APPENDIX F: EMPR

EMPr

ENVIRONMENTAL MANAGEMENT PROGRAMME

ENVIRONMENTAL MANAGEMENT PROGRAMME

THE PROPOSED DEVELOPMENT ON FARM 838 HUMANSDORP, WITHIN THE KOUGA LOCAL MUNICIPALITY, EASTERN CAPE

DEDEAT REF: EC08/C/LN1&3/M/29-2026

Environmental Management Programme

Prepared for: PROUD HERITAGE PROPERTIES (PTY) LTD

Submitted in support of an application for Environmental Authorisation in terms of Section 24(5) of the National Environmental Management Act, Act 107 of 1998, as amended 07 April 2017

HORTCOUTURE
LANDSCAPE ARCHITECTURE & PLANNING

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Registered Environmental Assessment Practitioner	Warren Lange		
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1			
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3			

Table of Contents

List of abbreviations

Environmental & EIA Process

BA – Basic Assessment
BAR – Basic Assessment Report
BID – Background Information Document
CA – Competent Authority
EA – Environmental Authorisation
EAP – Environmental Assessment Practitioner
ECO – Environmental Control Officer
EIA – Environmental Impact Assessment
EMPr – Environmental Management Programme
EMP – Environmental Management Plan
I&AP – Interested and Affected Party
IEM – Integrated Environmental Management
NEMA – National Environmental Management Act, 1998 (Act 107 of 1998)
NEM:AQA – National Environmental Management: Air Quality Act, 2004
NEM:WA – National Environmental Management: Waste Act, 2008
PPP – Public Participation Process
PP – Public Participation
ROD – Record of Decision
SZ – Sensitive Zone (Screening Tool)

Planning & Municipal

IDP – Integrated Development Plan
SDF – Spatial Development Framework
SPLUMA – Spatial Planning and Land Use Management Act, 2013
LUMS – Land Use Management Scheme
EFZ – Environmental Framework Zone (Municipal)

Biodiversity, Ecology & Heritage

BSP – Biodiversity Sector Plan
CBA – Critical Biodiversity Area
ESA – Ecological Support Area
SANBI – South African National Biodiversity Institute
ECBCP – Eastern Cape Biodiversity Conservation Plan
NFA – National Forests Act, 1998
PNCO – Provincial Nature Conservation Ordinance
HIA – Heritage Impact Assessment
SAHRA – South African Heritage Resources Agency
ECPHRA – Eastern Cape Provincial Heritage Resources Authority
PES – Present Ecological State
FEPA – Freshwater Ecosystem Priority Area (if applicable to streams/ vleis)

Air Quality & Emissions

AQA – Air Quality Assessment
AQMP – Air Quality Management Plan
AEL – Atmospheric Emission Licence (if triggered)
PM10 / PM2.5 – Particulate Matter (dust fractions)
TSP – Total Suspended Particulates
S02 / NOx – Sulphur Dioxide / Nitrogen Oxides emissions
FUG – Fugitive Dust

Water, Stormwater & Waste

DWS – Department of Water and Sanitation
WULA – Water Use Licence Application
GA – General Authorisation (under NWA)
NWA – National Water Act, 1998
SOP – Standard Operating Procedure
SWMP – Stormwater Management Plan
EMP – Erosion Management Plan (if required)
WWTW – Wastewater Treatment Works
IWMP – Integrated Waste Management Plan
IWULA – Integrated Water Use Licence Application
H:H/H:H – High Hazard Waste Classifications (if applicable)
GIBB – Geotechnical Information Baseline (if used)

Engineering, Construction & Geotechnical

GIS – Geographic Information System
GEOTECH – Geotechnical Investigation
TP – Test Pit
VSD – Variable Speed Drive (often used in plant machinery)
OHS – Occupational Health and Safety
H&S – Health and Safety
SANS – South African National Standards (e.g., SANS 10400, 2001)
SOP – Standard Operating Procedure
MS – Method Statement
COC – Certificate of Compliance (electrical/structural)
CEMP – Construction Environmental Management Plan

Transport, Traffic & Noise

TMP – Traffic Management Plan
TIS/TIA – Traffic Impact Study / Assessment
RTS – Road Transport Statement
NMT – Non-Motorised Transport
dB(A) – Decibels (A-weighted)

Socio-Economic

SED – Socio-Economic Development
SIA – Social Impact Assessment
EMPLOY – Employment Plan (if required)

BEE – Broad-Based Black Economic Empowerment

Energy & Utilities

EIA (Energy) – Electrical Installation Approval
NMD – Notified Maximum Demand (municipal electricity supply)
DoE – Department of Energy
PV – Photovoltaic (solar)

Project-Specific

PPE – Personal Protective Equipment
MDF – Medium-Density Filler (if used in clay additives)
RAW – Raw Material Storage Area
TSF – Temporary Stockpile Facility
ODF – Overburden Disposal Facility
RSS – Rotary Screen Separation
EFF – Energy-Efficient Furnace (if applicable)
KMZ/KML – Google Earth data formats

Expertise of the Author

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EAP's expertise and qualifications

Hort Couture is a consulting company offering holistic solutions in the disciplines of Environmental Planning & Consulting, and Landscape Architecture. We undertake a variety of specialized projects in the Residential, Commercial, Institutional, and Industrial spheres, and have competency in all aspects of environmental planning and consulting. Our primary areas of expertise include:

Environmental Planning and Consulting, including Environmental Impact Assessment (EIA), Public Participation Processes (PPP), Environmental Management Programme (EMPr), Protected Area Management Plans (PAMP), Feasibility Studies, Visual impact assessment (VIA), Environmental Auditing, Environmental Control Officer (ECO) and specialist environmental studies.

Urban Design, including Masterplanning, Urban Planning, Urban Design Frameworks (UDF), urban open space and land-use assessment and planning.

Landscape Architectural Services, including spatial assessment and full tailored landscape design package solutions for private, commercial, industrial, and institutional clients.

Warren Lange is a principal member of Hort-Couture Landscape Architects and Planners.

Warren Lange holds a Bachelor of Landscape Architecture degree obtained from the University of Pretoria in 1994 and is registered as a professional member with the Environmental Assessment Practitioners of South Africa (EAPASA) as well as the South African Council for the Landscape Architectural Profession (SACLAP). His professional EAPASA registration number is 2020/1503 and SACLAP registration number is 20244. Warren is also registered with ILASA (the institute of Landscape Architects of South Africa, as well as IAASA (Institute of Environmental Assessment Practitioners of South Africa). Warren is also further registered a professional Natural Scientist with SACNASP (South African Council for Natural Scientific Professions) in the field of practice Environmental Science with registration number 147880.

Warren Lange has been involved in several environmental and terrestrial ecology specialist studies over the past several years. He currently resides in Port Alfred and is intimately knowledgeable about local environmental conditions within the Ndlambe Municipality as well as the Eastern Cape coast. His specialist skills further cover master planning and design with relation to environmental and social sustainability.

