiled topsoil as soon as possible.
- Any topsoil, subsoil or other excavated material that cannot be utilised during site rehabilitation must be removed from the site and disposed of at an appropriate disposal site.
- The disturbed, newly rehabilitated surfaces (particularly steeper slopes and areas recently covered with topsoil) must be protected from wind & water erosion using mulch, brush packing or other appropriate erosion protection measures. Brush-packing/ mulching is done by covering the exposed surface with organic plant material such as branches, plant cuttings and leafy material. Ideally the vegetation removed from site at the start of the construction must be utilised. Brush-packing/ mulching plays a valuable role in erosion control, while also promoting re-vegetation of the site by retaining moisture in the soil, introducing seeds and/or trapping wind-blown seeds and providing organic material (compost) to promote new plant growth.
- Final landscaping and rehabilitation of the site must be done to the satisfaction of the ECO and must adhere to all conditions/ requirements of the Environmental Authorisation.

No rehabilitation is proposed for this site.

9. ENVIRONMENTAL IMPACT MANAGEMENT: PLANNING AND DESIGN PHASE

Poor planning or inappropriate design decisions in this pre-construction phase may result in environmental impacts arising during subsequent phases of the project.

Planning and design activities must therefore take into account the environmental constraints and opportunities identified during the Environmental Assessment process, in order to avoid or minimise the potential future impacts of the development. Proper planning is also essential to ensure that adequate provision is made to implement the environmental requirements of this EMPr, and to ensure that the development is compliant with additional conditions which may be included in the Environmental Authorisation.

The environmental management objectives (goals) during this phase are to:

- Appoint a Qualified and experienced Independent Environmental Control Officer and Environmental Auditor,
- Design And Planning Considerations
- Ensure Legislative Compliance
- Update This EMPr (If Necessary).

These environmental management objectives, as well as the management actions that must be implemented to achieve the desired objective and avoid/minimise potential impacts, are discussed in more detail below.

9.1. OBJECTIVE 1: APPOINTMENT OF AN ENVIRONMENTAL CONTROL OFFICER AND AN ENVIRONMENTAL AUDITOR

***Impact Management Objective:* To Appoint A Suitably Qualified And Experienced Environmental Control Officer (ECO) And Environmental Auditor**		
Potential impact to avoid	• Failure to appoint an ECO and Environmental Auditor will result in non-compliance with the requirements of this EMPr.	
Impact Management Outcome	The appropriately qualified Environmental Control Officer and Environmental Auditor are able to monitor the implementation of the EMPr onsite and ensure compliance is adhered to.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
• A suitably qualified and experienced Environmental Auditor must be appointed before any activities commence on site.	Nexus[AG] (Pty) Ltd	During design phase

• A suitably qualified and experienced Environmental Control Officer must be appointed before any activities commence on site. • An Environmental Auditor is to be appointed by the applicant. As per Section 34 of the EIA Regulations (GN R326 of 2017), the duty of an Environmental Auditor is to be independent and is responsible for, but not limited to (see section 15): - Ensuring compliance with the conditions of the environmental authorisation and this EMPr; and - Submit an environmental audit report to the relevant competent authority, which provides verifiable findings, in a structured and systematic manner, as per Appendix 7 of GN R326. • An Environmental Control officer must be appointed to monitor the compliance and implementation of the EMPr, mitigation measures and the Environmental Authorisation conditions. • The appointed ECO must adhere to the requirements stated in Section 15. • The appointed Environmental Control Officer (ECO) is responsible for undertaking regular site visits (as advised in the Environmental Authorisation), to monitor and report on the implementation of this EMPr and adherence to the conditions of the Environmental Authorisation during the pre-construction, construction and post-construction rehabilitation phases. The ECO is not required to monitor the site during the operational (maintenance) phase of the development. • The duties of the ECO include, but are not limited to: - Conduct a pre-construction site inspection to ascertain the pre-commencement conditions are met (i.e. the status quo); - Conduct environmental awareness training for all personnel on site		
Performance Indicator	A qualified ECO and Environmental Auditor has been appointed prior to the commencement of any construction activities (including pre-construction set-up activities) onsite, and all compliance was met.	

9.2. OBJECTIVE 2 : DESIGN AND PLANNING CONSIDERATIONS

***Impact Management Objective:* Implement A Detailed Design Of The Structures And Detailed Site Layout Plan**		
Potential impacts to avoid:	Deviation from the layout plan may result in: • Non-compliance with the Environmental Authorisation during construction. • Triggering of additional listed activities not authorised in the Environmental Authorisation. • An increase in the severity of the impacts identified and assessed in the BAR or may result in new impacts not previously assessed and not provided for in this EMPr, resulting in environmental degradation.	
Impact management outcome:	The development is compliant with the recommendations of the Basic Assessment Report and the EMPr.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measures	Responsible Party	Time Period
General : • Ensure design considerations comply with any relevant conditions as per: - SANS 10206 - SANS 10400 • Ensure the relevant conditions are accommodated for in the programme of works as per the existing, valid approvals, including, but not limited to: - Drakenstein Local Municipalities Notice of Approval of Building Plan: Erf - 19134 - Paarl – 1107310, dated 15th September 2021. - Drakenstein Local Municipalities Civil Services Plans: ERF 19134, Paarl – Approval, dated the 02nd of August 2021. • Programme of works and costing, must accommodate for all recommended mitigation, as recommended in the approved EMPr and Environmental Authorization. • Ensure all approved drawings are made available to the Contractor, prior to commencement of work, including indications of existing services.	Nexus[AG] (Pty) Ltd/ Engineer	Design phases

Security • Ensure security measures are integrated into the expansion designs where necessary. • Ensure access onto site is controlled. Planning • Ensure deliveries/collections during construction are well planned, avoids construction areas, and safety measures are considered. • Ensure construction programme is planned prior to commencement of activities on site. • Ensure existing chemicals are stored away from construction areas and are monitored to ensure no access or residue from construction activities are able to enter storage areas. • Non construction personnel associated with deliveries and office related duties are advised to avoid construction areas and are briefed on safety measures. • Ensure all emergency procedures are clearly planned and readily available. Ensure all labour is briefed on emergency procedures and no-go areas, as well as prohibited activities including smoking or establishing fires on site. Design • The floor of the storage area should be constructed with spillage containment measures that can contain a volume equal to 110% of the stored capacity of substances. • Ensure storage areas are designed to allow for the required ventilation. • Ensure fire protection measures essential to the proposed storage and facilities are established efficiently. • Ensure geotechnical recommendations are considered and implemented: - Potential fluctuating water table at 2m depth. - Sidewall stability should be carefully monitored, and all safety precautions adhered to. - If possible, foundations and roads be designed to utilize the stiff material in the upper part of the profile. - Should foundations be constructed deeper than 0.4m it is recommended that a stiffened raft foundation be used since the material is loose and some settlement is expected. No bedrock was encountered in the profile to utilize for short piles. - Segmented paving bricks with a saw tooth shape be used and that a 25mm bedding layer be constructed after levelling of the area before placement of the bricks.		

- Stormwater Design: The installation of a cut-off valve within the stormwater management system should such a spillage occur as proposed by the Nexus[AG] Operations Manager is highly recommended and supported by the freshwater ecologist. Storage Method: • Ensure chemicals that need to be stored separately are done so. • Ensure all bunding is in place within the storage areas, and access for forklifts etc, are well designed and constructed to avoid any incidents. • Comply with SANS 10206: 2020 as per preferred internal storage mode.		
Performance Indicator	Detailed design and layout plan are approved and adheres to the conditions of the EA and EMPr, prior to the commencement of construction.	

9.3. OBJECTIVE 3: LEGISLATIVE COMPLIANCE

***Impact Management Objective:* Legislative Compliance**		
Potential impact to avoid	Commencement of activities without all relevant permits/permissions/licences/approvals and compliance with EMPr preconstruction activities, can result in penalties, time delays and excessive costs. All stemming from poor planning.	
Impact Management Outcome	All permits, permissions, licences, approvals, and specialist input are acquired, and the proposed development is compliant with the respective conditions.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
General • Ensure all relevant permits/licenses/approvals are in place and are valid prior to commencing with works.	Nexus[AG] (Pty) Ltd	Design Phase

• Ensure that the approved EMPr and Environmental Authorization (and any other relevant permits/licenses, etc), is integrated into the tender document (if applicable), or Contract Document for adoption by the Contractor, to ensure that they are fully aware of their responsibilities in terms of the implementation of these documents. • Ensure that the Contractor provides method statements for activities intended to be undertaken, and these are checked and approved by the ECO as well as the Engineer. • Inform ECO of planned works ahead, so as to ensure inductions are undertaken timeously.		
Performance Indicator	The project does not incur delays, excessive costs and penalties due to unobtained permits and non-compliance with the conditions of required permits, permissions, licences, and approvals.	

10. ENVIRONMENTAL IMPACT MANAGEMENT: PRE-CONSTRUCTION PHASE

Proper set-up during the pre-construction phase can set the foundation for good environmental management during the active construction phase to follow and can avoid potential impacts from arising at a later date.

The Impact Management Objectives for this phase of the project relate to:

- Identification And Demarcation Of Working Areas.
- Establishment Of Site Camp And Associated Site Facilities.
- Pre-Construction ECO Visit.

10.1. OBJECTIVE 1: IDENTIFY AND DEMARCATE NO-GO AND WORKING AREAS.

Impact Management Objective: ***Identify and Demarcate No-Go Areas, Working Areas And Site Facilities.***		
Potential impact to avoid	• Failure to accurately demarcate working areas may result in encroachment of non-construction personal into construction areas.	
Impact Management Outcome	Future construction activities will be restricted to within the designated areas & all areas indicated as no-go areas, will be protected from disturbance, i.e., beyond the development footprint (ERF 19134)	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
General • The temporary fencing of the palisade fences and areas designated for construction, must be retained and maintained for the duration of the construction period. • Contain disturbance to the demarcated construction area (within the boundary of the site) • Already disturbed/transformed areas should be used for the accommodation of construction plant, construction material, offices, etc. during the construction phase.	Contractor (General)	Pre-construction phase (prior to arrival of construction equipment, machinery, or workers on site)

• Ensure permits/licenses applicable, are obtained prior to commencement of construction works on site. • Site camp facilities must be the minimum area reasonably required to accommodate the site camp facilities and must not be allowed to impact areas not within the designated footprint. • Ensure the relevant ECO is present and consulted for demarcation. Ensure the relevant conditions are accommodated for in the programme of works as per the existing, valid approvals, including, but not limited to: • Drakenstein Local Municipalities Notice of Approval of Building Plan: Erf - 19134 - Paarl – 1107310, dated 15th September 2021.		
Performance Indicator	No-go areas, working areas and areas for site camp facilities have been identified and appropriately demarcated to the satisfaction of the ECO, before construction activities commences on site.	

10.2. OBJECTIVE 2: ESTABLISH ENVIRONMENTALLY SENSITIVE SITE CAMP & SITE FACILITIES

Impact Management Objective: ***To Set Up and Equip The Site Camp And Associated Site Facilities In A Manner That Will Promote Good Environmental Management.***		
Potential impact to avoid	• Failure to properly demarcate and set up site facilities may result in disorganised construction activities and unnecessary disturbance. • Failure to provide the necessary site facilities and/or failure to equip these facilities with the necessary equipment/materials may impede good environmental management & compromise ability to respond to emergencies.	
Impact Management Outcome	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of this EMPr are provided on site.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period

General • The working area and site camp must be clearly demarcated during the pre-construction phase. • The site camp and associated site facilities must be set-up and managed in accordance with the general environmental management measures specified in Chapter 8 of this EMPr, as a minimum. • The site camp must be strategically set up in a manner that will promote good environmental management during construction/ demolition, and to respond to potential emergencies (including fires, spillage of hazardous substances etc.) that may arise. • The site camp, storage facilities, stockpiles, waste bins, and any other temporary structures on site must be located in such a way that they will present as little visual impact to surrounding locals and road users as possible. • Necessary stormwater outlets must be designed to prevent erosion at discharge points. • It is recommended that the stormwater management plan be based on Sustainable Drainage Systems (SUDS). Waste Management • Practice good house-keeping and plan set-up and programme of works ahead of time. • Ensure storage of material is done in an orderly fashion. • Contain disturbance to impermeable surfaces as much as possible, within the ERF. • No stormwater runoff containing waste or water containing waste emanating for construction activities may be discharged into the environment. • Polluted stormwater must be contained on the site and disposed of appropriately. • Development personnel, equipment and materials must be limited to the minimum practical working footprint. • The Asbestos roof sheeting will have to be removed, spoiled by an approved contractor and replaced, if solar panels installation should be considered. (approx. 900m^2 on B) • Any accidental release of a hazardous substance during the construction phase of the proposed development, must be reported to the relevant authorities, including the Department of Environmental Affairs and Development Planning's Directorate: Pollution and Chemicals Management in terms of Section 30 of the NEMA. • Dedicated waste bins or skips must be provided on site and kept in a demarcated area on an impermeable surface.	Contractor	Pre-construction phase (prior to start of construction activities)

• Separate waste bins/skips that are weather and animal proof must be provided for recyclable waste, general waste and hazardous waste. • Recovered builder's rubble & green waste may be stockpiled on the ground within the site camp, or in separate skips until removal. The waste must be disposed of at a registered waste disposal facility. The disposal receipts from the facility must be kept in the Environmental. • Ablution facilities, i.e. chemical toilets, must be kept within the site camp on a level surface, secured from blowing over. Chemical toilets must be regularly emptied, and the waste disposed of at an appropriate wastewater disposal/ treatment site by the Contractor or an appointed service provider. Maintenance receipts must be kept in the Environmental File. • A designated storage area within the site camp that is clearly demarcated must be set aside for the storage of hazardous substances and is to be treated as a no-go zone to unauthorised personnel. Appropriate signage, Material Safety Data Sheets (MSDSs), recently serviced fire extinguishers and spill kits must accompany the hazardous substances. • Drip trays must always be utilised when decanting hazardous substances and when refilling chemical/ fuel storage tanks. If any spills do occur, the solid must be excavated and disposed of as hazardous waste. • Hazardous waste must be disposed of at the Vissershok Waste Management Facility in Cape Town . • Cement is to be mixed on thick plastic sheets or in large buckets that are bunded. Any spillage must be cleaned up immediately. Cement water is also to be contained in the above manner and allowed to dry out and then disposed of as hazardous waste. Environmental File • An environmental file is to be created by the contractor and be situated within the site camp throughout the construction phase and with the applicant thereafter. The environmental file is to include the following ; • A copy of the Environmental Authorisation • A copy of General Authorisation or any other relative permits • A copy of the approved EMPr • Waste slips • Disposal slips or cleaning slips (ablution cleaning) • All EMR's (Environmental Monitoring Reports) and ECO instructions • Copies of Environmental Induction Register/S		

• A Complaints Register • Updated method statements • Any and all emergency procedure/s applicable to site activities • An Incident Register		
Performance Indicator	Appropriate, well organised, and properly equipped site facilities are available on site prior to commencement of construction activities. The location and set up of the facilities don't impact on the natural resources.	

10.3. OBJECTIVE 3: PRE-CONSTRUCTION ECO INSPECTION

It is essential that the appointed ECO be advised of the intended construction start date before construction activities commence on site, in order for the ECO to conduct an initial site inspection to assess the pre-commencement condition of the site. The ECO can also advise on the appropriate siting and demarcation of the site facilities. The ECO may also conduct the first round of environmental awareness training/inductions at this stage if the construction workers are present on site.