Environmental Assessment Practitioners Association of South Africa

Registration No. 2020/1503

Herewith certifies that

WARREN LANGE

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 April 2026

Expires: 31 March 2027

Chairperson

Registrar

SAQA

REGISTRATION CERTIFICATE

THIS IS TO CERTIFY THAT

Warren Wayne Lange

IS REGISTERED AS A

Professional Landscape Architect

In terms of the regulations of Section 19(2)(a) of the Landscape Architectural Profession Act, 2000 (Act No.45 of 2000)

REGISTER PARTICULARS

REGISTRATION NUMBER:	20244
ID NUMBER:	7101295105083
REGISTRATION RENEWAL DATE:	1 August 2030
CERTIFICATE SERIAL NUMBER:	PRCL 2008026
CERTIFICATE DATE OF ISSUE:	2020-08-24

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PRESIDENT

Mrs C. E. Chinga
REGISTRAR

SACLAP is a SAQA recognised professional body. SAQA ID no: 1250

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SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Warren Lange

Registration Number: 147880

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science (Professional Natural Scientist)

Effective **14 July 2022** Expires **31 March 2027**

President of Council

Chief Executive Officer

To verify this certificate scan this code

Environmental Assessment Practitioners Association of South Africa

Registration No. 2023/6415

Herewith certifies that

ANASTASIA ROXANE DOYLE

is registered as an

Candidate Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 April 2026

Expires: 31 March 2027

Chairperson

Registrar

SAQA

1. Introduction

The proposed development entails the establishment of a small scale residential and tourism accommodation facility together with associated agricultural and supporting infrastructure on Farm 838, a property located adjacent to the Kromme River within a sensitive coastal and riparian environment. The site comprises a historically disturbed and partially transformed brownfields area that has previously been subject to anthropogenic modification and limited agricultural disturbance. The proposed development has accordingly been designed to utilise and consolidate development within these previously disturbed portions of the property as far as reasonably possible in order to minimise intrusion into intact natural vegetation and sensitive riparian environments.

The development is intended to comprise a mixed residential, eco-tourism and agricultural lifestyle component, designed in a manner that seeks to integrate with the surrounding natural landscape character and ecological functioning of the Kromme River corridor. The overall development footprint is anticipated to cover approximately 5 000 m² to 6 000 m² and will include a combination of built structures, internal access infrastructure, raised walkways and associated services infrastructure.

The primary development components will include:

- One main residential dwelling of approximately 400 m² incorporating bedrooms, living spaces, kitchen and dining facilities, outdoor entertainment areas, a swimming pool and associated timber decks;
- Four self-contained accommodation units of approximately 70 m² each, intended for low intensity tourism and guest accommodation purposes, constructed either as pod style or conventional structures and linked to the main dwelling via elevated timber walkways;
- Agricultural and storage infrastructure including an approximately 800 m² agricultural shed and storage building with a steel superstructure;
- A boat storage facility and associated jetty infrastructure, subject to any additional approvals required in terms of the Integrated Coastal Management Act (ICMA);
- Two greenhouse structures of approximately 300 m² each;
- Beekeeping infrastructure and associated low intensity agricultural support facilities;
- Internal gravel access roads, parking and circulation infrastructure;
- Security fencing and associated services infrastructure;
- Off grid and sustainability orientated infrastructure including rainwater harvesting systems, renewable energy systems, wastewater treatment infrastructure and stormwater management measures.

The proposed architectural approach is intended to maintain a low density and environmentally sensitive development character, making use of natural materials such as timber, stone, brick, steel and glazing systems to reduce visual intrusion and integrate with the surrounding landscape. Elevated timber walkways are proposed between structures in order to reduce direct disturbance to the underlying ground surface, minimise compaction and maintain local drainage and ecological connectivity where possible.

The site occurs within a sensitive environmental setting associated with the Kromme River system and broader coastal ecological corridor. The surrounding environment supports indigenous vegetation and ecological processes characteristic of coastal and riparian systems within the Kouga region. Due to the environmental sensitivity of the receiving environment, the development has been designed to cluster infrastructure within defined development nodes and previously disturbed areas while retaining surrounding natural vegetation and ecological buffer areas to the greatest extent practicable.

Construction activities will involve conventional site establishment, vegetation clearing, earthworks, excavation, foundation preparation, building construction and associated infrastructure installation. Vegetation clearing will be limited to the minimum extent required for development platforms, access routes and services infrastructure. Rehabilitation and revegetation of disturbed areas with indigenous species are proposed as part of the overall environmental management approach in order to improve long term ecological functioning and reduce erosion risk.

The proposed development further seeks to incorporate environmentally responsible design principles and sustainability measures, including water conservation, rainwater harvesting, renewable energy generation, low intensity tourism infrastructure and improved management of historically disturbed areas. It is further anticipated that the development may contribute positively toward local economic activity and employment opportunities during both the construction and operational phases.

Given the location of the property adjacent to the Kromme River and within the broader coastal environmental zone, the proposed development triggers listed activities in terms of the Environmental Impact Assessment Regulations, 2017, promulgated under the National Environmental Management Act (Act 107 of 1998), as amended. A Basic Assessment process is therefore being undertaken in support of an application for Environmental Authorisation to the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT).

The environmental assessment process will evaluate the potential impacts associated with the proposed development, including but not limited to:

- Impacts on indigenous vegetation and terrestrial biodiversity;
- Impacts on riparian and aquatic ecological functioning;
- Stormwater management and erosion risks;
- Visual and sense of place impacts;
- Construction related impacts including dust, noise and waste management;
- Potential cumulative impacts within the broader Kromme River and coastal environment;
- Impacts associated with access, services infrastructure and operational activities.

Appropriate avoidance, minimisation, rehabilitation and management measures will be incorporated into the Environmental Management Programme (EMPr) to ensure that the development is undertaken in a manner consistent with the principles of sustainable development, environmental responsibility and long-term ecological integrity.

This Environmental Management Programme, EMPr, must be implemented during the planning, pre-construction, construction, rehabilitation, close out and operational phases of the development. Where required by the Environmental Authorisation, a Construction Environmental Management Programme, CEMPr, must be compiled from the relevant construction phase provisions of this EMPr and submitted to the competent authority before commencement.

1.1. PROJECT INFORMATION

Location

The subject property comprises Farm 838, Humansdorp, situated within the Kouga Local Municipality, Eastern Cape Province. The property is located adjacent to the Kromme River within a sensitive coastal and riparian landscape setting characterised by a combination of transformed areas, indigenous vegetation and associated estuarine ecological systems. The site lies within the broader St Francis Bay

and Kromme River environmental corridor, an area recognised for its ecological, scenic and recreational value.

The approximate central coordinates of the study area are:

- Latitude: 34.13753752326126° South
- Longitude: 24.830239585072032° East

The property is accessed via the existing regional road network associated with the St Francis Bay and Humansdorp area and is located within a predominantly low density coastal and agricultural landscape context. The surrounding land uses comprise a mixture of conservation areas, private residential properties, tourism related developments, agricultural activities and natural riparian environments associated with the Kromme River system.

The study area includes both the proposed development footprint and the broader receiving environment that may potentially be influenced by the proposed activity. This includes the immediate riparian and terrestrial environments, adjacent vegetation communities, drainage pathways, access routes and surrounding visual landscape context.

The site itself comprises a partially transformed brownfields area interspersed with indigenous vegetation and disturbed open areas. The broader receiving environment contains environmentally sensitive features associated with the Kromme River corridor, including indigenous coastal and riparian vegetation, ecological connectivity zones and areas potentially susceptible to erosion and stormwater related impacts. Portions of the surrounding environment may further support faunal movement and habitat functioning associated with the estuarine and coastal ecological systems of the region.

The locality of the site within proximity to the Kromme River and coastal zone necessitates careful environmental planning and management in order to minimise disturbance to ecological processes, protect biodiversity and maintain the visual and environmental character of the area. The proposed development footprint has therefore been conceptualised to consolidate development within previously disturbed areas as far as practicable, while retaining surrounding natural vegetation and ecological buffer areas.

Figure 1 Locality Map

The locality map above further illustrates the position of Farm 838 in relation to the surrounding regional and local context, including nearby access routes, the Kromme River system and adjacent land uses.