Impact Management Objective: ***Environmental Control Officer to Conduct An Inspection Prior To The Commencement Of Construction Activities On Site.***	
Potential impact to avoid	• Failure to appoint ECO or to notify ECO of commencement prior to commencement may result in non-compliance with the EA. • If a pre-commencement ECO inspection is not performed, the Construction Contractor may be held liable for environmental degradation that took place prior to the Contractor commencing work on site.
Impact Management Outcome	• Good environmental management is promoted and enforced by the ECO during the full pre-construction and construction phases. • Site facilities are appropriately located on site. • Construction workers receive environmental awareness training before commencing work on site. Construction workers are to be aware of the following information included below but not limited to: o All workers on site must be properly educated about possible emergency incidents that may arise, how to avoid such incidents and how to respond in the event of an incident. o All workers must ideally be given basic fire-awareness training, as well as be advised on basic firefighting and safety techniques.

	○ All workers must be trained on how to respond in the event of a spill of a hazardous substance (fuel, chemicals etc.). ○ Drivers of construction vehicles must be made aware of traffic laws and regulations prior to the commencement of construction work. ○ Construction workers must be made aware of "no-go" areas prior to construction. ○ Environmental Awareness should include training of good house-keeping, for the site camp and related site camp facilities to be kept neat and orderly at all times, in order to prevent potential safety risks

IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
• The appointed ECO must be advised of the construction start date before any activities commence on site so that the ECO can perform a pre-commencement inspection and plan for environmental awareness training of construction workers.	Contractor	Prior to commencement of construction works
Performance Indicator	A pre-commencement site inspection is conducted by the appointed ECO before construction activities commence on site.	

11. ENVIRONMENTAL IMPACT MANAGEMENT: CONSTRUCTION PHASE

A number of potential environmental impacts may arise during the construction phase of the development. These impacts have been identified and assessed during the Environmental Impact Assessment process. Environmental Management objectives and actions that will prevent the identified potential impacts from arising – or where avoidance is not possible, that will minimise and mitigate the impacts – are provided in this section.

The environmental management actions and mitigation measures prescribed in this section must be implemented throughout the construction phase and must be implemented in conjunction with the general management measures specified in Chapter 8 of this EMPr, as well as any other conditions which may be stated in the Environmental Authorisation, or any other relevant license/permit. The Environmental Control Officer must monitor and enforce the implementation of the relevant environmental management measures and may provide guidance on the implementation of these environmental management measures as and when required.

The environmental management objectives (goals) for the Construction phase are:

- Waste Management
- Earth Works And Excavations Have Little To No Impact On Operation Of Facility
- Legal Requirements are adhered to during construction
- Maintain Sense Of Place (Noise, Dust And Lifestyle) Traffic Safety
- Creation Of Multiple Job Opportunities & Capital Expenditure
- Prevent Vandalism And Maintain Safety
- Visual Impact Management Of Triggers
- Prevent Contamination Of Stormwater

The environmental management actions that must be implemented to achieve the desired objectives and avoid/minimise potential impacts. Potential impacts and mitigation measures are discussed in more detail in the sections below.

11.1. OBJECTIVE 1: WASTE MANAGEMENT

Impact Management Objective: ***To Ensure Waste Is Managed Appropriately, Without Creating Impacts On The Surrounding Environment, Or Creating Hazardous Conditions.***		
Potential impact(s) to avoid	• Contamination to stormwater and surrounding environment • Litter being improperly managed and dispersed on and around the site.	
Impact Management Outcome	The impact of waste generated during the construction of the proposed expansion is avoided or reduced.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
General • Practice good house-keeping, and plan set-up and programme of works ahead of time. • Be mindful of weather patterns that may interrupt work as well as shelter waste areas so as to not be dispersed in bad weather. • Ensure storage of material is done in an orderly fashion. • Contain disturbance to the transformed areas within the ERF. • No storm water runoff containing waste, or water containing waste emanating from construction activities may be discharged into the environment. • Polluted stormwater must be contained on the site and disposed of appropriately. • Development personnel, equipment and materials must be limited to the minimum practical working footprint.	Contractor	Construction phase

• Any accidental release of a hazardous substance during the construction phase of the proposed development, must be reported to the relevant authorities, including the Department of Environmental Affairs and Development Plannings Directorate: Pollution and Chemicals management, in terms of Section 30 of the NEMA. • Dedicated waste bins or skips must be provided on site and kept in a demarcated area on an impermeable surface. • Separate waste bins/skips must be provided for recyclable waste, general waste and hazardous waste. Recovered builder's rubble and green waste may be stockpiled on the ground within the site camp, or in separate skips until removal. • Waste must be placed in the appropriate waste bins/skips/stockpiles. • Skips/bins must be provided with secure lids or covering that will prevent scavenging and windblown waste or dust. • Waste bins/skips must be regularly emptied and must not be allowed to overflow. ▪ Ensure that waste receptacles are weighted down or have weighted covers, are labelled appropriately, and/or are cleaned by a reputable waste disposal company. ▪ Obtain a disposal/cleaning slip for this waste, to file in the Environmental File Specialist recommendation – Aquatic: • It is imperative that the proponent ensures that the operation of the proposed expansion activities does not generate any effluent or pollution that could impact on the Berg River. An emergency plan should be compiled to ensure a quick response in case of an accidental spill of hazardous materials associated with the storage facility (Section 13). Should such an accident occur, all possible steps must be taken to prevent the pollution of the Berg River during clean-up / repair, including eliminating improper discharges to the stormwater management infrastructure. The installation of a cut-off valve within the stormwater management system should such a spillage occur as proposed by the Nexus[AG] Operations Manager is highly recommended and supported by the freshwater ecologist; • All stormwater runoff generated in the study area must be managed in appropriate stormwater management structures and released in an appropriately attenuated manner. Regular inspection of the stormwater management infrastructure in the study area must be undertaken to ensure proper functioning thereof; • Based on pers. Comm. With the Nexus[AG] Operations Manager, Mrs Lizelle Schwarte, the municipal stormwater infrastructure releasing into the Berg River is currently blocked. Therefore, appropriate measures should be taken by the proponent to ensure that the municipality attends to the required stormwater		

management and repair duties, preferably prior to the commencement of the proposed expansion activities, to ensure that stormwater from the proposed expansion activities is appropriately managed and sufficiently accommodated; • Suitable dust management practices must be implemented for the duration of the construction phase to prevent dust deposition in the Berg River that could lead to sedimentation thereof; • No construction personnel may enter the Berg River or access the study area along the western boundary. Access to the study area must be limited to the existing access area along the eastern boundary; • All operational activities must be contained and managed within the existing footprint of the study area, and remain outside the 32 m NEMA ZoR; • General good housekeeping practices must be implemented during all phases of the proposed development, to ensure limited direct, indirect and cumulative impacts to the Berg River. Educating Labour • Workers appointed for construction must be instructed not to litter and to place all waste in the appropriate waste bins provided on site. • The Contractor must ensure that all workers on site are familiar with the correct waste disposal procedures to be followed. • Waste generated on site must be classified and managed in accordance with the National Environmental Management: Waste Act – Waste Classification and Management Regulations (GN No. 634 of August 2013). • Disposal of waste to landfill must be undertaken in accordance with the National Environmental Management: Waste Act – National Norms and Standard for the Assessment of Waste for Landfill Disposal (GN No. R. 635 of August 2013). • All waste, hazardous as well as general, resulting from the proposed activities must be disposed of appropriately as a licensed Waste Disposal Facility (WDF). Bigsix-profile Asbestos Sheeting: • According to the Bigsix Roofing Brochure, 2017, the asbestos roofing is stated to: ▪ Not contain asbestos fibre and are therefore excluded from the following: ➢ Asbestos Regulations of 2001, which forms part of the Act No. 85: Occupational Health and Safety		

➢ South African Code SANS 10229: Packaging of dangerous goods for road and rail transportation in South Africa. ▪ Nutec Bigsix sheets do not pose any adverse effects on the environment. Off-cuts and dust created during site work may be disposed of on any non-hazardous waste landfill site. ▪ The Asbestos roof sheeting will have to be removed, spoiled by an approved contractor and replaced, if solar panels installation should be considered. (approx. 900m^2 on B • It is necessary to be mindful of the following, given that the material is aged: ▪ Labour responsible for removing the asbestos roof sheeting and gutters should wear appropriate PPE, including masks. ▪ If necessary, appoint specialised removal company to remove the asbestos roof sheeting. ▪ Ensure the removed asbestos sheeting is disposed of in a skip/bin, which is controlled to prohibit wind dispersion etc, and is treated as hazardous waste. ▪ Dispose at an appropriately registered disposal facility. ▪ Obtain a disposal slip for record purposes. Pollution Management – Hydrocarbons (oil, fuel etc.) • While the site is transformed, any spills/leaks etc. has the potential to be washed into the existing stormwater network, leading to contamination. To ensure this is avoided the following is recommended: ▪ While the site is transformed, any spills/leaks etc. has the potential to be washed into existing stormwater network, leading to contamination. To ensure this is avoided the following is recommended: ➢ Vehicles and machinery must be in good working order and must be regularly inspected for leaks ➢ If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. The ECO has the authority to request that any vehicle or piece of equipment that is contaminating the environment be removed from the site until it has been satisfactorily repaired. ➢ Repairs to vehicles/machinery may take place on site, within a designated maintenance area where contamination cannot access the stormwater network. ▪ Drip trays must be utilised when: ➢ Refuelling ➢ During decanting of hazardous substances and when refilling chemical fuel storage tanks.		

➢ Generators are being utilised on site where there is risk of leakage/spillage ▪ Where feasible, fuel tanks must be elevated so that leaks are easily detected. ▪ A spill kit to neutralise/treat spills of fuel/oil/lubricants must be available on site, and workers must be educated on how to utilise the spill kit. ▪ Soil contaminated by hazardous substances must be excavated and disposed of as hazardous waste. Pollution Management – Ablution facilities • Utilise existing ablution facilities on site. • If this is not possible, provide the necessary chemical toilets on a level surface and secured from blowing over. ▪ Toilets must be located well outside of any stormwater drainage lines and may not be linked to the stormwater drainage system in anyway. ▪ Chemical toilets must be regularly emptied, by an appropriate service provider. Care must be taken to prevent spillages when moving or servicing chemical toilets. ▪ Toilet facilities must be supplied by the Contractor for the workers at a ratio of at least 1 toilet per 30 workers in areas approved by the ECO, separate toilets must be supplied as per gender. ▪ Temporary/ portable toilets must be secured to the ground to prevent them toppling due to wind or any other cause, to the satisfaction of the ECO. ▪ Discharge into the environment and burial of waste is strictly prohibited. The Contractor must ensure that no spillage occurs when the toilets are cleaned or emptied and that the contents are removed from the site, disposal/cleaning slips must be filed in the Environmental File, to ensure that these are available for review. ▪ Toilets should be emptied before the Contractors' holidays or any other temporary site closure. • No labour may be permitted to utilise any natural or disturbed area of the site ablution purposes. Pollution Management – Hazardous Substances • Any hazardous substances (materials, fuels, other chemicals etc.) that may be required on site must be stored according to the manufacturers' product-storage requirements, which may include a covered, waterproof bunded housing structure. • Material Safety Data Sheets (MSDSs) should be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs must additionally include information		

on ecological impacts and measures to minimise negative environmental impacts during accidental releases. • Utilize existing bunded areas on site for hazardous storage and refuelling areas. If none of the existing areas can be utilized, ensure that no spills are able to contaminate the stormwater network. Cements Batching • Cement batching and wastewater from such activities must not be permitted to wash into the stormwater network, bunding must be applied where necessary. • No natural area may be used for cement mixing. • Unused cement bags must be stored in such a way that they will be protected from rain. Empty cement bags must be disposed of in an appropriate waste bin, for other hazardous waste materials. • All excess concrete/ cement must be removed from site and disposed of at an appropriately registered disposal facility. Fire safety • Avoid stockpiling waste material on site for excessive timeframes. • No waste may be stored on site for more than 90-days. • No uncontrolled or unpermitted burning of waste is permitted. • If utilized, ensure that any flammable substances are stored according to industry standards. • Maintain fire hoses and extinguishers. • Erect fire safety signage, and warning signage to alert people that flammable items are stored in a certain area, etc. and to indicate where fire safety equipment (e.g. fire extinguishers) are located.		
Performance Indicator:	Waste impacts are significantly minimized and disposal is traceable.	

11.2. OBJECTIVE 2: EARTH WORKS AND EXCAVATIONS HAVE LITTLE TO NO IMPACT ON OPERATION OF FACILITY

Impact Management Objective: To Maintain Construction Related Nuisances Generated		
Potential impact(s) to avoid	• Construction activities that may lead to multiple nuisances e.g. noise, dust • Operation of facility will be interrupted as a result of construction activities.	
Impact Management Outcome	The construction activities of the proposed development will be reduced and little to no notable impacts occur.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measures	Responsible Party	Time period
Ensure the relevant conditions are accommodated for in the programme of works as per the existing, valid approvals, including, but not limited to: General: • The working area and site camp must be clearly demarcated during the pre-construction phase. • A construction programme must be drawn up before commencement on site, and the contractor must ensure that this is adhered to. • Phase construction activity so as to allow operational works to continue, in a controlled and organized manner. • Construction work must be well-planned and well-managed so that construction work proceeds quickly and efficiently, thus minimising the duration of disturbance. • Land clearing, earth-moving and construction activities must not take place during heavy rains, or windy conditions. Stockpiles: • Designated areas for stockpiling of raw materials must be identified before material is brought onto site. • Stockpiles of topsoil & spoil material must be protected from wind & water erosion. • Stockpiles of earth material may not be located within any storm-water drainage pathways. • Stockpiles must not be excessively high, particularly stockpiled sediment. • Ensure stockpiles are bunded, especially if positioned along fence line (if boundary wall isn't established).	Contractor/ Nexus[AG] (Pty) Ltd	Construction Phase

• Excess soil that is not planned for construction use, should be removed from the site, as soon as possible. Working Area: • Ensure the working area is demarcated to avoid access within areas that may create risk due to heavy machinery movement, or work on roof/infrastructure higher than ground level. • Ensure adequate signage is established to prohibit access into these areas. • Ensure construction teams is briefed on safety protocols. • Ensure visitors/office staff still utilizing the site, are well aware of safety protocols and areas to avoid. Fencing: • Ensure that all open excavations are demarcated during construction, so as to prohibit accidents. • Utilize netting or shade cloth. • Ensure this is maintained for duration of open excavation. • Ensure the existing dilapidated fence line is fixed and reinforced as planned, to prohibit dispersion off site, or access to fauna (i.e.. stray domestic animals, etc.). Soil Contamination: • Ensure that lubricants are stored appropriately, in a designated, bunded area. • No maintenance should be undertaken on site, due to risks related to soil contamination that can get washed to the adjacent property. As well as existing storage of hazardous goods. • Ensure vehicles and machinery are in good order, and where necessary have and use drip trays. • Emptying of lubricants from containers should be undertaken on bunded surfaces. Foundations: • Ensure geotechnical recommendations are considered and implemented: • Potential fluctuating water table at 2m depth. • Sidewall stability should be carefully monitored, and all safety precautions adhered to. • If possible, foundations and roads be designed to utilise the stiff material in the upper part of the profile.		

• Should foundations be constructed deeper than 0.4m it is recommended that a stiffened raft foundations be used since the material is loose and some settlement is expected. No bedrock was encountered in the profile to utilise for short piles. • Segmented paving bricks with a saw tooth shape be used and that a 25mm bedding layer be constructed after levelling of the area before placement of the bricks.		
Performance Indicator:	Construction related nuisances are avoided and no complaints are received.	

11.3. OBJECTIVE 3: LEGAL REQUIREMENTS ARE ADHERED TO DURING CONSTRUCTION

Impact Management Objective: ***To Adhere to the Legal Regulations and Standards During Construction***		
Potential impact(s) to avoid	• Non- compliance with regulations and standards.	
Impact Management Outcome	The construction activities are undertaken according to the regulations and standards.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
Construction activities are to be in line with SANS 10206: 2010, particular reference to, but not limit to, ***Floors and Spillage containment facilities:*** Floors shall be of concrete or of another material impervious to liquids and to the pesticides to be stored. Floors in storage areas shall be of sufficient load-bearing capacity to withstand the weight of stock, racking and any mechanical handling equipment to be used. ▪ Retention facilities shall be provided to contain any spills or firefighting water and to allow safe treatment prior to disposal. ▪ The kerb, sill or bund wall that forms the perimeter of the floor shall be at least 200 mm high and 110 mm wide. The floor and the bund wall shall be sealed, with ramps inclined to a gradient of 1:10 to allow for vehicle access.	Contractor	Construction phase

▪ Alternatively, a sump of capacity 10% of the total available storage volume can be constructed. To control contamination of water sources, sampling of the sump water shall be carried out before it is released. ▪ Provision for closing off existing drains shall be included to minimize the risk of contaminated water reaching natural water sources. The proposed development must comply with the above provided SANS 10206 Standards, but it must not be limited to the extractions of these standards alone, rather it must comply with the entirety of SANS 10206 where applicable.		
Performance Indicator	Construction activities are to be in line with the legal requirements. Impacts are avoided or minimised.	

11.4. OBJECTIVE 4: MAINTAIN SENSE OF PLACE (NOISE AND DUST)

***Impact Management Objective:* To Maintain The Sense Of Place Associated With The Surrounding Area, And Significantly Reduce Sense Of Place Impacts.**		
Potential impact(s) to avoid	• Noise generated during the undertaking of construction activities, creating a nuisance to surrounding community and negatively impact the Sense of Place. • Dust may cause a nuisance to the surrounding residents/landowners/occupiers. • General nuisances (dust, odour, noise etc.) may impact on the sense of place, although temporary in nature.	
Impact Management Outcome	The impact on the sense of place caused by the construction of the proposed development is significantly reduced and no notable impacts occur.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
Noise • A complaints register must be available on site. • Strict operating hours for heavy vehicles and construction activities must be implemented so as to avoid times of day when noise impacts are more likely to affect adjacent landowners, i.e.:	Contractor	Construction phase

construction activities, including the movement of vehicle must be limited to between 07h30 and 17h30. • Work on site must be well-planned and must proceed efficiently so as to limit the duration of the disturbance. • Vehicles and equipment must be kept in good working condition. If deemed necessary, machinery and equipment must be fitted with mufflers/ exhaust silencers. No unnecessary disturbances must be allowed to emanate from the construction site. • Workers must be educated on how to control noise-generating activities that have the potential to become disturbances, particularly over an extended period of time. • Noise levels must comply with the relevant health & safety regulations and SANS codes and must be monitored by the Health & Safety Officer as necessary and appropriate. • Affected parties must be informed of the excessive noise factors. • The noise management and monitoring measures prescribed in the EMPr must be adhered to. Dust • Stockpiles of material that may generate dust must be protected from wind erosion. • Mindfulness of weather events (significant windy conditions, storms etc) that may impact on the construction programme. • The location of stockpiles must take into account the prevailing wind direction and must be situated so as to have the least possible dust impact to surrounding residents, road-users and other land-users. • If dust appears to be a continuous problem the option of using shade cloth to cover open areas may be necessary or the erecting of shade netting above the fenced off areas may need to be explored. • All vehicles transporting sand need to have tarpaulins covering their loads which will assist in any windblown sand occurring off the trucks. • Work on site must be well-planned and must proceed efficiently so as to minimise the handling of dust generating material. • Material loads must be properly covered during transportation. • Dust levels specified in the National Dust Control Regulations (GN 827 of November 2013) may not be exceeded. • A Complaints Register must be available at the site office for inspection by the ECO of dust complaints that may have been received.		
Performance Indicator	Noise and dust levels on site remain within acceptable standards. No complaints are received.	

11.5. OBJECTIVE 5: TRAFFIC ACCESS, CONGESTION AND SAFETY.

Impact Management Objective: ***To Ensure Continued Commuting On The Roads During Construction.***		
Potential impact(s) to avoid	• The temporary disturbance to traffic in the area. • Congestion may occur on Distillery Street and the main access road, when delivery vehicles enter and exit site with materials. • Incidents occurring as a result of movement of vehicles on and off site. • Damage to the condition of the existing road network, however the access road is utilised by the surrounding commercial and industrial properties therefore the movement of trucks and machinery is not uncommon.	
Impact Management Outcome	The functioning of the surrounding road network remains efficient and no incidents occur.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
• Plan deliveries ahead of time, such as abnormal loads, to occur outside of peak traffic periods. • All construction vehicles must adhere to traffic laws when travelling to and from the site. The speed of construction vehicles must be strictly controlled to avoid dangerous conditions for other road users. As far as possible care should be taken to ensure that the local traffic flow patterns is not significantly disrupted. • All drivers and machinery operators must be sensitised to the fact that they are working in an area with a potentially high volume of foot and vehicle traffic and must exercise due caution when entering/ exiting the site. • Ensure that adjacent property owners and occupiers are able to access their properties at all times. • Adequate signage, that is both informative and cautionary to passing traffic (motorists and pedestrians), warning them of the construction activities must be suitably located in the area where the construction is occurring and must be easily visible by all road users. Signage needs to be clearly visible and needs to include, among others, the following: o Identifying working area as a construction site; o Cautioning against relevant construction activities;	Contractor	Construction phase

○ Prohibiting access to construction site; ○ Clearly specifying possible detour routes and/or delay periods; ○ Possible indications of time frames attached to the construction activities, and; ○ Details of responsible contractors and engineers are working on the site. • Speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. • Where possible, heavy machinery must be parked within a secure demarcated area within the footprint of the site instead of moving the machinery to and from the site each day. • Construction vehicles must adhere to the load carrying capacity of road surfaces and adhere to all other prescriptive regulations regarding the use of public roads by construction vehicles. • The Contractor must ensure that any large or abnormal loads (including hazardous materials) that must be transported to/ from the site are routed appropriately, and that appropriate safety precautions are taken during transport to prevent road accidents. • Where possible, construction traffic that may obstruct traffic flow on the surrounding roads must be scheduled for outside of peak traffic times. • If needed, appropriate traffic management measures and/ or points men (traffic marshals) must be utilized to assist vehicles entering/ exiting the site, particularly where vehicles must cross the path of oncoming traffic.		
Performance Indicator	• The surrounding road networks infrastructure remains in its current state. • Limited congestion and traffic.	

11.6. OBJECTIVE 6: CREATION OF MULTIPLE JOB OPPORTUNITIES AND CAPITAL EXPENDITURE.

Impact Management Objective: ***To Create Employment Opportunities With Potential For Skills Transfer, For Members Of The Local Community.***	
Potential impact(s) to be promoted.	• A number of temporary job opportunities will be created during the construction phase of the development. • Transfer of skills from more experienced workers to less experienced workers. • Local economy boosting, as local suppliers, and materials can be utilized.
Impact Management Outcome	Social benefits from the employment opportunities created during the construction phase.

IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
• Nexus[AG] (Pty) Ltd is encouraged to utilize local construction companies in the area, specifically SMME's owned and run by HDI's (Historically Disadvantaged Individuals) and local individuals, when appointing a contractor. • The applicant is recommended to source local materials and suppliers. • Nexus[AG] (Pty) Ltd in consultation with the appointed contractor/s must seek to ensure that a percentage of the labour required for the construction phase is sourced from local area to maximize opportunities for members from the local HD communities.	Nexus[AG] (Pty) Ltd / Contractor	Construction phase
Performance Indicator	The majority of the construction team is from the local community, with preference given to historically disadvantaged individuals. Skills transfer from experienced to less experienced workers is actively encouraged on site.	

11.7. OBJECTIVE 7: PREVENT VANDALISM AND MAINTAIN SITE SAFETY

Impact Management Objective: ***To Prevent Incidents That May Create Harm To The Employees, Infrastructure Or Surrounding Environment.***	
Potential impact(s) to avoid	• Materials positioned on site overnight may attract people with nefarious intentions. • Opportunities for criminal activities. • Increased fire risk. • Damage to or loss of resources
Impact Management Outcome	The development remains unvandalized and safe. The risk of the development posing a fire hazard is reduced.

IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
General • A register must be kept if all vehicles and personnel entering the site.	Contractor	Construction phase

• Erect signage detailing prohibited activities. • Appoint security overnight, this would contribute to job creation. • Ensure the fence is maintained, any detection of vandalism should be reported immediately. • The security should have the contact information for emergency services, and enforcement, as well as the means to report any suspicious activities. • Where possible, heavy machinery must be parked within a secure demarcated area within the footprint of the site instead of moving the machinery to and from the site each day. • At night the materials should be covered/obstructed from view. Fire safety • If utilized, ensure that gas or any flammable substances are stored according to industry standards. • Maintain fire hoses and extinguishers. • Ensure fire safety equipment is easily accessible and in close proximity to storage areas. • Any persons working with flammable materials should be monitored. • Erect fire safety signage, and warning signage to alert labour that flammable items are stored in a certain area, etc. and to indicate where fire safety equipment (e.g. fire extinguishers) are located.		
Performance Indicator	• Good "housekeeping" is evident on site. • The site does not pose a safety impact to surrounding community. • No damage to or loss of resources.	

11.8. OBJECTIVE 8: VISUAL IMPACT MANAGEMENT.

Impact Management Objective: ***To Prevent The Site From Presenting An Unnecessary Visual Impact To The Surrounding Public.***		
Potential impact(s) to avoid	• Temporary loss of the sense of place due to the construction disturbances • Visual impacts may occur as a result of the planned excavation activities, during construction.	
Impact Management Outcome	The impact on the sense of place caused by the construction of the proposed development is significantly reduced and no notable impacts occur.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measure	Responsible Party	Time Period
• Consult with the ECO when determining the appropriate location for the site camp. • The site camp must be kept neat and tidy and free of litter at all times. • Waste must be managed according to this EMPr and the mitigation measures listed above in terms of waste management. Good housekeeping practices on site must be maintained to ensure the site is kept neat and tidy. • The site camp, toilets (if using chemical toilets) storage facilities, stockpiles, waste bins, and any other temporary structures on site must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. • Work on site must be well-planned and well-managed so that work proceeds quickly and efficiently, thus minimizing the disturbance time. • Visual screening via shade cloth or other suitable material, must be established as soon as possible, until permanent wall can be established. • Special attention must be given to the screening of highly reflective material. • Use of lighting (if required) must take into account surrounding residents and land users and must present little or no nuisance. Downward facing, spill-off type lighting is recommended. • Construction vehicles must enter and leave the site during working hours.	Contractor	Construction phase
Performance Indicator	• Good "housekeeping" is evident on site. • The site does not pose a visual impact to surrounding community.	

11.9. OBJECTIVE 9: CONTAMINATION OF STORMWATER

***Impact Management Objective:* Prevent Contamination of Stormwater**		
Potential impact(s) to avoid	• Contaminated wastewater or waste from construction activities that is able to be washed into the stormwater infrastructure and washed into the Berg River. • Contamination to stormwater.	
Impact Management Outcome	The construction activities do not result in contamination of stormwater or being washed into the Berg River.	
IMPACT MANAGEMENT ACTIONS		
Mitigation measure	Responsible Party	Time Period
General • Ensure all areas that contain hazardous liquids/fuel/lubricants are bunded. • Ensure that all cement mixing occurs in bunded areas. • Ensure all hazardous activities are kept away from stormwater drainage. • Ensure all stockpiles are situated away from drainage areas and are bunded so as to avoid wash into the current drains as a result of bad weather conditions. • Construction personnel, equipment and materials must be limited to the relevant ERF. • Construction work must be well-planned and well-managed so that construction work proceeds quickly and efficiently, thus minimising the duration of disturbance. • Construction must be avoided during rainy days, to prevent excessive turbidity. Specialist recommendation – Aquatic: • It is imperative that the proponent ensures that the operation of the proposed expansion activities does not generate any effluent or pollution that could impact on the Berg River. An emergency plan should be compiled to ensure a quick response in case of an accidental spill of hazardous materials associated with the storage facility (Section 13). Should such an accident occur, all possible steps must be taken to prevent the pollution of the Berg River during clean-up / repair, including eliminating improper discharges to the stormwater management infrastructure. The installation of a cut-off valve within the stormwater management system should such a spillage occur as proposed by the Nexus[AG] Operations Manager is highly recommended and supported by the freshwater ecologist; • All stormwater runoff generated in the study area must be managed in appropriate stormwater management structures and released in an appropriately attenuated manner. Regular inspection	Contractor	Construction period

of the stormwater management infrastructure in the study area must be undertaken to ensure proper functioning thereof; • Based on pers. comm. with the Nexus[AG] Operations Manager, Mrs Lizelle Schwarte, the municipal stormwater infrastructure releasing into the Berg River is currently blocked. Therefore, appropriate measures should be taken by the proponent to ensure that the municipality attends to the required stormwater management and repair duties, preferably prior to the commencement of the proposed expansion activities, to ensure that stormwater from the proposed expansion activities is appropriately managed and sufficiently accommodated; • Suitable dust management practices must be implemented for the duration of the construction phase to prevent dust deposition in the Berg River that could lead to sedimentation thereof; • No construction personnel may enter the Berg River or access the study area along the western boundary. Access to the study area must be limited to the existing access area along the eastern boundary; • All operational activities must be contained and managed within the existing footprint of the study area, and remain outside the 32 m NEMA ZoR; • General good housekeeping practices must be implemented during all phases of the proposed development, to ensure limited direct, indirect and cumulative impacts to the Berg River. Stormwater Control • Appropriate stormwater measures must be implemented. • Adequate erosion control measures must be implemented as per the EMPr to minimise sediment containing run-off from entering the river system. Hazardous Wastes • Fuels and potentials pollutants must be stored and managed strictly as per the respective Materials Safety Data Sheets. • Hazardous storage and refuelling areas must be bunded with an impermeable liner to protect groundwater quality. The bunding shall be capable of handling a volume 150% the volume of the container storing the substance. The Contractor shall submit a method statement to the Engineer for approval. • Vehicles must be inspected in a daily basis to check for leaks. • Adequate hazmat spillage cleaning kits must be readily available in the event of oil and hydraulic spills.		

• Vehicle repair must be undertaken off site, on an impermeable surface. • Waste should be collected and disposed of at a registered site. Ensure any runoff is restricted from accessing any natural areas. • Hazardous waste is to be disposed of at the Visserhok Waste Management Facility in the Cape Town Metropole. • Contaminated soil must be removed for disposal at an appropriately licensed hazardous disposal site, disposal slips must be obtained as proof. • Storage areas containing hazardous substance / materials must be clearly labelled, using appropriate signage and signboards. Ablution Facilities • Utilize existing ablution facilities for as long as possible. • If chemical toilets are intended to be used: - All equipment and materials storage areas must (if practical, reasonable, and feasible) be away from any drainage areas and away from the existing fence line. The appointed ECO must be consulted in this regard. - The Contractor must provide the necessary ablution facilities for all personnel prior to the commencement of work and must ensure that his personnel make use of the facilities. - Toilet facilities must be supplied by the Contractor for the workers at a ratio of at least 1 toilet per 30 workers in areas approved by the ECO, separate toilets must be supplied as per gender. - The facilities must be maintained in a hygienic state and serviced regularly. Toilet paper shall be provided. - Temporary/ portable toilets must be secured to the ground to prevent them toppling due to wind or any other cause, to the satisfaction of the ECO. - Discharge into the environment and burial of waste is strictly prohibited. The Contractor must ensure that no spillage occurs when the toilets are cleaned or emptied and that the contents are removed from the site, disposal/cleaning slips must be filed in the Environmental File, to ensure that these are available for review. - Toilets shall be emptied before the Contractors' holidays or any other temporary site closure.		
Performance Indicator:	• Construction activities do not result in contamination of stormwater or the Berg River.	