1.2. Access, Services and Infrastructure Provision

Site Access

Access to Farm 838 is obtained via the regional road network linking Humansdorp and St Francis Bay, with the primary access route provided from the R330 and thereafter via existing gravel roads leading towards the property. Access to the site will therefore make use of the existing rural access network and established farm access routes.

The internal access network on Farm 838 comprises existing farm roads, tracks and disturbed access routes associated with the historical agricultural use of the property and previous development related works. These existing routes will be utilised for both construction and operational access as far as reasonably practicable, thereby avoiding the need for new road alignments and minimising additional disturbance to remaining natural or semi-natural vegetation.

Access within the site will, where practical, follow the previously implemented roadway and disturbed access alignment associated with the earlier approved but subsequently abandoned development. Any upgrading required for construction or operational access must remain limited to the existing disturbed road prism as far as reasonably practicable. No new access routes should be established through intact riparian vegetation, creek margins, wetland associated vegetation or other remaining indigenous vegetation unless specifically assessed and authorised.

All construction and operational access to Farm 838 must comply with any biosecurity protocols required by the landowner, affected farmers, local farmer organisations, the State Veterinarian, the Department of Agriculture, Land Reform and Rural Development or any other competent animal health authority. Where Foot and Mouth Disease or another communicable animal disease risk is confirmed, suspected or subject to official control measures, access may be restricted, suspended or subject to additional disinfection, screening, visitor recording and movement control requirements.

Bulk Water Supply

The proposed development will not rely on a formal municipal bulk water supply to service the individual tourism units. Given the rural location of Farm 838 and the low intensity nature of the proposed development, the servicing strategy is intended to operate largely independently of conventional municipal bulk infrastructure, while making use of appropriate on-site water supply measures.

Water Demand

Water supply for the proposed development will primarily be derived from rainwater harvesting systems. Roof runoff from the proposed structures will be collected and stored in appropriately sized tanks to meet domestic and operational water demand. Where necessary, this may be supplemented by additional lawful on-site water sources, subject to confirmation of availability, sustainability and any applicable water use authorisation requirements.

Water use will be actively managed through water efficient fittings, low flow fixtures, operational controls and responsible use measures. This is intended to reduce demand, limit pressure on local water resources and ensure that the development remains consistent with the low intensity rural and eco-tourism character of Farm 838.

Bulk Electricity Supply

The proposed development is intended to operate as an off-grid or predominantly off-grid facility, with energy requirements met through solar photovoltaic systems and battery storage. The solar and battery systems will be designed to accommodate the anticipated demand of the proposed units and associated low intensity operational requirements.

This approach reduces reliance on external electrical infrastructure and is consistent with the rural location, environmental sensitivity and low impact tourism positioning of the development. Where any connection to existing electrical infrastructure is required or available, this must make use of existing service corridors as far as reasonably practicable and must not result in the creation of new disturbance corridors through sensitive vegetation or riparian areas.

All structures will be designed in accordance with applicable national building standards, including SANS 10400-XA requirements relating to energy efficiency, thermal performance and fenestration. The design of the units should therefore optimise passive performance, reduce operational energy demand and support the proposed off-grid servicing approach.

Wastewater treatment

Wastewater generated by the proposed development will be managed through decentralised on-site wastewater treatment systems associated with the individual structures or clusters of structures. These

systems must be appropriately designed, installed and maintained to ensure effective treatment of effluent to an acceptable standard prior to any reuse or lawful discharge.

The wastewater management system must prevent contamination of surrounding soils, groundwater, drainage lines, riparian vegetation and the nearby Kromme River system. Treated effluent may be reused for non-potable purposes, including toilet flushing and controlled irrigation within growing tunnels, provided that the quality of the treated effluent is suitable for the intended reuse and that such reuse does not result in nutrient enrichment, runoff, seepage or pollution of any watercourse.

The use of conservancy tanks with routine off-site disposal is not considered the preferred long-term servicing option for Farm 838, given the rural location of the property, access limitations and the sustainability objectives of the proposed eco-tourism development. A properly designed self-contained wastewater treatment system is therefore considered a more appropriate and environmentally responsible approach, provided that it is maintained, monitored and operated in accordance with manufacturer specifications and any applicable regulatory requirements.

Treated effluent may only be reused for non potable purposes, including toilet flushing or controlled irrigation within greenhouse or growing tunnel areas, where the wastewater treatment system is designed for such reuse, where treated effluent quality is suitable for the intended use, and where such reuse is legally permissible. Reuse must not result in ponding, odour, runoff, seepage, nutrient enrichment, groundwater contamination, discharge to drainage features or impact on the Kromme River system.

Sewer Reticulation

Internal wastewater reticulation will be limited to short connections between the individual units, service areas and their associated decentralised wastewater treatment systems. Pipework will typically comprise 110 mm diameter uPVC piping installed in accordance with standard engineering practice, with appropriate bedding, minimum cover, inspection points and measures to prevent leakage or failure.

Any sewer reticulation required must be located within already disturbed areas, existing access routes or approved service corridors as far as reasonably practicable. No sewer infrastructure should be placed within sensitive riparian areas, creek margins or areas supporting remaining indigenous vegetation unless unavoidable and specifically assessed.

The overall servicing strategy for Farm 838 reflects a decentralised, low impact and largely self-sufficient approach that is appropriate to the rural setting, agricultural zoning context and environmental sensitivity of the site. The use of existing access routes, rainwater harvesting, off-grid energy systems and decentralised wastewater treatment will assist in ensuring that infrastructure requirements remain limited and do not compromise the ecological integrity of the surrounding Kromme River landscape.

1.3. ACTIVITIES TRIGGERED BY PROPOSED DEVELOPMENT

In terms of Environmental Impact Assessment (EIA) Regulations published in the Government Notice No. R324 to R327 of 7 April 2017; in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998), the following listed activities were identified as being triggered by the intended developments;

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1 (GN R327)	Describe the portion of the proposed project to which the applicable listed activity relates.
GN R 327 (LISTING NOTICE 1): 17(v)(e)	The development of infrastructure or structures with a development footprint of 50 square metres or more, where such development occurs within 100 metres inland of the high-water mark of the sea or an estuary, where no development setback line exists.	The proposed development on Farm 838 includes residential, accommodation, access, service and associated infrastructure within proximity to the Kromme River and estuarine environment. The cumulative development footprint will exceed 50 m² and portions of the proposed infrastructure are expected to occur within the regulated coastal or estuarine proximity zone.
19A(ii)	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from, an area seaward of the development setback line or, where no such development setback line exists, within 100 metres inland of the high-water mark of the sea or an estuary.	This activity is anticipated to be triggered by site preparation, foundation excavation, access road construction, service installation, landscaping, stormwater infrastructure and associated earthworks required for the proposed development. These works may involve the excavation, removal, moving, infilling or depositing of more than 5 m³ of material within 100 metres inland of the high-water mark of the Kromme River estuary, or within the applicable regulated coastal or estuarine proximity area.
GN R 324 (LISTING NOTICE 3): 5(a)(iii)	The development of resorts, lodges, hotels and tourism or hospitality facilities that sleep less than 15 people. a. Eastern Cape (iii) Outside urban areas, in areas within 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater.	The proposed development includes four self-contained sleeper units associated with low intensity tourism and guest accommodation on Farm 838. The accommodation component is small scale and is intended to sleep fewer than 15 people. The activity is therefore anticipated to be applicable as the proposed tourism or hospitality accommodation is located outside an urban area and within proximity to the Kromme River estuarine environment.
12(a)(i)(iii)	The clearance of an area of 300 square meters or more of indigenous vegetation except where such clearance of indigenous vegetation is required for	The activity is triggered as the proposed development may require the clearance of 300 m² or more of indigenous vegetation for building

	maintenance purposes undertaken in accordance with a maintenance management plan. a. Eastern Cape (i). Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; (iii) Within the littoral active zone or 100 metres inland from the high-water mark of the sea, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas.	platforms, access routes, services, boardwalks, walkways, stormwater infrastructure and associated construction areas within the regulated coastal or estuarine proximity context. The updated 2024 vegetation mapping identifies the site as being associated with a vegetation mosaic that includes Endangered Albany Alluvial Vegetation. However, site verification indicates that the majority of Farm 838 is transformed or historically disturbed, with limited natural vegetation remaining mainly along the creek and riparian margins. The final extent and nature of vegetation clearance will be confirmed through the final layout, specialist input and Basic Assessment process.