12. ENVIRONMENTAL IMPACT MANAGEMENT: POST CONSTRUCTION PHASE & OPERATIONAL PHASE

After all construction activities have ceased, the sites must be cleared of all construction related equipment, materials, facilities and waste. In addition, all disturbed surfaces – including disturbed areas around the structures and all areas utilised for site facilities – must be stabilised, rehabilitated and provided with a suitable cover. All temporary access roads constructed must be rehabilitated and access must be restricted from the public.

The environmental management objectives (goals) for this phase are:

- Rehabilitate Disturbed Areas And Manage Stormwater
- Reduce Traffic Impact.
- Creation Of Business And Employment Opportunities.
- Local Economic Revenue.
- Legislation And Policy Compliance
- Safety Due To Storage And Use Of Hazardous Material
- Legislation requirements of the South African National Standards for Agricultural Remedies Regulations
- Operate Facility At Optimal Efficiency – Health And Safety
- Maintain Sense Of Place.
- Remain Fire Wise.

12.1. OBJECTIVE 1: REHABILITATE DISTURBED ACCESS AREAS AND MANAGE STORMWATER

Impact Management Objective: ***If Applicable, To Rehabilitate All External Areas (Access) Disturbed By Construction Activities In An Environmentally Sensitive Manner.***	
Potential impact(s) to avoid	• Unintended disturbance of the surrounding environment as the whole site is proposed to be developed over the span of three phases. • Failure to remove all construction related waste and materials may result in environmental pollution. • Contamination may occur from leaks/spills of any chemicals used on site. • Long lasting disturbance to the surrounding environment.

Impact Management Outcome	• The site is developed, as proposed, and the surrounding environment does not show signs of disturbance, as a result of the construction activity, all exposed surfaces are suitably covered/ stabilised in line with the proposal or restored to its original state. • There is no construction-related waste or pollution remaining on site or surrounding the site. • There is no contamination to the stormwater.

IMPACT MANAGEMENT ACTIONS

Mitigation measure	Responsible party	Time period
• On completion of the construction operations for each phase, if the site camp is intended to be moved, the site camp area must be cleared of all site camp facilities, ablution facilities, fencing, signage, waste and surplus material, unless in consultation with the ECO, it is agreed that construction of the next phase is scheduled to commence and that the same site-camp will be utilised. • Surfaces are to be checked for waste products from activities such as concreting or asphalting and cleared in a manner approved by the ECO. • Any contaminated soil must be collected and disposed of as hazardous waste, with the disposal receipt filed in the Environmental File. • All construction waste, litter and rubble are to be removed from the site and re-used elsewhere, or recycled/disposed of at an appropriate facility, with the disposal receipt filed in the Environmental File. • Burying or burning of waste or rubble on site is prohibited. Stormwater Management • Repair and connect rain water down pipes, via gulley grid inlets to existing SW system to dissipate storm water effectively. • Ensure water tanks are integrated into final design, to attenuate rainfall runoff. • Ensure all stormwater infrastructure is maintained. • Ensure a stormwater management plan is adopted in the final design. • Ensure good house-keeping practices. • Ensure that all water runoff is controlled and the stormwater management plan designed, approved and implemented. • Ensure that all chemicals/liquid fuels are decanted within bunded, transformed areas and cannot be dispersed beyond this area.	Contractor	Construction phase and operational phase

• All bunded areas must be monitored on a regular basis for cracks or leaks. • Stormwater pipes/channels must be regularly inspected on site. This includes the regular inspection of all stormwater outlet pipes and open channels from buildings and carparks that are generating the run-off from the site. • Maintain water tanks ensuring that there is no build-up of debris inside the tanks. The outlet from these tanks must be regularly inspected ensuring they are clean and not blocked allowing the tanks to drain freely without restrictions. Specialist recommendation – Aquatic: • It is imperative that the proponent ensures that the operation of the proposed expansion activities does not generate any effluent or pollution that could impact on the Berg River. An emergency plan should be compiled to ensure a quick response in case of an accidental spill of hazardous materials associated with the storage facility (Section 13). Should such an accident occur, all possible steps must be taken to prevent the pollution of the Berg River during clean-up / repair, including eliminating improper discharges to the stormwater management infrastructure. The installation of a cut-off valve within the stormwater management system should such a spillage occur as proposed by the Nexus[AG] Operations Manager is highly recommended and supported by the freshwater ecologist; • All stormwater runoff generated in the study area must be managed in appropriate stormwater management structures and released in an appropriately attenuated manner. Regular inspection of the stormwater management infrastructure in the study area must be undertaken to ensure proper functioning thereof; • Based on pers. comm. with the Nexus[AG] Operations Manager, Mrs Lizelle Schwarte, the municipal stormwater infrastructure releasing into the Berg River is currently blocked. Therefore, appropriate measures should be taken by the proponent to ensure that the municipality attends to the required stormwater management and repair duties, preferably prior to the commencement of the proposed expansion activities, to ensure that stormwater from the proposed expansion activities is appropriately managed and sufficiently accommodated; • All operational activities must be contained and managed within the existing footprint of the study area, and remain outside the 32 m NEMA ZoR; • General good housekeeping practices must be implemented during all phases of the proposed development, to ensure limited direct, indirect and cumulative impacts to the Berg River		

Performance Indicator	• All construction-related materials, equipment, facilities, waste and contaminated soils have been removed from the site. • All disturbed/exposed surfaces have been provided with a suitable covering and/or stabilised. • Stormwater contamination is avoided.

12.2. OBJECTIVE 2: LOCAL ECONOMIC REVENUE, AND CREATION OF BUSINESS AND EMPLOYMENT OPPORTUNITIES.

Impact Management Objective: ***Increased Economic Revenue For Local Businesses And Industries And Creation Of Business And Employment Opportunities.***		
Potential impact(s) to be promoted.	• Increase in local economic revenue. • Decreased unemployment levels. • Existing jobs to be retained and new jobs will be created.	
Impact Management Outcome	• Creation of business and employment opportunities.	
IMPACT MANAGEMENT ACTIONS		
Enhancement measures	Responsible party	Time period
• Positive impact, therefore, to further enhance this impact, the developer is encouraged to source local labour. • Utilize local suppliers for any maintenance required, that cannot be undertaken in-house. • The process of appointment must not discriminate against any person based on gender or race.	Nexus[AG] (Pty) Ltd	Operational phase
Performance Indicator	• Utilization of local businesses and suppliers. • Increase in employment of local employees from the surrounding communities. • Opportunities of earning wages to contribute to improved quality of life.	

12.3. OBJECTIVE 3: LEGISLATION AND POLICY COMPLIANCE

***Impact Management Objective*: Adhere To Relevant Permits And Licenses To Avoid Non-Compliances, Penalties, And Closure Of Activities**		
Potential impact(s) to be promoted	• Non-compliance may lead to financial penalties and closure of activities	
Impact Management Outcome	Compliance with legislation and policy.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measures:	Responsible Party	Time Period
• During the operational phase the proponent must ensure that operation of the facility is compliant with the relevant legislation and policy, including national, provincial and local legislation, policies and by-laws. • Ensure that an appropriate waste management plan is compiled and adopted. • Amend any license or permits prior to expiry if still applicable to activities on site. Ensure the relevant conditions are accommodated for in the programme of works as per the existing, valid approvals, including, but not limited to: - Drakenstein Local Municipalities Notice of Approval of Building Plan: Erf - 19134 - Paarl – 1107310, dated 15th September 2021.	Nexus[AG] (Pty) Ltd	Operational phase
Performance Indicator:	Compliance of legislation and policy.	

12.4. OBJECTIVE 4: SAFETY DUE TO STORAGE AND USE OF HAZARDOUS MATERIAL

***Impact Management Objective:* Safety Of Storage And Use Of Hazardous Materials To Avoid Incidents Causing Health And Safety Risks**		
Potential impact(s) to be promoted	• The mishandling or incorrect storage of hazardous material can lead to incidents which can cause health risks to personnel on and around site, as well as to infrastructure on or adjacent to the site. • Explosions leading to damage to infrastructure, loss of life and environmental impacts.	
Impact Management Outcome	Health and safety of personnel and infrastructure.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measures:	Responsible Party	Time Period

General • Ensure all relevant permits/licenses required for storage and handling of dangerous goods/gas are obtained. • Ensure designated storage area is secure, well-ventilated and free of any fire risks. • Ensure storage tanks and connections are checked on a daily basis. • Ensure that safety plans are drafted and available to all employees. • Ensure designated areas are acceptable as per all relevant legislative requirements. Educating Labour • Ensure health and safety personnel are available on site. • Ensure the relevant personnel are fully aware and trained on the following: o Offloading, management, and storage of hazardous goods. o Chemicals managed and stored in line with the relevant MSDS's. o Emergency plans, including fire safety. o Conditions required to comply with relevant permits/licenses required for storage and handling of dangerous goods. o Evidence of incidents/contamination. o Ensure employees are aware of appropriate PPE. o Ensure employees are fully aware of the standard reporting procedure should any incidents/complaints arise. Waste Management • Situate spill kits at delivery/loading points. • Ensure relevant safety emergency/safety plans are in place and all permanent personnel are fully aware of these plans. • The emergency preparedness and response plan must be made known to all relevant personnel in the event that any vehicle accidentally spills hazardous waste. • Any transport accidents that may result in leaks or spills of hazardous waste from the vehicles will require: o Emergency action to contain the spill material; and o Immediate steps must be taken to clear any materials that could drain toward te drainage areas on site or that are causing traffic congestion and delays.	Nexus[AG] (Pty) Ltd	Operational phase

• All vehicles transporting hazardous material must be equipped with a spill kit to contain and remediate any spillages which may occur.
• A designated waste storage area must be allocated. This area must have the following characteristics:
  o Be enclosed and shielded from wind/rain.
  o Must be located on an impermeable surface located away from any drainage areas.
  o Must have a spill kit in close proximity of this storage area.
  o The storage area must have a combined volume that amounts to 110% of the volume of the storage tanks within the storage area.
  o All skips/bins must be labelled appropriately, eg: skips/bins containing hazardous waste must be labelled "hazardous waste".
  o All storage areas must be equipped a fire hydrant in the event of emergencies.
  o Dispose of the various waste types at appropriately registered waste disposal sites. Hazardous waste is to be disposed of at the Visserhoek Waste Management Facility in the Cape Town Metropole.
 	
Fire Safety
• Ensure fire-fighting equipment is readily accessible, functioning, and in close proximity to storage areas.
• Ensure emergency numbers are visible, with a working landline/phone to utilize.
• Ensure all infrastructure is operating as per manufacturer specifications.
 	
Storage Method
• Ensure chemicals that need to be stored separately are done so.
• Ensure all bunding is in place within the storage areas, and access for forklifts etc, are well designed and constructed to avoid any incidents.
• Comply with SANS 10206: 2020 for storage design.
• Ensure staff is well trained on storage and handling of goods, in line with requirements by manufacturers.
• Ensure forklift drivers are well-trained and certified. Ensure machinery is maintained periodically.
• Ensure emergency plans are clear and staff is fully briefed on requirements.
• Ensure storage is implemented and maintained as per manufacturers requirements.		

Legal Requirements • Nexus[AG] Pty (Ltd) must ensure compliance with all applicable legislation including, but not limited to: - Regulations Under the Hazardous Substances Act (Act 15 Of 1973), As Amended 1997, where applicable, this may include: ➢ Section 4 provides **conditions of sale or supply of hazardous substances**; ➢ Subject to subregulation (5A), no person shall sell any Group I hazardous substance except in a container which is securely closed, free from leaks and of sufficient strength to withstand rough usage and preclude any loss of the contents. ➢ Sections 5 and 6 provides the requirements for record keeping. • Potential registration as a wholesale distributor of Group 1 Hazardous Substances on the form provided in Annexure A of the Act. • In terms of the Regulations Under the Hazardous Substances Act (Act 15 of 1973), as amended 1997, the proponent is required to comply with the most updated Declaration of Group 1 hazardous substances.		
Performance Indicator:	The correct handling or storage of hazardous material to ensure that there are no health and/or safety risks to personnel or infrastructure.	

12.5. OBJECTIVE 5: LEGISLATION REQUIREMENTS OF THE SOUTH AFRICAN NATIONAL STANDARDS FOR AGRICULTURAL REMEDIES REGULATIONS

***Impact Management Objective:* Operations Of Facility Is In Line With The Standards For Agricultural Remedies Regulations (GN R. 935 Of 2006)**		
Potential impact(s) to be promoted	• Non-compliance with applicable standards and regulations	
Impact Management Outcome	Optimal efficiency of operations.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measures:	**Responsible Party**	**Time Period**
• Comply with all relevant and applicable legislation pertaining to The Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act 36 of 1947), as amended 1996, this includes: - Agricultural Remedies Regulations (GN R. 935 of 2006) o Point 21(1) Any person in control of an establishment selling, supplying or making available group I agricultural remedies, must be licensed in terms of the regulations promulgated in	**Nexus[AG] Pty (Ltd)**	**Operations**

terms of the Hazardous Substances Act, 1973 (Act No. 15 of 1973), comply with the conditions of sale or supply of Group I hazardous substances and keep such records as required. o Point 22. All handling, storage and disposal requirements of the South African National Standards must be complied with. • The proponent must ensure compliance with point 21(1) and 22 as mentioned above.		
Performance Indicator:	Management of optimally efficient operations in accordance with standards and regulations.	