1.4. EMPr Objectives

This Environmental Management Programme (EMPr) has been prepared as a comprehensive, site-specific management tool to guide and control all construction-related activities associated with the proposed low-intensity development on Farm 838, within the Kouga Local Municipality. The EMPr establishes a structured framework for environmental compliance, impact mitigation and performance monitoring within the rural agricultural, estuarine and riparian context associated with the Kromme River system.

The EMPr is specifically tailored to the low-intensity nature of the proposed development and responds directly to the environmental sensitivities of the site, including its proximity to the Kromme River estuarine functional zone, the presence of creek and riparian areas, mapped biodiversity planning layers and the historical disturbance and agricultural use of the property. While the broader site is identified by environmental screening datasets as sensitive, site verification and ground truthing indicate that much of Farm 838 is transformed or historically disturbed, with limited remaining natural vegetation mainly associated with the creek and riparian margins. The EMPr therefore provides clear, enforceable guidelines and specifications to ensure that construction activities are undertaken in a manner that avoids, minimises and manages potential environmental impacts, while prioritising the protection of remaining indigenous vegetation, riparian features and ecological processes.

The purpose of this EMPr is to define best practice methodologies and establish binding environmental controls for the construction phase, while also informing operational and rehabilitation requirements where relevant. It serves as a practical implementation tool to ensure that all environmental commitments made during the Basic Assessment process are effectively translated into on-site action.

This EMPr is binding on all parties involved in the planning, design, construction, operation and close-out phases of the development. This includes the Applicant, Project Manager, Architect, Engineers, Contractor, Environmental Control Officer (ECO) and any subcontractors or service providers appointed to the project. All parties are required to be familiar with and comply fully with the provisions of this EMPr, and the conditions of any Environmental Authorisation issued in terms of the National Environmental Management Act.

The objectives of the EMPr are to:

- Ensure full compliance with applicable legislation, policies, standards and conditions of Environmental Authorisation at local, provincial and national level.
- Ensure that the scale and implementation of environmental management measures are appropriate to the sensitivity of Farm 838 and the nature of the proposed low-intensity development.
- Protect the integrity of the Kromme River system, the estuarine functional zone, creek margins and associated riparian ecological processes through strict control of construction activities.
- Avoid and minimise disturbance to remaining natural vegetation, riparian vegetation, mapped biodiversity features and ecological corridors through careful site planning and demarcation of no-go areas.
- Ensure that construction activities are located within previously disturbed or transformed areas as far as reasonably practicable.
- Provide clear, practical and enforceable mitigation measures to reduce identified impacts to low or acceptable levels.
- Establish monitoring and auditing procedures to verify environmental performance and ensure ongoing compliance.
- Provide a structured mechanism for responding to unforeseen environmental impacts, incidents or non-compliance events.
- Promote efficient use of natural resources, including water and energy, consistent with the low-impact and largely self-sufficient servicing approach of the development.
- Ensure that all waste, effluent and construction-related pollutants are properly managed to prevent contamination of soil, surface water, groundwater, drainage lines and the Kromme River system.
- Facilitate effective communication and reporting between the ECO, contractor, authorities and Interested and Affected Parties.
- Establish clear roles, responsibilities and lines of accountability for environmental management on site.
- Ensure that all health, safety and environmental protection measures are implemented in an integrated manner.
- Provide for progressive rehabilitation of disturbed areas and ensure that the site is stabilised and restored following construction.
- Support alien vegetation control and the rehabilitation of disturbed areas with appropriate locally indigenous species where required.
- Support continual improvement in environmental performance through monitoring feedback and adaptive management.

Overall, this EMPr provides the framework through which the proposed development on Farm 838 can be implemented in a manner that is environmentally responsible, legally compliant and aligned with the principles of sustainable development. The EMPr seeks to ensure that the development remains appropriately scaled, is focused within disturbed or transformed areas as far as practicable, and does not compromise the remaining ecological value, riparian function or estuarine context of the Kromme River landscape.

1.5. LEGAL REQUIREMENTS

As set out in Appendix 4 of the 2014 NEMA, EIA regulations (GN982), as amended 07 April 2017 (GN326), the content of an environmental management programme must comply with section 24N of the act and Include:

(a) details of -
  (i) the EAP who prepared the EMPr; and
  (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;
(c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;
(d) a description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including-
  (i) planning and design;
  (ii) pre-construction activities;
  (iii) construction activities;
  (iv) rehabilitation of the environment after construction and where applicable post closure; and
  (v) where relevant, operation activities;
(e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);
(f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to –
  (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
  (ii) comply with any prescribed environmental management standards or practices;
  (iii) comply with any applicable provisions of the Act regarding closure, where applicable; and
  (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);
(i) an indication of the persons who will be responsible for the implementation of the impact management actions;
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;
(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;
(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
(n) any specific information that may be required by the competent authority.

1.6. GUIDING PRINCIPLES

In South Africa, environmental management principles applicable to construction and operational activities are guided by various regulations and best practices aimed at minimising environmental impacts and promoting long-term sustainability. General principles and practices include:

- **Legal Compliance**: Ensure compliance with South African environmental laws, including the National Environmental Management Act (NEMA) and its associated regulations. Obtain necessary permits and approvals before commencing construction.
- **Environmental Impact Assessment (EIA)**: Conduct an EIA for significant projects to assess potential impacts on the environment during all phases and implement mitigation measures as required by law.
- **Environmental Management Plan (EMP)**: Develop, implement, and regularly update a EMP specific to the project, detailing measures to minimise environmental impacts during all phases, including construction, operation, and eventual closure or decommissioning.
- **Biodiversity Conservation**: Identify and protect sensitive ecosystems and biodiversity in and around the construction site. Implement measures to avoid habitat destruction and minimize disturbance to wildlife during all phases of the project.
- **Water Management**: Implement measures to conserve water resources, prevent water pollution, and manage stormwater effectively throughout the project's lifecycle. This includes erosion control during construction and ongoing measures such as pollution prevention devices, regular inspection of drainage systems and water use efficiency initiatives during operation.
- **Air Quality Management**: Minimise dust and pollutant emissions during construction through dust suppression techniques and during operation through appropriate emission controls, maintenance of equipment and adherence to air quality standards.
- **Waste Management**: Implement a waste management plan applicable to both the construction and operational phases of the project, to reduce, reuse and recycle waste where possible. Proper handling, storage, and disposal of hazardous materials is crucial to prevent soil and water contamination during the project's life cycle.
- **Energy Efficiency**: Promote energy-efficient practices during construction and operation, including the use of renewable energy sources where feasible to reduce greenhouse gas emissions and overall environmental footprint.
- **Community Engagement**: Engage with local communities and stakeholders throughout the project to address concerns, promote transparency, and ensure that both construction and operational activities do not negatively impact nearby residents.
- **Monitoring and Reporting**: Regularly monitor environmental performance against established targets and requirements during all phases, including operational compliance monitoring for emissions, water quality, and waste management. Report findings to regulatory authorities and stakeholders as per legal obligations.
- **Training and Awareness**: Train construction, operational and maintenance personnel on environmental best practices and ensure awareness of environmental responsibilities. Encourage a culture of environmental stewardship on site.
- **Continuous Improvement**: Continuously review and improve environmental management practices based on monitoring results, technological advancements, changes in legislation and lessons learned from past projects. Apply adaptive management to respond to evolving environmental risks and opportunities.
- **Risk Management:** Identify, assess, and prioritise environmental risks for both construction and operational phases and implement preventative and contingency measures to minimise potential environmental harm.