12.6. OBJECTIVE 6: OPERATE FACILITY AT OPTIMAL EFFIECIENCY – HEALTH AND SAFETY

Impact Management Objective: ***Operations Of Facility Are At An Optimal Efficiency And Consider Health And Safety Of Operations.***		
Potential impact(s) to be promoted	• Mismanagement may lead to incidents on site, leading to infrastructure and/or health and safety, as products can be flammable or even toxic. • Contamination of surrounding environment.	
Impact Management Outcome	Optimal efficiency of operations.	
IMPACT MANAGEMENT ACTIONS		
Mitigation Measures:	**Responsible Party**	**Time Period**
General • Ensure compliance with relevant legislation, including but not limited to: - Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), GNR 732, Regulations Regarding Fertilizers. 10th September 2012. - Warehouse Management must comply with SANS 10206. ➢ The general principles to be applied in product separation and segregation shall be based on a detailed knowledge of the properties of, and the hazards associated with, the pesticides to be stored. SANS 10304-1 classifications and SDS information are of vital importance in this regard. In general: ➢ a) flammable pesticides will greatly increase the risk of a toxicant fire if stored in the same area as toxic pesticides. If non-toxic themselves, flammable pesticides will normally not contaminate firefighting water; and ➢ b) flammable non-toxic pesticides and non-flammable pesticides shall be separated from flammable pesticides and aerosols. Flammable pesticides shall be segregated from oxidizing substances and corrosives.	**Nexus[AG] Pty (Ltd)**	**Operations**

• Ensure forklifts are not stored in the same area as stored hazardous goods. Ensure a separate area is designated for forklifts and other relevant machinery. This area should have the following characteristics: - Should be inaccessible to unauthorized personnel. - Should contain signage prohibiting relevant activities. - Area should be covered to protect machinery from bad weather. • Prohibit smoking and the consumption of food and drink in a warehouse. • Establish suitable signage in compliance with storage areas. • A separate eating-place(s) should be available on the premises, with appropriate waste bins, etc. • Appropriate PPE should be made available to all personnel who are responsible for handling of hazardous goods. This PPE must be regularly inspected to ensure it is in good working order. • All storage areas must be kept in an orderly and clean manner and shall be duly registered under the Occupational Health and Safety Act, Act No. 85 of 1993. Waste management • Ensure area designated for waste complies with the recommended integrated waste management system. This includes but is not limited to: - Designate wate storage area. - Designate specific bins for specific waste types. - Ensure recycling/reuse techniques are implemented prior to disposal. - Disposal should be to an appropriately registered facility for the specific waste type. • Reduce the use of non-recyclable packaging material. Functioning of Offices • Adopt green options where possible, to improve efficiency and carbon footprint, for example: – Utilize recycled/biodegradable products or go paperless. – Print double-sided. – Turn off all computers remain in the building at night. – Implement waste walks. – Centralize waste disposal receptacles in offices. – Ensure energy efficient materials and techniques are employed in the construction of offices.		
Performance Indicator:	Management of optimally efficient operations. Health and safety of operations.	

13. EMERGENCY PREPAREDNESS

13.1. Emergency Response Procedures

The potential environmental risks that may arise as a result of construction activities, or during the maintenance of the structures must be identified, and appropriate emergency response procedures must be compiled for each emergency scenario. Potential environmental emergencies that require an emergency response include, but are not limited to, unplanned fires, sewage spills, spills of hazardous chemicals, snake bites etc.

- The construction contractor is responsible for identifying potential significant environmental risks that may arise as a result of pre-construction, construction and rehabilitation activities, and the contractor must formulate emergency response procedures for these potential incidents.
- The ECO, the contractor and the Holder are responsible for ensuring that all construction workers are aware of the emergency procedures and are properly trained on how to identify and respond to an emergency incident during construction.
- An emergency procedure must clearly indicate who will take charge during an emergency, and the roles and responsibilities of workers and authorities during an emergency.
- The construction contractor is responsible for ensuring that the requirements of the Occupational Health & Safety Act (OHSA) (Act 85 of 1993) are adhered to during the construction phase. The Holder is responsible for ensuring compliance with the OHSA during the undertaking of maintenance activities.

13.2. Emergency preparedness

The following measures must be implemented, as appropriate, to ensure effective responses to emergencies:

- All workers on site during the construction and operational phase must be properly educated about possible emergency incidents that may arise, how to avoid such incidents and how to respond in the event of an incident. "Refresher" training sessions on emergency procedures must be held if needed.
- All workers must ideally be given basic fire-awareness training, as well as be advised on basic firefighting and safety techniques. Fire-fighting equipment must be available on-site during construction and maintenance activities (Section 8.3.2).
- All workers must be trained on how to respond in the event of a spill of a hazardous substance (fuel, chemicals etc.), if hazardous substances are to be used on site.
- An emergency plan should be compiled to ensure a quick response in the event of an accidental spill of hazardous materials.
- A spill kit for containing and/or neutralising spills of hazardous substances (e.g. hydrocarbons) must be available on site at all times, when hazardous substances are present.
- Any incidents of pollution or spillage of hazardous materials during construction must be reported to the ECO as soon as possible. The ECO must then (depending on the nature of the spill) notify the relevant authorities, if needed. During the operational phase of the development, the EA

Holder is responsible for notifying the relevant authorities of any pollution incidents that arise as a result of maintenance activities.
- A first aid kit must be available on site at all times.
- Emergency contact numbers (including the fire department, police and ambulance) must be prominently displayed on site at all times and regularly updated.
- All emergency incidents must be recorded in a site incident log. The cause of the incident, the measures taken in response to the incident and the efficacy of those measures must also be recorded. This information must be used to inform future emergency preparedness planning, and to avoid prevent similar incidents from arising again.

14. METHOD STATEMENTS

The Competent Authority and/or the ECO may require the Holder or Construction Contractor to submit Method Statements for one or more construction-related activity, or any aspect of the management of the site, before the activity is undertaken or during the performance of the activity, if the activity is causing or may cause significant environmental damage or pose a health and safety risk.

Method Statements need not be complex and lengthy, but must clearly state **how**, **when** and **where** the activity concerned will be undertaken, and must specify **who** will be responsible for undertaking each component of that activity. Method Statements must be prepared by the Construction Contractor and submitted to the ECO for approval before undertaking the activity concerned.

The ECO and / or Competent Authority have the authority to request method statements for activities, including but not limited to:

- Establishment of site camp and stockpile area.
- Cement/ concrete batching, disposal and emergency contingencies.
- Storage of fuels and hazardous chemicals and emergency contingencies.
- Waste management system.
- Storm water management and control.
- Fire Control & Fire Emergency Plan.
- Emergency preparedness plan / emergency response procedure (see Chapter 14).

The ECO has the authority to prevent activities from being undertaken until such time as a satisfactory Method Statement has been submitted to the ECO and approved by the ECO.

15. ROLES AND RESPONSIBILITIES

This EMPr, once approved by the competent authority (DEA&DP), must be seen as binding to the Holder, and any person acting on the Holder's behalf, including but not limited to agents, employees, associates, contractors and service providers.

The Holder and all other persons who may be directly involved in the development are also bound by their general Duty of Care, as stated in Section 28 of the National Environmental Management Act, 1998:

> ***Duty of Care:***
> *"Every person who causes, has caused, or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm cannot reasonably be avoided or stopped, to minimize and rectify such pollution or degradation of the environment"*

15.1. Duties and Responsibilities of the Holder

The Holder is ultimately responsible for ensuring that the environmental management measures specified in this EMPr, as well as any other conditions specified by the competent authority, are implemented and adhered to during the construction and operational phase (maintenance activities) of the proposed development.

The Holder or delegated party is responsible for monitoring and maintenance during the operational phase. The Holder must ensure that all appointed service providers, contractors and maintenance workers are capable of complying with all statutory requirements of this EMPr and the conditions of the Environmental Authorisation. The Holder is responsible for ensuring that this EMPr and the conditions of the Environmental Authorisation are implemented and adhered to during construction.

The Holder or appointed consultant is responsible for identifying emergency situations that may arise during operational and maintenance activities and must formulate appropriate emergency response procedures for these emergency scenarios.

15.2. Duties and Responsibilities of the Engineer

The appointed engineer is responsible for:

- Ensuring that the approved EMPr, the Environmental Authorisation and any other relevant licence conditions are integrated into any tender or contract documents supplied to contractors and sub-contractors.

Ensuring that sufficient financial and time provisions are made within the bill of quantities (or equivalent) and construction programme to accommodate the measures outlined within the approved EMPr, the Environmental Authorisation and any other relevant licences.

15.3. Duties and Responsibilities of the Contractor

The "Construction Contractor" is the entity responsible for undertaking the physical construction of the development. The construction contractor is responsible for:

- Ensuring that all environmental management measures and conditions specified in this EMPr, the EA and any other relevant licences/permits, are implemented during the pre-construction, construction and post-construction rehabilitation phases, unless agreed otherwise with the Holder.
- The contractor must ensure that all costs related to environmental compliance with the approved EMPr, EA and other relevant permits or licenses are covered by their BOQ and arrangements have been made prior to commencement of activities.

- The contractor is responsible for all costs incurred as a result of non-compliances of implementation of the activities on site, and the related mitigation activities that will be required for this mitigation.

It is strongly recommended that the Construction Contractor appoint an Environmental Site Officer (ESO), who will act as the Contractor's representative to monitor and enforce compliance with the conditions of this EMPr, throughout all phases of construction.

In addition to the above, the Construction Contractor is responsible for the following:

- Identify emergency situations that may arise as a result of construction activities and formulate appropriate emergency response procedures.
- Ensure that all construction workers, including sub-consultants and service providers, undergo environmental awareness training prior to commencing work on site, or as soon as possible thereafter.
- Compile the required method statements, which must be to the satisfaction of the ECO, before commencing with the activity to be governed by the method statement.
- Respond to concerns or issues identified by the ECO, as relates to environmental management, and implement the appropriate management or remediation measures, at the Contractor's own expense (unless agreed otherwise)
- Should third parties be called to the site to perform clean-up/rehabilitation as a result of non-compliances, the Construction Contractor will be responsible for all associated costs.

The Holder of the Environmental Authorisation can hand over the responsibility and liability to the appointed Contractor, in writing, for the implementation of this EMPr and the conditions of the EA for construction related activities. Therefore, the Contractor should note that failure to comply with the requirements and conditions of this EMPr and the EA may result in fines or other penalties being levied against the Construction Contractor.

15.4. Duties and Responsibilities of the ECO

The appointed Environmental Control Officer (ECO) is responsible for undertaking regular site visits (as advised in the Environmental Authorisation), to monitor and report on the implementation of this EMPr and adherence to the conditions of the Environmental Authorisation during the pre-construction, construction and post-construction rehabilitation phases. The ECO is not required to monitor the site during the operational (maintenance) phase of the development.

15.4.1. Competency of the ECO

The ECO must be independent of the Environmental Auditor, Holder, Engineer, Construction Contractor and their service providers. The appointed ECO must be suitably qualified and experienced and must be able to demonstrate that he / she is of sufficient competency to undertake the required task. The ECO must preferably be a resident in close proximity to the development area to ensure quick response if required. The ECO must work in close co-operation with the Construction Contractor, resident engineer or EO (where applicable) and all contractors in order to identify potential problems before they occur and ensure that this EMPr is still implementable, as is. If changes are required, the ECO is to escalate this to the Environmental Auditor.

15.4.2. Duties of the ECO

The duties of the ECO include, but are not limited to:

- Conduct a pre-construction site inspection to ascertain the pre-commencement conditions are met (i.e. the status quo);
- Conduct environmental awareness training for all personnel on site, which must include;
    - A brief description of the surrounding environment;
    - Importance of this EMPr;
    - Roles and responsibilities;
    - Identified environmental risks;
    - Mitigation measures to be implemented;
    - No-go areas; i.e. Berg River outside of the development footprint
    - Emergency procedures (Hydrocarbon spill);
- Undertake regular site visits to monitor compliance with all mitigation, monitoring and management measures contained in this EMPr and the Environmental Authorisation, during the pre-construction, construction and rehabilitation phases of the development;
- Evaluate the achievement of the performance indicators associated with each impact management objective specified in this EMPr;
- Liaise with site contractors, engineers, the appointed search and rescue specialist and other members of the development team with regard to the requirements of this EMPr;
- Provide guidance as and when required regarding the implementation of the environmental management measures contained in this EMPr and EA;
- If assistance is required, provide environmentally acceptable solutions to construction problems in line with this EMPr;
- Ensure that the working areas, site camp facilities, access roads and/or no-go areas are properly demarcated;
- Ensure that proper topsoil management practices are adhered to on site;
- Ensure that proper waste management & pollution prevention strategies are practised on site;
- Examine method statements, where required;
- Recommend additional environmental protection measures, should this be necessary to stop an incident from occurring on site;
- Note contraventions of this EMPr, within ECO Reports, including, but not limited to their frequency, and severity;
- Keep detailed records of all site activities that may pertain to the environment, and produce compliance-monitoring reports (ECO Reports) for submission to the Holder, and the Competent Authority at regular intervals during the construction phase;
- Submit a final post-construction inspection report, within 6 months of completion of each construction phase. The audit report must detail the rehabilitation measures undertaken, describe all major incidents or issues of non-compliance and any issues or aspects that require attention or follow-up.
- All ECO Reports and Inspection Reports must be submitted to the Holder and Competent Authority.

15.4.3. Frequency of ECO visits

The ECO must conduct a **site visit twice per month, and undertake monthly monitoring reports**. The ECO has the discretion to undertake additional visits if he / she feels this is justified due to the actions of the contractors, and to make ad hoc visits in order to ensure compliance.

The ECO must also undertake a final inspection (audit) 6 months after the completion of construction activities. The purpose of this final inspection is to ensure that the measures applied at the conclusion of the construction phase have been sufficiently adhered to and to identify any further issues that require attention or follow-up.

15.4.4. Authority of the ECO

The ECO has the authority to recommend to the authorities that they suspend all works (or part thereof) occurring on site, should any action being undertaken on site not comply with the environmental requirements, and where such actions pose a serious threat to any element of the surrounding environment.

The ECO has the authority to issue instructions to the Construction Contractor and/or Holder, regarding measures that must be implemented on site in order to ensure compliance with this EMPr and Environmental Authorisation, and/or to prevent environmental degradation or pollution from occurring.

The ECO has the authority to issue verbal and written warnings to contractors, in terms of non-compliance with the EA and EMPr. Should verbal and written instructions and/or warnings be ignored, the ECO has the authority to request the Competent Authority to issue pre-determined fines or other penalties.

The ECO has the authority and responsibility to report incidents of non-compliance to the Competent Authority or other relevant authority, at any time.

15.5. Environmental Auditor

An environmental auditor is to be appointed by the applicant. As per Section 34 of the EIA Regulations (GN R326 of 2017), the duty of an Environmental Auditor is to be in dependent and is responsible for:

- Ensuring compliance with the conditions of the environmental authorisation and this EMPr; and
- Submit an environmental audit report to the relevant competent authority, which provides verifiable findings, in a structured and systematic manner, as per Appendix 7 of GN R326.

The Environmental auditor must undertake an audit as per Appendix 7 of GN R326 at the following stages;

- At 50% completion of the project timeline.
- At practical completion of the construction period.
- 3 months after practical completion of the construction period, after reviewing the ECO Report, should it be necessary.

16. ENVIRONMENTAL AWARENESS PLAN

Environmental Awareness Training must be conducted prior to the commencement of construction activities. It is the holder's responsibility to familiarise himself/herself with the content and requirements of this EMPr. The holder is also responsible to ensure that the contractor and all labourers working on site during the construction phase are familiar with the content of this EMPr.

The following actions must be taken to ensure that all relevant parties are aware of their environmental role and duties:

1. This EMPr must be kept on site at all times.
2. The provisions of this EMPr and the conditions of the Environmental Authorisation must be explained in detail to all staff during Awareness Training.
3. Training booklets (Appendix C) will be handed out to all labourers and must be explained to them.
4. Weekly checks to be done by the Holder's environmental representative who must be on site at all times.
5. The ECO to conduct frequent site visits.
6. Monthly monitoring reports to be compiled by the ECO. These reports will be circulated to all parties involved (including the holder, contractor and the competent authority).

The Construction Contractor must make allowance for all construction site staff, including all subcontractors that will be working at the site, to attend environmental awareness training sessions (undertaken by the ECO) before commencing any work on site. During this training, the ECO will explain this EMPr and the conditions contained therein. Attention will be given to the construction process and how this EMPr fits into this process. Other items relating to sound environmental management which must be discussed and explained during the environmental awareness training sessions include:

- The demarcated "No-Go" areas (only where necessary);
- General do's and don'ts of the site;
- Making of fires;
- Waste management, use of waste receptacles and littering;
- Use of the toilets provided;
- Use and control of construction materials and equipment etc.;
- Control, maintenance and refuelling of vehicles;
- Methods for cleaning up any spillage;
- Access and road safety;
- Emergency procedures (e.g. in case of fire, spillage etc.)
- General "best practice" principles, with regards to the protection of environmental resources.

Environmental awareness training and education must be ongoing throughout the construction of each of the three phases of the development and must be undertaken regularly if deemed necessary (especially if it becomes apparent that there are repeat contraventions of the conditions of this EMPr), or as new workers come to site. Translators must be utilised where needed.

17. MONITORING, RECORD KEEPING AND REPORTING

17.1. Environmental Auditing

In accordance with the requirements of the Environmental Impact Assessment Regulations, 2014 (as amended), the Holder of the Environmental Authorisation must, for the period that the Environmental Authorisation is valid, appoint a suitably qualified independent person to conduct an environmental audit to audit compliance with the conditions of the Environmental Authorisation and this EMPr.

The Holder is responsible for appointing, managing and remunerating the appointed auditor. The auditor may not be the appointed ECO.

The appointed auditor is to be provided with the completed EMR's and Checklists, as well as any other crucial information that may be relevant or requested (incident report, waybills etc.) in order to effectively report on the level of compliance with the conditions of the environmental authorisation and this EMPr. The appointed auditor must undertake environmental audits at the following stages;

- At 50% completion of the project timeline for each of the three phases of the development.
- At practical completion of the construction period.
- 3 months after practical completion of the construction period, if necessary, after reviewing the ECO Report.
- Or according to the frequency specified in the Environmental Authorisation.

Following each audit, the environmental auditor must submit an audit report to the Competent Authority (in this instance the DEA&DP).

- Environmental auditing and environmental audit reports must adhere to the requirements of the amended 2014 Environmental Impact Assessment Regulations, in particular Section 34 (Auditing of Compliance with Environmental Authorisation, Environmental Management Programme) and Appendix 7 (Objective and Content of Environmental Audit Report)
- The audit report must provide verifiable findings on the level of compliance with the provisions/ conditions of the Environmental Authorisation and this EMPr and must also comment on the ability of the measures contained in this EMPr to sufficiently avoid, manage and mitigate environmental impacts.
- Where the findings of the audit report indicate that the impact management measures stated in this EMPr are insufficient to adequately address environmental impacts, recommendations as to how this EMPr must be amended so as to address the identified shortcomings must be made and submitted to the competent authority together with the audit report.

17.2. Construction phase monitoring, reporting and record keeping

The appointed Environmental Control Officer (ECO) is responsible for monitoring the site at regular intervals during the construction phase, in order to ensure that the provisions of this EMPr and the Environmental Authorisation are adhered to and that sound environmental management is ensuing on site.

The ECO must undertake bi-monthly monitoring and compile a **monthly ECO report** detailing the ECO's observations on site, any instances of non-compliance and any issues or aspects that require attention, follow-up or remedial action. The ECO reports must be submitted to the Holder and to the Competent Authority is so requested by that authority, as well as the Environmental Auditor. The ECO inspection reports must include both photographic and written records.

17.2.1. ECO Inspections - Photographic Records

The condition of the surrounding natural environment must be monitored regularly in order to ensure that construction and management activities are not impacting negatively on the condition of the adjacent landscape and any adjacent sensitive ecosystems. The most effective way to achieve this is by means of a detailed photographic record. In this way, a record of any shift in ecosystem condition can be maintained and potential impacts be detected at an early stage. It is thus recommended that fixed-point photo-monitoring sites could be set up, and photographs must be taken at these sites during each

ECO inspection. Where necessary, the entire working area must be well documented and photographed.

17.2.2. ECO Inspections - Written Records

The following record-keeping during the pre-construction, construction and rehabilitation (if applicable) phases of the development is recommended:

- The ECO must complete an ECO Checklist after each ECO site visit.
- The ECO must compile an ECO monitoring report and submit this to the Holder, the Contractor and the Competent Authority. The monthly reports must be a summary of the ECO inspections from the preceding month, and must highlight the key concerns/ issues on site, instances of non- compliance with the EA and EMPr, all instructions issued to the contractor, actions taken and aspects that still require attention.
- All ECO reports and ECO instructions must be retained on file at least for the duration of the construction period (retaining reports for a period of at least 5 years is recommended, in the event that the Competent Authority must request information).
- A record (minutes) of construction site meetings, liaison site meetings between the ECO and any member of the construction team, monitoring reports, ECO instructions and ECO observations must be clearly documented and filed on a master file off-site for safe keeping.
- It is recommended that a site register (incident register) be kept on site at the site office for the recording of any environmental incidents (e.g. fires, spills etc.), observations which are contrary to the stipulations within this EMPr and any other contravention deemed necessary for the attention of the resident engineer. Actions taken to remedy the incidents must also be recorded.
- A complaints register must be kept on site in which complaints by any member of the public must be logged.
- The ECO must compile a final post-construction audit report, within 6 months of completion of each construction phase. The audit report must detail the rehabilitation measures undertaken, describe all major incidents or issues of non-compliance and any issues or aspects that require attention or follow-up.

17.2.3. Construction Phase Record Keeping

A copy of the approved EMPr, the Environmental Authorisation and any relevant construction method statements must be kept on site at all times during pre-construction, construction and rehabilitation activities. The ECO Reports must be retained by the Holder for a period of at least 5 years and must be provided to the Competent Authority upon request.

The set up and organisation of the site camp is paramount to ensuring compliance. An environmental file is to be created by the contractor and be situated within the site camp throughout the construction phase and with the applicant thereafter. The environmental file is to include the following;

- A copy of the Environmental Authorisation;
- A copy of General Authorisation or any other relative permits;
- A copy of the approved EMPr;
- Waste slips;
- Disposal slips or cleaning slips (ablution cleaning);
- All EMR's (Environmental Monitoring Reports) and ECO instructions ;
- Copies of Environmental induction register/s;
- The Protocol for chance Paleontological Findings

- A complaints register;
- Updated method statements;
- Any and all emergency procedure/s applicable to site activities;
- An Incident Register.

18. PENALTIES, CLAIMS AND DAMAGES

The contractor will be responsible for ensuring that all procedures required to rehabilitate the site are implemented, any non-compliance as a result of negligence or any other aspects that deviate from the approved scope, are the liability of the contractor. If third parties are called to the site to perform clean up and rehabilitation procedures, for non-compliant activties, the contractor will be responsible for all costs. The competent authority may impose penalties on the Holder or any of the contractors if conditions contained in this EMPr are contravened. This would be based on an agreement or contract between the Holder and the contractor.

Penalties could be imposed in terms of Chapter 11 of the Western Cape Bill on Planning and Development as published in the Extraordinary Provincial Gazette No 5183, 3 October 1997, and would be applicable for any action which leads to damage to the natural environment. Please note that the payment of any fines in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law.

In cases where severe environmental damage occurs, the competent authority law enforcement division may take legal action against the responsible parties. The reasons for this could include, amongst others:

- Not implementing the conditions of this EMPr;
- Spillage that results in environmental damage;
- Incorrect handling and storage of construction materials and chemicals;
- Sensitive areas that are not clearly demarcated;
- Performing ablutions in areas other than facilities provided for such actions; and
- Occurrence of unattended and out of control fire.

The Contractor shall comply with the environmental specifications and requirements on an ongoing basis and any failure on his part to do so will entitle the ECO to issue the contractor with penalty / fine as described in the following Table 6.

The following offences, level of severity and value of the financial fines have been drafted according to the sensitivities on the proposed site, the mitigation measures proposed, and the construction methods proposed. It must be noted that the level of severity is at the discretion of the ECO and any offences or fines will be recorded in the ECO's monitoring report. The fineable offences are not limited to the table below, additional offences may be applied by the ECO with prior agreement with the EA holder.

The following fine structure shall apply:

Table 6: Fines and offences

Finable Transgression	**Min Fine**	**Max Fine**
Failure to notify the ECO of the commencement of construction or pre-construction activities, prior to the commencement of such activities.	R1 000	R2 000
Failure to comply with the provisions relating to the demarcation of the working area, site camp and associated facilities, and the maintenance of the demarcated boundaries.	R1 000	R5 000
Encroachment into "no-go" areas.	R2 000	R5 000
Failure to provide secured ablution facilities (1:30 ratio) on site.	R500	R15 000
Clearance of indigenous vegetation (regardless of the density of alien vegetation present) outside of the demarcated boundaries of the working area and site camp.	R2 500	R15 000
Failure to adhere to designated access routes and/or the driving of vehicles through undeveloped vegetation outside of the demarcated working area or site camp.	R1 000	R5 000
Movement of vehicles and/or construction workers in no-go areas;	R1 000	R10 000
Parking or storage of vehicles, machinery, tools and other materials or equipment related to the Contractors operations, within designated "no-go" areas.	R1 000	R10 000
Parking or storage of vehicles, machinery, tools and other materials or equipment related to the Contractors operations, outside of the areas demarcated for such parking/storage.	R500	R5 000
Failure to comply with the provisions relating to the management of topsoil and subsoil.	R1 000	R5 000
Excessive excavation of material in areas not depicted for such purpose / activity on the approved design plans.	R2 500	R10 000
Failure to comply with the provisions relating to waste management on site i.e. recycling of wastes, appropriate and timeous disposal, etc.	R500	R5 000
Failure to comply with the provisions relating to the storage, use and management of hazardous substances and fuels on site and/or the spillage of hydrocarbons or hazardous substances on site leading to environmental damage.	R1 000	R10 000
Mixing cement or concrete on bare ground and/or failure to comply with any other provision regarding cement/ concrete batching.	R1 000	R5 000
Failure to provide adequate fire-fighting equipment (in working order) on site at all times and/or failure to comply with the provisions relating to fire prevention and/or the occurrence of unattended or out of control fires.	R500	R5 000
Refuelling of vehicles, machinery or equipment outside of the designated refuelling area.	R500	R2 000

Maintenance of vehicles, machinery or equipment outside of the designated maintenance yard, except in emergencies.	R500	R2 000
Failure to undertake refuelling or repairs over a drip tray or other impermeable bunded surface to collect spilled hydrocarbons (fuels, lubricants, oils etc.) and other hazardous substances; failure to provide drip trays under fuel burning equipment (including pumps and generators) where there is a risk of hydrocarbon leakage.	R500	R2 000
Failure to produce a required method statement/s to the engineer's and ECO's satisfaction prior to undertaking the activity concerned and/or failure to adhere to an approved method statement.	R1 000	R5 000

The above does not absolve the transgressor from being prosecuted in terms of the ***National Environmental Management Act (Act 107 of 1998)*** which may result in further penalties and other actions by State Departments.

19. CONCLUSION

The recommendations and mitigation measures prescribed in this EMPr have been formulated with the intention of addressing potential pre-construction, construction and operational phase impacts on the environment. It is likely that if the conditions, requirements and recommendations of the above EMPr are implemented as described and the relevant stakeholders adhere to the various mitigation measures, then the project will be completed without unforeseen negative environmental impacts.

Familiarity with the contents of this EMPr by the contractors and other individuals involved in the development project will assist in achieving "environmental best-practice", which ultimately ensures that the project arrives at a sustainable outcome.

APPENDIX A: CURRICULUM VITAE OF EAPS

CURRICULUM VITAE

Ameesha Sanker

PERSONAL

Profession: Environmental Assessment Practitioner, Sharples Environmental Services cc, Cape Town.

Nationality: South African

Date of Birth: 27 December 1990

Languages: English (read, write and speak) - Fluent

Marital Status: Single

Drivers' License: Code B

Health: Excellent

WORK EXPERIENCE

March 2020 – Present: Sharples Environmental Services cc, Cape Town, WC
Environmental Assessment Practitioner

- Basic Assessments Reports
- Amendment Applications
- Administration.

July 2014 – March 2020: Dartingo Consulting Engineers (Pty) Ltd, Durban, KZN
Part-time GIS Technician

- Management and compilation of GIS database.
- Layout/map creation.

June 2013– March 2020: EnAq Consulting.cc
Environmental Assessment Practitioner

- Basic Assessment Applications
- Water Use License Applications
- Environmental Monitoring/Auditing
- Stakeholder Engagement
- Reporting
- Environmental Management Plans
- Public /Contractor Awareness Training
- Biodiversity Offsets
- Rehabilitation and Protected Areas

- Project Management
- GIS management
- Administration

TERTIARY EDUCATION

2019: UNISA

- Bachelor of Science Honours Degree specialising in Environmental Management.

2014: University of Kwa-Zulu Natal

- Bachelor of Science Degree specialising in Geological Science (Engineering and Environmental).

PROJECTS

Sharples Environmental Services.cc

2020-George Groenkloof Ontwikkelings (Pty) Ltd

- Partial completion of the Amendment for the Proposed Development of a Retirement Village and Associated Infrastructure on Portion 3 of the Farm Kraaibosch 195, George, Western Cape.

2020-Wittedrift The Home Market NPC

- Completion of the Basic Assessment Report for the Proposed Retirement Village and Service Infrastructure on Erf 103, 104 and a Portion of Rotterdam Street. Wittedrift, Bitou Municipal Area, Western Cape.

2020-Mossel Bay Mossel Bay Local Municipality

- Basic Assessment Report for the Proposed Construction of Walvis Street, Western Cape.

2020-Beaufort West Beaufort West Local Municipality

- Basic Assessment Report for the Expansion of the Existing "Goue Akker" Cemetery in Beaufort West, Beaufort Local Municipality, Western Cape.

2020-Melkhoutfontein Hessequa Local Municipality

- Basic Assessment Report for the Expansion of the Existing Melkhoutfontein Cemetery on ERF 566 and portion 141/480, Hessequa Local Municipality, Western Cape.

2020-Umzimkhulu Leratong Victim Empowerment Co-operative Ltd.

- Basic Assessment Report for the Construction of a Roof Sheeting Factory, Umzimkhulu Local Municipality, KwaZulu-Natal.

Previous Employment (2013 – 2020)

Margate Ugu District Municipality

- BAR, WULA, GIS and ECO for the Proposed Southern Mains Bulk Water Upgrade: Gamalakhe to Margate, Ugu District Municipality, KZN.

Port Shepstone Ray Nkonyeni Local Municipality

- Project screening, assistance with BAR preparation, public participation, GIS and ECO for the proposed Acacia Road Storm Water Network Update, Ray Nkonyeni Local Municipality, KZN.

Ixopo — Harry Gwala District Municipality
- Project screening, assistance with BAR preparation, and GIS for the Upgrade of Ixopo Sewer Network, Harry Gwala District Municipality, KZN.

KwaDukuza — KwaDukuza Local Municipality
- Project screening, EMPr preparation and ECO for the KwaDukuza Beach Upgrades: Life- Guard and Ablution Facilities, KwaDukuza Local Municipality, KZN.

KwaDukuza — KwaDukuza Local Municipality
- Project screening, EMPr preparation and ECO for the A/C Mains Replacements, KwaDukuza Local Municipality, KZN.

Mzumbe — Mzumbe Local Municipality
- Project screening, BID and Public Participation for the Proposed Mzumbe Access Road Upgrades, Mzumbe Local Muncipality, KZN.

uMtumvuna — Ray Nkonyeni Local Municipality
- Project screening, Public Participation and BID for the Proposed uMtamvuna Water Treatment Works Upgrade, Ray Nkonyeni Local Municipality, KZN.

Mkholombe — Ray Nkonyeni Local Municipality
- Project screening for the Proposed Upgrade of Mkholombe Sewer Network Upgrade, Ray Nkonyeni Local Municipality, KZN.

Phoenix — Ethekwini Municipality
- Project screening, Assistance with the initiation of the Section 24G for the Viewhaven Housing Development, Ethekwini Municipality, KZN.