- **Life Cycle Approach:** Consider the full life cycle of the project, from planning and construction through to operation and maintenance in all environmental management decisions.

These principles reflect a proactive and lifecycle-based approach to environmental management in South Africa, aiming to balance development needs with environmental conservation and sustainability goals. It is essential for all contractors, operators, and associated stakeholders to integrate these principles into their operations and collaborate with environmental specialists as needed to ensure compliance and best practices.

In addition to the guidelines outlined above, the following principles should also be adhered to at all times during the implementation and operation of this project:

1. The Environment is considered to be composed of both biophysical and social components.
2. Construction and operational activities are disruptive activities. Consideration must be given to both the natural and social environment, during all phases of the project in order to minimize the impact on all surrounding biophysical and social components.
3. Areas disturbed by project activities (i.e. the footprint and immediate surrounds of the construction and operational areas) should be minimized throughout the project in order to reduce rehabilitation requirements and costs.
4. As minimum requirements, all relevant standards relating to international, national, provincial, and local legislation, as applicable, shall be adhered to. This includes the following legislation which could have an effect on construction and operational activities as well as on the environment. This list is merely a guideline, and the responsibility shall remain on the
5. Contractor and operators to ensure that all relevant legislation is adhered to throughout both the construction and operational phases of the project.
    - Constitution Act (No. 108 of 1996)
    - National Environmental Management Act (NEMA) (No. 107 of 1998)
    - National Environment Management Biodiversity Act (NEMBA) (No.10 of 2004)
    - National Water Act (No 36 of 1998)
    - National Environmental Management Integrated Coastal Management Act (No. 24 of 2008)
    - National Heritage Resources Act (No. 25 of 1999)
    - Conservation of Agricultural Resources Act (No 43 of 1983)
    - Eastern Cape Biodiversity Conservation Plan (Berliner and Desmet, 2007)
    - Eastern Cape Environmental Conservation Ordinance of 1974
    - Environment Conservation Act (ECA) of 1989
    - Provincial Nature Conservation Bill (Eastern Cape) of 2003
    - National Forest Act of 1998
    - National Environmental Management: Integrated Coastal Management Act (ICMA) of 2004
    - Occupational Health & Safety Act (No.85 of 1993)
    - Kouga Local Municipality Integrated Development plan (IDP)
    - The Spatial Planning and Land Use Management by-laws of the Kouga Municipality .
    - All relevant provincial legislation, Municipal by-laws, and ordinances.
6. Every effort should be made to minimise, reclaim, and/or recycle “waste” material throughout all phases of the project.
7. Consideration must be exercised to ensure that the rights of others with are respected. This requires that a risk averse and cautious approach to the management of activities associated with the project be adopted at all times.

8. Environmental management should consider the full lifecycle of the project, including construction, operation, and maintenance to ensure sustainable outcomes over the long term.

2. Roles and responsibilities

The successful implementation of this EMPr for the proposed low-intensity development on Farm 838, is dependent on clearly defined roles and responsibilities across all project phases. Given the site's rural agricultural context, its proximity to the Kromme River estuarine and riparian environment, and the presence of mapped biodiversity sensitivities, a high level of environmental accountability and coordination is required.

All parties involved in the planning, design, construction, operation and close-out phases must ensure that the development is implemented in accordance with this EMPr, the conditions of any Environmental Authorisation issued, and all applicable environmental legislation. Particular attention must be given to limiting construction activities to approved and demarcated areas, avoiding disturbance to remaining indigenous vegetation, creek margins and riparian areas, managing erosion and sedimentation, preventing pollution of surface and groundwater resources, and ensuring that disturbed areas are rehabilitated following construction.

The Applicant, Project Manager, Contractor, Environmental Control Officer, specialist team and any subcontractors or service providers must each understand their respective responsibilities and must cooperate to ensure that environmental controls are practically implemented on site. The EMPr therefore provides the framework for assigning accountability, maintaining communication, monitoring compliance, responding to incidents or non-compliance, and ensuring that the proposed development remains appropriately managed within the environmental sensitivity of Farm 838 and the broader Kromme River landscape.

2.1. THE PROPONENT

The Proponent, Proud Heritage Properties (Pty) Ltd, as the applicant and developer of the proposed low-intensity development on Farm 838, will be responsible for:

1. Appointing a suitably qualified Principal Agent, being an Architect, Engineer or other appropriately qualified professional, to oversee implementation of the development in accordance with approved plans, Environmental Authorisation conditions and environmental specifications.
2. Appointing a suitably qualified and experienced contractor with demonstrated capacity to operate within environmentally sensitive rural, riparian and estuarine proximity environments.
3. Appointing an independent Environmental Control Officer to monitor compliance during the construction phase and, where required, during relevant operational or close-out phases.
4. Ensuring full understanding and implementation of the EMPr across all relevant phases of the development.
5. Providing adequate financial provision for the implementation of all environmental management measures, including contingency allowances for unforeseen impacts associated with construction within a sensitive Kromme River estuarine and riparian context.
6. Supporting enforcement of environmental specifications through the Principal Agent, Project Manager and ECO.
7. Ensuring that the development is implemented in accordance with the low-intensity development objectives of the project and remains appropriately scaled in relation to the rural and agricultural context of Farm 838.

8. Ensuring that development and construction activities are located within approved and demarcated footprints, using transformed or previously disturbed areas as far as reasonably practicable.
9. Maintaining environmental compliance during the operational phase, including ongoing monitoring, infrastructure maintenance, wastewater system maintenance, alien vegetation control and adherence to sustainable resource use practices.
10. Ensuring that the long-term management of the property supports the protection of remaining biodiversity features, creek margins, riparian vegetation, drainage lines and the broader Kromme River system.
11. Ensuring that all reporting requirements to the Department of Economic Development, Environmental Affairs and Tourism, and any other relevant authority, are met where applicable.

2.2. THE PROJECT MANAGER OR PRINCIPAL AGENT

The Project Manager or Principal Agent will be responsible for:

1. Ensuring that all contractors, subcontractors and relevant personnel are fully informed of and understand the requirements of the EMPr prior to commencement of works.
2. Ensuring that all required permits, licences and approvals are obtained prior to site establishment, particularly where works may occur near watercourses, creek margins, riparian areas, indigenous vegetation or other sensitive environmental features.
3. Monitoring contractor compliance with the EMPr and enforcing corrective actions where required.
4. Reviewing and approving method statements in conjunction with the ECO, particularly for activities within or near environmentally sensitive areas.
5. Issuing site instructions to ensure implementation of environmental mitigation measures.
6. Facilitating coordination between the Proponent, ECO, Contractor, specialists and relevant project professionals to ensure effective environmental management.
7. Managing the transition from construction to operational phase, ensuring that environmental controls are embedded in long-term facility management.
8. Ensuring that construction activities remain within approved footprints and avoid demarcated no-go areas, including creek margins, riparian areas, remaining indigenous vegetation and other sensitive features.
9. Ensuring that any required changes to the approved layout, access arrangements, service routes or construction methodology are referred to the ECO and, where necessary, the competent authority before implementation.

2.3. THE CONTRACTOR

The Contractor will be responsible for:

1. Full compliance with the EMPr, the conditions of Environmental Authorisation and all associated environmental specifications.
2. Limiting site disturbance to approved development footprints, access routes, service corridors and designated working areas.
3. Strict adherence to demarcated no-go areas, particularly creek margins, riparian vegetation, remaining indigenous vegetation, drainage lines and any areas identified by the ECO or specialists as sensitive.

4. Establishing and maintaining an environmental site file with accurate records of activities, incidents, inspections, method statements, induction records, waste disposal records and mitigation measures.
5. Conducting environmental awareness training and induction for all personnel, with specific emphasis on working within a rural site located near the Kromme River estuarine and riparian environment.
6. Preventing pollution, including the control of waste, cement, fuels, oils, chemicals, wastewater and construction materials to avoid contamination of soil, groundwater, drainage lines and surface water resources.
7. Preparing and submitting detailed method statements for all activities with potential environmental risk, including site establishment, vegetation clearing, earthworks, stormwater control, wastewater infrastructure installation, work near drainage lines and rehabilitation.
8. Implementing mitigation measures timeously in response to audit findings, ECO instructions or identified non-compliance.
9. Reporting all environmental incidents, spillages, erosion, sedimentation, unauthorised clearance or non-compliance events immediately to the ECO and Principal Agent.
10. Ensuring that all subcontractors, suppliers and service providers comply with the EMPr.
11. Ensuring that all disturbed areas are stabilised, cleaned, rehabilitated and made safe following completion of construction activities.

The Contractor must establish an environmental site file before site establishment commences. The file must include the Environmental Authorisation, approved EMPr, approved layout plan, Environmental Control Plan, permits, method statements, induction records, inspection reports, incident register, complaints register, waste disposal records, spill records, biosecurity access records where applicable, photographic records and corrective action close out records. The file must be available for inspection by the ECO, Applicant, Project Manager and authorised officials.

2.4. THE ENVIRONMENTAL CONTROL OFFICER

The Environmental Control Officer will be responsible for:

1. Notifying the Department of Economic Development, Environmental Affairs and Tourism prior to commencement of construction where required by the Environmental Authorisation.
2. Conducting environmental induction for all project personnel, with emphasis on site sensitivities, approved working areas, no-go areas, pollution prevention, erosion control, alien vegetation control and incident reporting.
3. Verifying that all required environmental approvals, permits and authorisations are in place prior to commencement of relevant activities.
4. Undertaking regular site inspections to monitor compliance with the EMPr, with particular focus on protection of the Kromme River system, creek margins, riparian vegetation, drainage features, remaining indigenous vegetation and biodiversity features.
5. Conducting formal environmental audits and issuing compliance reports to the Proponent, Principal Agent, Contractor and relevant authorities where required.
6. Maintaining photographic records of site conditions, construction progress, environmental controls, incidents and rehabilitation.
7. Ensuring that mitigation measures are implemented effectively and adapted where necessary in response to site conditions.
8. Reviewing and approving method statements for construction activities that may affect sensitive areas or environmental features.
9. Monitoring environmental awareness and training programmes.

10. Inspecting demarcated no-go areas, erosion control measures, stormwater controls, waste management areas, fuel storage areas and wastewater infrastructure installation.
11. Recommending corrective actions and, where necessary, instructing that activities cease until non-compliance or environmental risk has been addressed.
12. Undertaking post-construction close-out audits and, where applicable, periodic operational audits to ensure ongoing compliance.

2.5. THE OPERATIONS OR FACILITY MANAGER

The Operations or Facility Manager will be responsible for:

1. Managing day-to-day operations of the proposed facility in accordance with the EMPr, Environmental Authorisation conditions and the low-impact operational objectives of the development.
2. Ensuring ongoing compliance with environmental legislation, authorisation conditions and any operational monitoring requirements.
3. Managing sustainable use of resources, including water, energy and waste, in line with the low-impact and largely self-sufficient servicing approach of the development.
4. Ensuring that rainwater harvesting systems, solar energy systems, wastewater treatment systems, stormwater infrastructure and access routes are properly maintained.
5. Coordinating environmental monitoring programmes where required, including wastewater system performance, waste management, erosion control, alien vegetation control and rehabilitation success.
6. Implementing corrective actions identified through audits, inspections, operational monitoring or complaints.
7. Training operational staff in environmental awareness, particularly with respect to visitor management, waste control, water conservation, fire prevention, pollution prevention and avoidance of sensitive areas.
8. Acting as the primary operational liaison between the Proponent, regulatory authorities, ECO, service providers and operational staff.
9. Ensuring that visitors and guests are managed in a manner that avoids disturbance to creek margins, riparian vegetation, remaining natural areas and the broader Kromme River landscape.

2.6. ENVIRONMENTAL OFFICER DURING OPERATIONS

Where appointed or required, the Environmental Officer during operations will be responsible for:

1. Conducting regular environmental inspections and monitoring during the operational phase.
2. Ensuring that the operation of the development does not negatively impact surrounding ecosystems, particularly the Kromme River system, creek margins, riparian vegetation, drainage features and remaining indigenous vegetation.
3. Reviewing operational procedures to ensure continued compliance with the EMPr and any authorisation conditions.
4. Reporting environmental incidents or non-compliance to the Operations Manager, Proponent and ECO where applicable.
5. Recommending updates or refinements to the EMPr where required to respond to operational impacts or improve environmental performance.
6. Supporting ongoing environmental management initiatives on Farm 838, including alien vegetation control, erosion management, rehabilitation monitoring and biodiversity protection.

7. Ensuring that any maintenance activities with potential environmental risk are reviewed before implementation and undertaken in accordance with environmental best practice.

2.7. MAINTENANCE AND TECHNICAL STAFF

Maintenance and technical staff will be responsible for:

1. Undertaking maintenance activities in accordance with EMPr requirements, environmental best practice and instructions issued by the Operations Manager, ECO or Environmental Officer.
2. Ensuring that all infrastructure, including access tracks, boardwalks, walkways, wastewater systems, rainwater harvesting systems, solar installations, stormwater infrastructure and erosion control measures, are maintained to prevent environmental degradation.
3. Implementing mitigation and corrective measures identified during inspections, audits or operational monitoring.
4. Reporting environmental issues, infrastructure failures, leaks, erosion, sedimentation, alien vegetation regrowth, wastewater system faults or other environmental risks to the Operations Manager or Environmental Officer.
5. Ensuring that all maintenance activities avoid unnecessary disturbance to natural areas, creek margins, riparian vegetation, drainage lines and biodiversity features.
6. Ensuring that fuels, oils, chemicals, tools, waste and maintenance materials are stored, handled and disposed of in a manner that prevents pollution of soil, groundwater and surface water resources.
7. Ensuring that disturbed areas arising from maintenance activities are stabilised, cleaned and rehabilitated as soon as practically possible.

Overall, the allocation of roles and responsibilities ensures that environmental management is integrated into all aspects of the proposed Farm 838 development, from construction through to long-term operation. This supports the responsible implementation of the low-intensity facility within a rural agricultural, riparian and estuarine proximity context, while ensuring that remaining ecological features and the broader Kromme River landscape are appropriately protected.

The following Figure below highlights the roles and responsibility flow chart and reporting structure and provides a visual format of to be followed.