Margate — Ugu District Municipality
- Project screening, and application for Amendment to the Margate Sewer Pipeline Replacement: Upgrade of Pump Station 3A and the Augmentation of Margate Effluent Main, Part 1 & 2, Ugu District Municipality, KZN.

Ballito — Siza Water
- Project screening, initiation of BID and WULA for the Ballito Hills Water and Sanitation, KwaDukuza Local Municipality, KZN.

Mzumbe — Umzumbe Local Municipality
- Project screening for the Proposed Constrcution of Ward 20 Community Hall, Umzumbe Local Municipality, KZN.
- Project screening for the Proposed Construction of R102 Bus Shelters, Umzumbe Local Municipality, KZN.
- Project screening for the Proposed Construction of Dweshula Community Hall, Umzumbe Local Municipality, KZN.

CURRICULUM VITAE

Jamie Cloete

PERSONAL

Profession: Intern Environmental Assessment Practitioner, Sharples Environmental Services cc, Cape Town.
Nationality: South African
Date of Birth: 28 April 1998
Languages: English (read, write, and speak)
Marital Status: Unmarried
Driver's License: Code B
Health: Excellent

WORK EXPERIENCE

May 2022 - present: Sharples Environmental Services cc
Intern Environmental Assessment Practitioner

- Site Sensitivity Reports
- Public Participation Plans
- Notice of Intents
- Familiarity of EMPr
- Contributions to Basic Assessment Reports
- Familiarity with Environmental Impact Assessments/Scoping
- Marketing and social media
- Administration

TERTIARY EDUCATION

2022- present: National Examination Board in Occupational Safety and Health

- Environmental Management Certificate

2021: Green Building Council of South Africa

- Net Zero Accredited Professional Programme

2020: Stellenbosch University

- Honours: Geography and Environmental Studies
- Thesis: Guest Houses and Water Management Strategies in Stellenbosch

2017-2019: University of Cape Town

- Environmental and Geographical Science

PROJECTS

Sharples Environmental Services.cc

2022 - Earthpet Bio Chambers/Bio-bags — EarthPet

- Compilation of Waste Registration application form

2022 - Green Valley — Bitou Municipality

- Screening Tool
- Compiling Environmental Application

2022 - Montague Gardens — Platinum Pride Crematorium

- Contribution to BAR
- Environmental Application
- Public Participation

2022 - Grow Green Organics (Pty) Ltd — Grow Green
- Contribution to BAR
- Compilation of Environmental application
- Public Participation Plan

2022 - Garden Route Dam and Associated Infrastructure — George Municipality
- Assistance in compiling the Comments and Responses Table

2022 - Hazardous Materials Storage Paarl — NexusAG (Pty) Ltd
- Contribution to BAR
- Public Participation Plan
- Compilation of EMPr

2022 - Kurland Bulk Infrastructure — Bitou Local Municipality
- Contribution to Public Participation Plan

2022 - Farm Plattebosch — Stilbaai
- I&AP register
- Contribution to Public Participation Plan

APPENDIX B: EMPR REVIEW AND AMMENDMENT REGISTER

Review Date	Description of Review and/or Amendment	Signature

Appendix C: Environmental Awareness Plan/Environmental Awareness Training Booklet

GEORGE
TEL: +27 (0) 44 873 4923 **FAX:**+27 (0) 44 874 5953
EMAIL: info@sescc.net **WEBSITE:** www.sescc.net
ADDRESS: 102 Merriman Street, George, 6530
PO BOX: 9087, George, 6530

CAPE TOWN
TEL: +27 (0) 21 554 5195 **FAX:**+27 (0) 86 575 2869
EMAIL: lauren@sescc.net **WEBSITE:** www.sescc.net
ADDRESS: Unit 71, Eden on the Bay, 5 Beach Estate Boulevard
Blouberg, Big Bay, 7441
PO BOX: 443, Milnerton, 7435

ENVIRONMENTAL AWARENESS TRAINING BOOKLET

Environmental Monitor's Foreword

SES is here to ensure that everyone complies with the conditions of "Duty to Care". If these conditions are not complied with the project can be stopped and fines can be issued.

We hope that with your co-operation the project won't be stopped and fines won't be issued, and a successful project can be finished on time.

Notes:

- Workers working on this project must undergo environmental training.

- The information contained in this document should be used during day-to-day activities.

HOW IS THIS PROJECT IMPLEMENTING ENVIRONMENTAL MANAGEMENT?

This project is implementing Environmental Management on an ongoing basis throughout the duration of the project. The following aspects would be implemented to achieve the above stated:

- A dedicated Environmental Manager or Environmental Control Officer appointment to the project to implement and monitor Environmental Management.
- Regular environmental inspection on the site.
- Regular environmental training for workers
- Environmental audits on a regular basis.

WASTE TREATMENT

Refuse:

- Refuse waste includes: waste food, food containers, packaging materials, cans, bottles, newspapers and magazines.
- Day to day household waste should always be disposed of in the containers provided on site by the company.
- No dumping of waste anywhere other than in the bins provided.
- No burning of refuse.
- If there are not enough refuse containers on site, the ECO or supervisor needs to be informed.

Construction Waste:

- Construction waste includes: concrete, steel, cement, rock, pre-coated chips, wood, plastic, empty bags and rubble.
- Construction waste must be discarded in skips located in strategic areas for removal.
- Construction waste must not be discarded in holes or burned on site.

- Small amounts of construction waste should be collected and not discarded into vegetation or down fill slopes.
- Material should only be spoiled if a rehabilitation plan has been designed for the area.

Liquid waste:

- Liquid waste includes: concrete, paint, thinners, diesel, hydraulic fluids, cooking oil, chemicals, other fuel and sewage.
- Use facilities provided for waste.
- The liquid waste should be recycled as far as possible.
- Use chemical toilets and ablution facilities.

INFORM THE ENVIRONMENTAL CONTROL OFFICER (ECO) IMMEDIATELY OF ANY IMMEDIATE OR POTENTIAL ENVIRONMENTAL INCIDENT.

SPECIFIC ENVIRONMENTAL ISSUES

SPESIFIEKE OMGEWINGSKWESSIES
IMIBA ETHILE YEZOBUME BEMEKO YENDALO

The basic Do's and Don'ts towards environmental awareness are as follows:

Die basiese Moets en Moenies van omgewingsbesinning is as volg:

Oondoqo bo mawukwenze no mawungakwenzi kwilinge lezobume be meko yendalo bume ngoluhlobo:

Toilet Facilities:
Toilet Fasiliteite:
Izindlu Zangasese:

DO:
USE THE TOILET FACILITIES PROVIDED - REPORT FULL FACILITIES
MOET:
GEBRUIK MAAK VAN TOILET FASILITEITE WAT VOORSIEN WORD – RAPPORTEER AS FASILITEITE VOL IS
OMAWUKWENZE: SEBENZISA IZINDLU ZANGASESE EZIBONELELWEYO- NIKA INGXELO NGAMALUNGISELELO AGCWELEYO.

DO NOT:
USE THE BUSH
MOENIE:
DIE BOS GEBRUIK NIE
OMAWUNGAKWENZI: UKUSEBENZISA ITYHOLO.

Vehicles operation and maintenance:
Voertuig werking en onderhoud:
Ulawulo nophatho lezithuthi:

DO:
ENSURE THAT VEHICLES AND MACHINERY DO NOT LEAK FUEL OR OILS. REFUELLING, MAINTENANCE, SERVICING OR WASHING MUST BE DONE WITHIN THE DESIGNATED AREA IN THE CONSTRUCTION CAMP AREA ONLY.
MOET:
VERSEKER DAT VOERTUIE EN MASJINERIE NIE OLIES OF BRANDSTOF LEK NIE. VOLMAAK, ONDERHOUD, DIENS OF SKOONMAAK VAN VOERTUIE MOET SLEGS IN AANGEWYSTE AREAS IN DIE KONSTRUKSIE KAMP GESKIED.
OMAWUKWENZE: QINISEKISA IZITHUTHI NOMATSHINI ABAVUZI MAFUTHA OKANYE I OYILE, UKUGALELA, UKUPHATHA, UKULUNGISA OKANYE UKUHLAMBA KUFUNEKA KWENZIWE KUMMANDLA OTYUNJIWEYO KWINKAMPI YOLWAKHIWO KUPHELA NGOKUKHAWULEZILEYO.

DO:
REPORT ALL FUEL OR OIL SPILLS IMMEDIATELY & STOP THE SPILL CONTINUING.
MOET:
RAPPORTEER ENIGE BRANDSTOF OF OLIE STORTE & VERHOED DAT DIE STORT AANHOU.
OMAWUKWENZE: NIKA INGXELO NGE OLI NAMAFUTHA ACHITHEKILEYO, UZE UNQANDE UCHITHEKO LUNGAQHUBEKI.

DO:
PREVENT CONTAMINATION OR POLLUTION OF STREAMS AND WATER CHANNELS.
MOET:
VERHOED DIE KONTAMINASIE EN BESOEDELING VAN STROME & WATERKANALE.
OMAWUKWENZE : NQANDA USULELEKO OKANYE UNGCOLISEKO LWEMILAMBO NEMISELE YAMANZI.

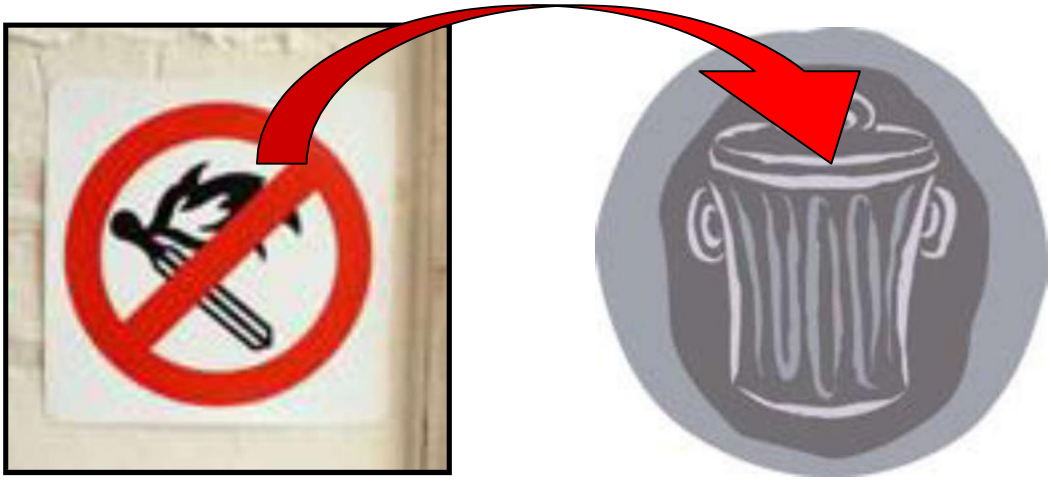
DO NOT:
ALLOW WASTE, LITTER, OILS OR FOREIGN MATERIALS INTO THE STREAM
MOENIE:
TOELAAT DAT AFVALPRODUKTE, GEMORS, OLIES OF VREEMDE MATERIALE IN STROME BELAND NIE.
OMAWUNGAKWENZI: MUSA UKUVUMELA INCITHO, ULAHLO, IOYILE OKANYE EZINYE IZINTO EMILANJENI.

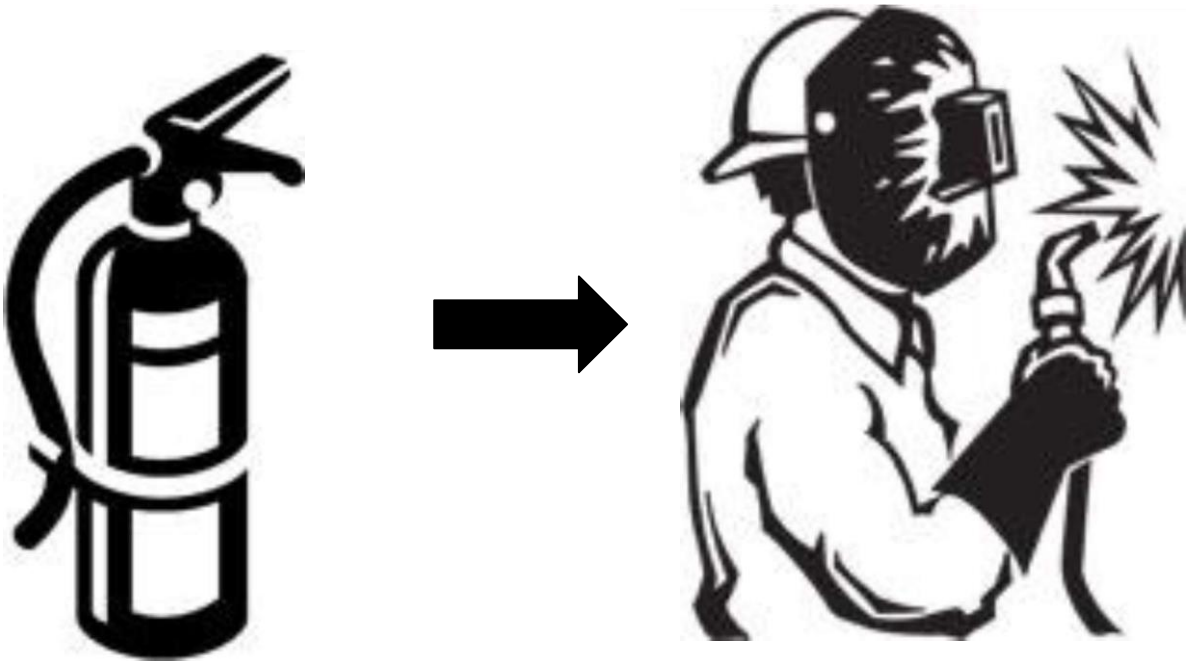
Fire Control:
Vuur Beheer:
Ulawulo Lemililo:

DO:
DISPOSE OF CIGARETTES AND MATCHES CAREFULLY. (Littering is an offence.)
MOET:
GOOI SIGARETTE & VUURHOUTJIES OP GEPASTE MANIER WEG WEG (rommelstrooi is 'n oortreding)
OMAWUKWENZE: LAHLA ISIGARETE NOOMATSHISI NGONONOPHELO (ukulahla lityala).

DO:
ENSURE A WORKING FIRE EXTINGUISHER IS IMMEDIATELY AT HAND IF ANY "HOT WORK" IS UNDERTAKEN e.g. welding, grinding, gas cutting etc.
MOET:
VERSEKER DAT 'N WERKENDE BRANDBLUSSER BYDERHAND IS INDIEN "WARM WERK" GEDOEN WORD bv. Sweiswerk.
OMAWUKWENZE: QINISEKISA ISICIMA-MLILO ESISEBENZAYO SISESANDLENI UKUBA KUKHO UMSEBENZI "OTSHISAYO" OWENZIWAYO, umz. ukuwelda, ugubo, ukuqhawula ugesi, njl.

DO NOT:
MAKE ANY FIRES
MOENIE:
ENIGE VURE MAAK OF ENIGEIETS VERBRAND NIE
OMAWUNGAKWENZI: UKWENZA IMILILO OKANYE UTSHISE NOKUBA YINTONI.





Fencing and Restricted Areas:
Omheining en Beperkte Areas:
Ubiyelo Nemimanndla Engavumelekanga:

DO:
CONFINE WORK AND STORAGE OF EQUIPMENT TO WITHIN THE IMMEDIATE WORK AREA.
MOET:
BEPERK ALLE WERK EN STOOR VAN GEREEDSKAP TOT IN DIE GEGEWE WERKAREA.
OMAWUKWENZE:GCINA UMSEBENZI NEZIXHOBO ZOKUSEBENZA NGAKUMMANDLA OKUSETYENZELWA KUWO.

DO NOT:
ENTER ANY FENCED OFF OR MARKED AREA. SUCH AREAS HAVE BEEN MARKED WITH "NO-GO AREA" SIGNS AND SHOULD BE ADHERED TO.
MOENIE:
ENIGE OMHEINDE OF GEMERKTE AREAS BINNEGAAN NIE. SULKE AREAS IS MET "NO-GO AREA" TEKENS GEMERK EN MOET GEHOORSAAM WORD.
OMAWUNGAKWENZI: MUSA UKUNGENA KWI NDAWO EBIYIWEYO OKANYE EPHAWULWEYO. IMIMANDLA ENJALO IPHAWULWE NGAMAGAMA ATHI "**NO-GO AREA** "

NO-GO AREA

Safety:
Veiligheid:
Ukhuseleko:

DO:
USE ALL SAFETY EQUIPMENT AND COMPLY WITH ALL SAFETY PROCEDURES.
MOET:
GEBRUIK ALLE VEILIGHEIDSGEREEDSKAP EN VOLDOEN AAN ALLE VEILIGHEIDS PROSEDURES.
OMAWUKWENZE: SEBENZISA ZONKE IZIXHOBO ZOKHUSELEKO, UZE UTHOBELE YONKE IMIGAQO YOKHUSELO.

Driving and Dust:
Bestuur en Stof:
Uqhubo Nothuli:

DO:
DRIVE ON DESIGNATED ROUTES ONLY.
MOET:
NET OP AANGEWYSTE ROETES BESTUUR.
OMAWUKWENZE: QHUBA KWIMIMANDLA EPHAWULWEYO KUPHELA.

DO NOT:
SPEED OR DRIVE RECKLESSLY
MOENIE:
JAAG OF ROEKELOOS BESTUUR NIE.
OMAWUNGAKWENZI: SUKUQHUBA NGESANTYA ESIPHEZULU OKANYE NGOKUNGAKHATHALI.

DO NOT:
ALLOW CEMENT TO BLOW AROUND.
MOENIE;
TOELAAT DAT SEMENT WEGWAAI NIE.
OMAWUNGAKWENZI: MUSUKUVUMELA ISAMENTE ISASAZWE.

DO NOT:
CAUSE EXCESSIVE DUST
MOENIE:
OORDREWE STOF VEROORSAAK NIE.


SLOW


PPC

Vegetation protection:
Plantegroei Beskerming:
Ukhuselo Lwezityalo:

DO NOT:
DAMAGE OR REMOVE ANY VEGETATION WITHOUT DIRECT INSTRUCTION.
MOENIE:
ENIGE PLANTEGROEI SONDER DIREKTE INSTRUKSIE BESKADIG OF VERWYDER NIE.
OMAWUNGAKWENZI: MUSA UKUTSHABALALISA OKANYE USUSE NASIPHINA ISITYALO NGAPHANDLE KOMYALELO.

Animals:
Diere:
Izilwanyana:

DO NOT:
INJURE, CAPTURE/SNARE, FEED OR CHASE ANIMALS – this includes birds, frogs, snakes, lizards, tortoises, etc.
MOENIE:
ENIGE DIERE BESEER, VANG, VOER OF JAAG NIE – dit sluit in: voëls, paddas, slange akkedisse, skilpaaie ens.
OMAWUNGAKWENZI: MUSA UKWENZAKALISA, UKUBAMBA, UKONDLA OKANYE UKULEQA IZILWANYANA- okuquka iintaka, amasele, iinyoka, amacilikishe, izikolopati.

DO:
REPORT ANY INJURY OF AN ANIMAL.
MOET:
DIE BESERING VAN 'N DIER RAPPORTEER.
OMAWUKWENZE: XELA NASIPHI ISENZAKALO SESILWANYANA.

Preventing Pollution:
Voorkoming van Besoedeling:
Ukhuselo Longcoliseko:

DO:
CLEAR YOUR WORK AREAS OF LITTER AND BUILDING RUBBLE AT THE END OF EACH DAY **–** use the waste bins provided and ensure that litter will not blow away.
MOET:
RUIM NA ELKE DAG DIE WERK AREA OP EN GOOI ENIGE ROMMEL WEG IN DIE GEGEWE HOUERS – maak seker dat rommel nie kan wegwaai nie.
OMAWUKWENZE: COCA INDAWO OSEBENZA KUYO, IZINTO EZILAHLIWEYO NENKUNKUMA YOKWAKHA QHO EKUPHELENI KWEMINI-sebenzisa imigqomo yenkunkuma uze uqiniseke ukuba inkunkuma ayivuthuzwa ngumoya.

DO NOT:
ALLOW WASTE BINS TO OVERFLOW OR WASTE TO BLOW AROUND.
MOENIE:
TOELAAT DAT ROMMELHOUERS OORVLOEI OF DAT ROMMEL ROND WAAI NIE.
OMAWUNGAKWENZI: MUSA UKUVUMELA IMIGQOMO YENKUNKUMA IGCWALE KAKHULU OKANYE INKUNKUMA ISASAZEKE.

DO NOT:
LITTER OR LEAVE FOOD LAYING AROUND
MOENIE:
ROMMEL OF KOS LAAT RONDLÊ NIE.
OMAWUNGAKWENZI: MUSA UKUNGCOLISA OKANYE USHIYE UKUTYA KULELE INDAWO YONKE.

DO NOT:
BURY ANY LITTER OR WASTE IN THE GROUND.
MOENIE:
ENIGE ROMMEL OF GEMORS IN DIE GROND BEGRAWE NIE.
OMAWUNGAKWENZI: MUSA UKUNGCWABA INKUNKUMA EMHLABENI.

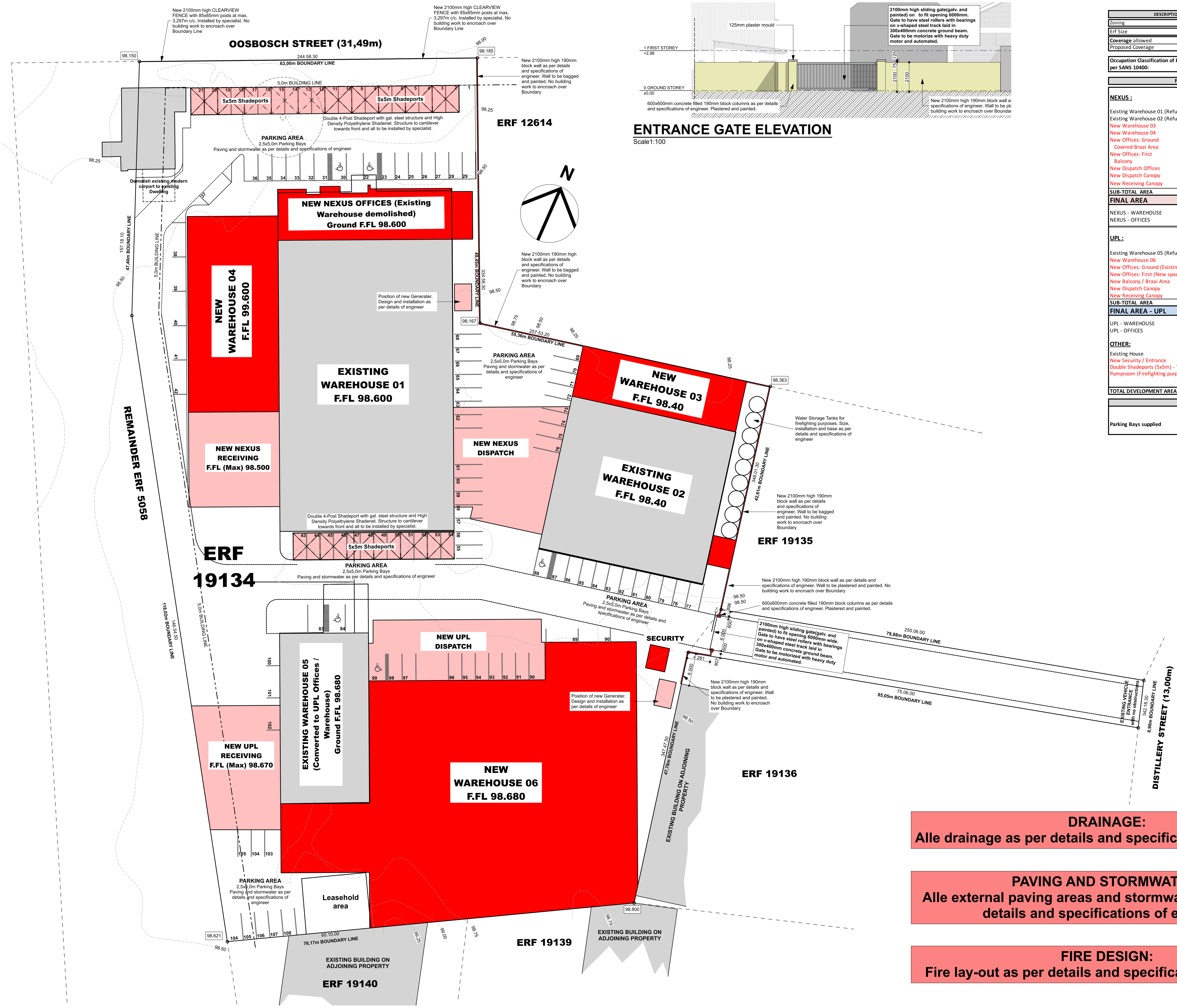

GLASS
CARDBOARD
PAPER

Appendix D: Protocol for Chance Fossil Finds

<table>
<tr><td>Province & region:</td><td>Paarl, Drakenstein Local Municipality</td></tr>
<tr><td>Responsible Heritage Resources Agency</td><td>HERITAGE WESTERN CAPE (Contact details: Protea Assurance Building, Green Market Square, Cape Town 8000. Private Bag X9067, Cape Town 8001. Tel: 086-142 142. Fax: 021-483 9842. Email: hwc@pgwc.gov.za)</td></tr>
<tr><td>ECO protocol</td><td>1. Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately (N.B. safety first!), safeguard site with security tape / fence / sand bags if necessary.</td></tr>
<tr><td colspan="2">2. Record key data while fossil remains are still in situ:
Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo
Context – describe position of fossils within stratigraphy (rock layering), depth below surface
Photograph fossil(s) in situ with scale, from different angles, including images showing context (e.g. rock layering)</td></tr>
<tr><td>3. If feasible to leave fossils in situ:
Alert Heritage Resources Agency and project palaeontologist (if any) who will advise on any necessary mitigation
Ensure fossil site remains safeguarded until clearance is given by the Heritage Resources Agency for work to resume</td><td>3. If not feasible to leave fossils in situ (emergency procedure only):
Carefully remove fossils, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock)
Photograph fossils against a plain, level background, with scale
Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags
Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist
Alert Heritage Resources Agency and project palaeontologist (if any) who will advise on any necessary mitigation</td></tr>
<tr><td colspan="2">4. If required by Heritage Resources Agency, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.</td></tr>
</table>

Appendix E: Site Location Map

Proposed Development Site
ERF 19134



SITE PLAN

Scale1:250

ENTRANCE GATE ELEVATION

Scale1:100

DESCRIPTION	% or FACTOR		AREA (m²)	
Zoning			NEIGHBERHOOD BUSINESS ZONE	
Erf Size			**14 546,00**	m²
Coverage allowed	75%	%	10909,50	m²
Proposed Coverage	**65**	%	9392,81	m²

Occupation Classification of Proposed building as per SANS 10400:	**G1 & J1**

FLOOR AREA: UNITS

	Existing	New	
NEXUS :			
Existing Warehouse 01 (Refurbished)	1728,70		m²
Existing Warehouse 02 (Refurbished)	663,40		m²
New Warehouse 03		288,80	m²
New Warehouse 04		601,40	m²
New Offices: Ground		314,70	m²
Covered Braai Area		28,50	m²
New Offices: First		282,70	m²
Balcony		38,30	m²
New Dispatch Offices		116,00	m²
New Dispatch Canopy		409,30	m²
New Receiving Canopy		295,40	m²
SUB-TOTAL AREA	2392,10	2375,10	m²
FINAL AREA		4767,20	m²
NEXUS - WAREHOUSE		3282,30	m²
NEXUS - OFFICES		713,40	m²
UPL :			
Existing Warehouse 05 (Refurbished)	213,40		m²
New Warehouse 06		2478,40	m²
New Offices: Ground (Existing Warehouse converted)	279,90		m²
New Offices: First (New space created)		285,50	m²
New Balcony / Braai Area		40,80	m²
New Dispatch Canopy		372,00	m²
New Receiving Canopy		343,00	m²
SUB-TOTAL AREA	493,30	3519,70	m²
FINAL AREA - UPL		4013,00	m²
UPL - WAREHOUSE		2691,80	m²
UPL - OFFICES		565,40	m²
OTHER:			
Existing House		171,81	m²
New Security / Entrance		16,30	m²
Double Shadeports (5x5m) - Total Area		400,00	m²
Pumproom (Firefighting purposes)		24,50	m²
TOTAL DEVELOPMENT AREA (Coverage)		9392,81	m²

PARKING

Parking bays = 2,5x5m

Parking Bays supplied	**108**

DRAINAGE:
Alle drainage as per details and specifications of engineer.

PAVING AND STORMWATER:
Alle external paving areas and stormwater run-off as per details and specifications of engineer.

FIRE DESIGN:
Fire lay-out as per details and specification of engineer.

FOR COSTING
ISSUE DATE : 2021/06/15

LAY-OUT NAME:

SITE PLAN

IMPORTANT NOTES:

1. The copyright of this drawing and any part of it is the property of A3D Architects and may not be copied or reproduced in any way without written consent.
2. Written measurements enjoy preference above scaled measurements.
3. This drawing must be read in conjunction with the approved plan and any discrepancies must be reported immediately to the architect before construction proceeds.
4. The contractor must check all measurements and levels on site and any discrepancies must be reported immediately to the Architect before construction proceeds.
5. All drawings to be printed / copied in colour. Important information may be lost if printed / copied in black & white.
6. No building work to encroach over erf boundaries.
7. Any information contained within this document does NOT indemnify the contractor from regulations as set out in SANS 10400 and NHBRC codes.
8. **If construction takes place within an ESTATE, all materials and finishes to comply with Estate guidelines and rules.**
9. All products and materials specified must be installed strictly in accordance with the manufacturers details and specifications. Any discrepancies with this documentation must be reported to the Architect.

REVISIONS:

Rev nr.	Change	Description	Date
01			2021/02/04
02	Ch-41	Provided parking for person with disability	2021/05/24
03	Ch-01	Costing Amendments	2021/06/15

JEAN NORTIER & ASSOCIATES
PROJECT MANAGEMENT

ERF NUMBER: **ERF 19134**

CLIENT: **NEXUSAG (Pty)Ltd**

PROJECT DESCRIPTION:	**Proposed new Warehouses and Offices**
PROJECT LOCATION:	**Paarl**
MUNICIPALITY:	**Drakenstein Municipality**
SCALE:	**As per Drawing @ A0.**
PROJECT START DATE:	**November 2020**

a.d. muller (B.Arch (UFS), Pr. Arch, SACAP, SAIA, CIA)
SACAP Reg. 6143

bernard frey (ND Arch (CUT), S. Tech, SACAP, SAIAT)
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Vat nr. 4800249965 Indemnity Insurance nr. CTAS15/1072

PROJECT NUMBER:	SHEET NUMBER:	REVISION NUMBER:
1533 -	**101 -**	**03**