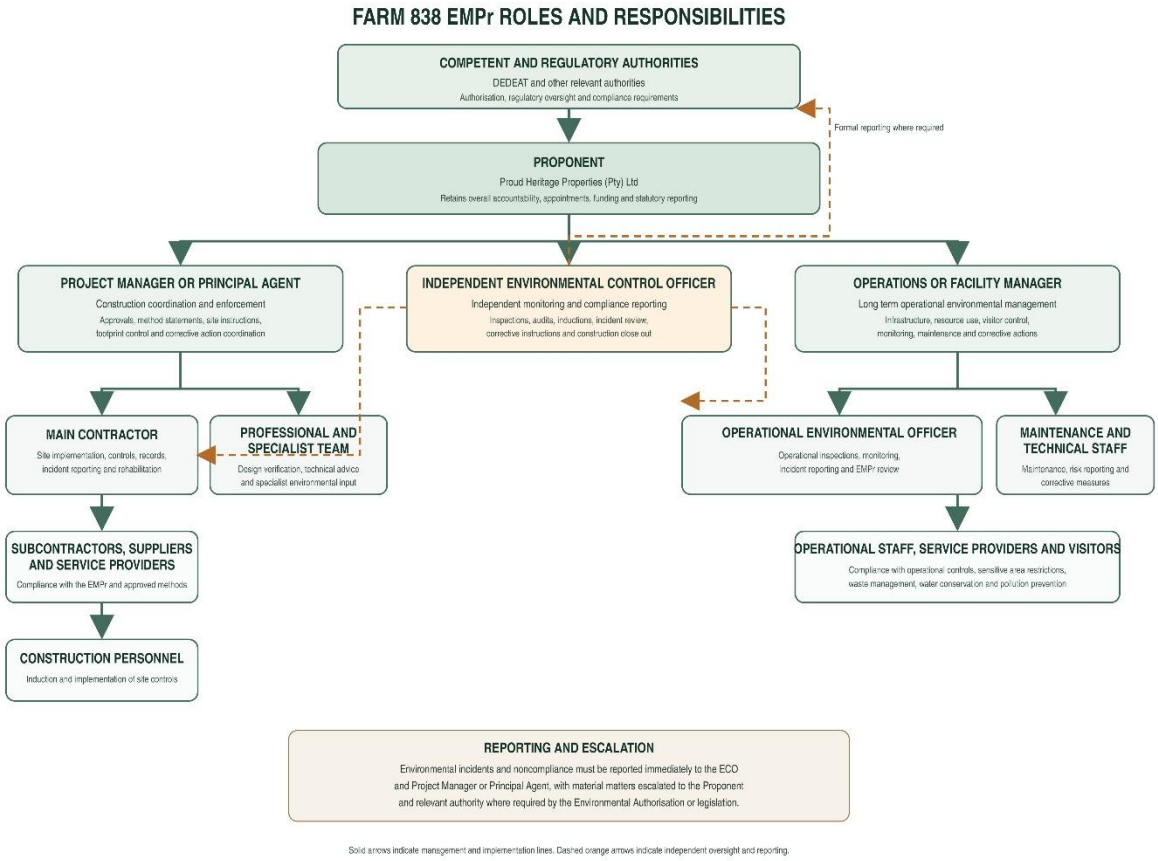


Figure 2 Roles and responsibility flow chart and reporting structure

The Proponent retains overall accountability for compliance with the Environmental Authorisation, approved EMPr and applicable environmental legislation. During construction, the Project Manager or Principal Agent manages and coordinates the Contractor, professional team and specialist inputs. The Contractor is directly responsible for implementing the EMPr on site and for ensuring that all subcontractors, suppliers and construction personnel comply with the approved environmental requirements.

The Environmental Control Officer functions independently of the Contractor and monitors, audits and reports on environmental compliance. The ECO may issue corrective instructions through the Project Manager or Principal Agent and may recommend that activities cease where an immediate environmental risk or material noncompliance is identified.

Following construction, responsibility for day-to-day environmental management transfers to the Operations or Facility Manager. The Operational Environmental Officer, where appointed or required, supports ongoing inspections, monitoring and incident reporting, while maintenance and technical staff are responsible for maintaining infrastructure and promptly addressing environmental risks. Notwithstanding this delegation, Proud Heritage Properties (Pty) Ltd remains ultimately accountable for environmental compliance throughout the construction and operational phases.

3. Environmental Management Programme

The proposed low-intensity development on Farm 838 is located within a rural agricultural landscape within the Kouga Local Municipality and in proximity to the Kromme River estuarine and riparian environment. The site is associated with mapped biodiversity sensitivities, creek and riparian features, existing disturbed access routes, transformed agricultural areas and limited remaining natural vegetation. As such, a range of potential environmental impacts may arise across the lifecycle of the project, particularly in relation to vegetation disturbance, erosion and sedimentation, stormwater management, protection of creek and riparian areas, waste management, wastewater management and sustainable resource use.

This Environmental Management Programme provides a comprehensive and practical framework for the identification, management and monitoring of environmental risks associated with the proposed development on Farm 838. The EMPr is aligned with the low-intensity and low-impact nature of the project and is specifically designed to ensure that the development is implemented in a manner that is environmentally responsible, legally compliant and appropriate to the rural, estuarine and riparian context of the site.

The EMPr includes management plans and mitigation measures for the pre-construction, construction and operational phases of the development. Each phase presents specific environmental risks and management requirements, which are addressed through targeted management actions, mitigation measures, monitoring procedures and defined responsibilities. The pre-construction requirements focus on approvals, site demarcation, environmental induction, method statements, confirmation of no-go areas and the protection of sensitive features before works commence. The construction requirements focus on limiting disturbance to approved footprints, erosion and sediment control, pollution prevention, waste management, protection of watercourses and rehabilitation of disturbed areas. The operational requirements focus on the ongoing management of wastewater systems, stormwater infrastructure, access routes, visitor use, waste, alien vegetation control, maintenance and environmental monitoring.

The management measures set out in this EMPr place particular emphasis on the protection of the Kromme River system, creek margins, riparian vegetation, drainage features, remaining indigenous vegetation and any areas identified as sensitive through site verification or specialist assessment. The EMPr further supports the low-impact servicing approach of the development by promoting water conservation, rainwater harvesting, efficient energy use, responsible wastewater treatment, effective waste management and minimisation of disturbance to transformed and semi-natural areas.

The tables that follow identify the key activities and environmental aspects associated with each project phase and set out the corresponding management actions required to ensure that the development is implemented in accordance with best practice principles, the conditions of Environmental Authorisation and the objectives of sustainable development. These measures are intended to ensure that environmental impacts are avoided where possible, minimised where unavoidable and effectively managed throughout the construction and operational life of the proposed development on Farm 838.

This Environmental Management Programme, EMPr, must be implemented during the planning, pre construction, construction, rehabilitation, close out and operational phases of the development. Where required by the Environmental Authorisation, a Construction Environmental Management Programme, CEMPr, must be compiled from the relevant construction phase provisions of this EMPr and submitted to the competent authority before commencement.

3.1. PLANNING AND DESIGN PHASE

The planning and design phase for the proposed low intensity development on Farm 838 has been structured to respond to the site-specific environmental context and sensitivities of the property. Farm 838 is located within a rural agricultural landscape in the Kouga Local Municipality and in proximity to the Kromme River estuarine and riparian environment. The site includes transformed and historically disturbed areas, existing access routes, creek and riparian margins, drainage features, mapped biodiversity sensitivities and limited remaining natural vegetation that must be considered during layout finalisation and detailed design.

The purpose of the planning and design phase is to ensure that environmental considerations are integrated into the project before site establishment and construction commence. This includes confirming the final development footprint, aligning infrastructure with existing disturbed areas as far as reasonably practicable, identifying and demarcating sensitive features, confirming the required approvals, and ensuring that construction specifications, method statements and contractual requirements give effect to the EMPr.

Where any jetty, launching, access, mooring or estuarine edge infrastructure is proposed, retained, upgraded, repaired or used as part of the development, the planning and design phase must also confirm the applicable landowner consent, municipal permissions, lease agreements, servitude arrangements, coastal or estuarine management requirements and any authorisations required in terms of the National Environmental Management: Integrated Coastal Management Act. No jetty related work, occupation or use may commence until the relevant approvals, lease or written permissions have been confirmed and placed on record.

This section must be read together with the management plans for the pre-construction, construction and operational phases of the EMPr. The table below outlines the key planning and design activities, associated management actions, responsibilities and monitoring requirements required to ensure that the proposed development is implemented in a manner that avoids unnecessary disturbance, minimises environmental risk and protects the remaining ecological features associated with Farm 838 and the Kromme River landscape.

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Appointments and EMPr Implementation	Appoint an independent ECO and distribute the EMPr to all project stakeholders. The ECO must form part of the project management team and must attend relevant planning and pre construction meetings.	Proponent, ECO	Once off and ongoing
EMPr Compliance Framework	ECO to oversee environmental compliance during planning and design, advise on sensitive areas and ensure that mitigation requirements are	ECO	Ongoing

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	incorporated into final layout plans, construction specifications and contractor documentation.		
Site Induction and Environmental Awareness Planning	Develop a site-specific induction programme focusing on protection of creek margins, riparian vegetation, drainage features, remaining indigenous vegetation, erosion control, pollution prevention, no go areas and the Kromme River estuarine and riparian context.	ECO, Contractor, Proponent	Once off and as required
Training Records and Accountability	Maintain attendance registers and ensure all personnel are inducted prior to site establishment and before undertaking any work on site.	ECO, Contractor	Once off and ongoing for new staff
Environmental Approvals and Documentation	Confirm that all required environmental authorisations, permits, licences, municipal permissions, landowner consents and approvals are obtained prior to site establishment and before any activity requiring approval is undertaken.	Proponent, Project Manager	Once off
Jetty Permissions, Lease and Municipal Agreements	Where any jetty, launching, mooring, access or estuarine edge infrastructure is proposed, retained, upgraded, repaired or used, confirm the legal status, ownership and jurisdiction of the structure and affected land or water area. Obtain written confirmation from Kouga Municipality where a lease agreement, consent, servitude, access agreement, occupation agreement or other municipal permission is required. Copies of all agreements and permissions must be included in the project file before commencement of any related works or operational use. No construction, repair, upgrade, use, occupation or operation of any jetty, boat storage, mooring, launching, river access or estuarine edge infrastructure may commence until the legal status of the structure and associated access has been confirmed. Where required, written Kouga Municipality consent, lease agreement, occupation agreement, landowner consent, ICMA related approval, Environmental Authorisation condition, water use related confirmation and any other applicable permit or authorisation	Proponent, Project Manager, ECO	Once off before commencement and updated if terms change

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	must be obtained and placed in the environmental site file before the relevant activity commences.		
ICMA and Coastal or Estuarine Management Requirements	Confirm whether the jetty or any associated activity falls within coastal public property, the coastal protection zone, coastal waters, the estuarine functional zone or any other area regulated in terms of the National Environmental Management: Integrated Coastal Management Act. Obtain any required coastal, estuarine or competent authority approval, consent, permit or written confirmation before construction, repair, occupation or use. Design and use of the jetty must not restrict lawful public access, alter estuarine processes, result in pollution, or undermine coastal and estuarine management objectives.	Proponent, EAP, Project Manager, ECO	Once off before commencement and as required
Water Use, Estuarine and River Related Authorisations	Confirm whether any jetty, boardwalk, access, wastewater, stormwater, bank stabilisation or service infrastructure triggers approval under the National Water Act or any watercourse related requirements. Obtain the relevant authorisation, general authorisation confirmation, registration or written confirmation before works commence, where applicable.	Proponent, EAP, Engineer, ECO	Once off before commencement
Protected Species Permits and Search and Rescue	Undertake a pre construction botanical and ecological walkdown to identify any protected trees, provincially protected plants, species of conservation concern or protected fauna that may be affected. Obtain all required permits, licences or approvals before pruning, removal, disturbance, translocation or rescue. No protected species may be removed or disturbed without the required authorisation.	Proponent, ECO, Specialist	Once off before clearing and as required
Environmental Record System	Establish a site file including the EMPr, Environmental Authorisation, audit reports, method statements, incident register, photographic records, permits, licences, protected species authorisations, jetty permissions, municipal lease agreements and ICMA related correspondence.	Contractor, ECO	Ongoing

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Sensitive Area Avoidance	Final layout to avoid creek margins, riparian vegetation, drainage features, remaining indigenous vegetation and areas identified as sensitive through site verification or specialist assessment. Development must be restricted to transformed or previously disturbed areas as far as reasonably practicable.	Proponent, Architect, ECO	Once off
Demarcation of No Go Areas	Clearly indicate all no go areas, buffer areas, sensitive features, service corridors, access routes and approved development footprints on final design drawings and construction plans.	Architect, Engineer, ECO	Once off
Low Impact Design Approach	Ensure the layout remains low intensity, clustered where appropriate and aligned with the rural agricultural context and environmental sensitivity of Farm 838.	Proponent, Architect	Once off
Site Camp and Infrastructure Location	Identify and position site camp, laydown and storage areas within previously disturbed or low sensitivity areas, outside creek margins, riparian areas, drainage features and other no go areas.	Contractor, ECO	Once off
Ablution and Waste Facilities Planning	Provide temporary ablution and waste storage facilities within the designated site camp footprint to prevent pollution of soil, groundwater, drainage features and the Kromme River system.	Contractor	Ongoing
Internal Access Planning	Utilise existing access tracks and disturbed routes as far as reasonably practicable. Avoid new disturbance corridors through remaining indigenous vegetation, creek margins, riparian areas or drainage features.	Contractor, ECO	Once off
Stormwater Management Design	Incorporate low impact stormwater systems such as swales, infiltration areas, level spreaders and erosion control measures to maintain diffuse flows and prevent sedimentation.	Engineer, ECO	Once off
Climate Resilience Design	Ensure stormwater infrastructure accommodates rainfall variability and prevents erosion, channelisation, downstream sedimentation and impacts to creek or riparian areas.	Engineer	Once off

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Low Impact Services Design	Design services to minimise environmental disturbance, including rainwater harvesting, water efficient fixtures, solar energy systems and decentralised wastewater treatment systems where applicable.	Proponent, Engineer, Architect	Once off
Water Efficiency Measures	Incorporate low flow fittings, water saving measures, rainwater harvesting and operational controls to minimise water demand.	Proponent, Engineer	Once off
Waste and Effluent Planning	Ensure design includes appropriate wastewater treatment, effluent reuse controls and maintenance access to prevent contamination of soil, groundwater, drainage lines, creek margins and the Kromme River system.	Engineer, ECO	Once off
Visual Impact Minimisation	Ensure building form, scale, materials and colours are compatible with the rural landscape and minimise visual intrusion when viewed from surrounding areas and the Kromme River landscape.	Architect, Landscape Architect	Once off
Landscape Rehabilitation Planning	Integrate rehabilitation requirements, alien vegetation control and locally indigenous plant species into the design and post construction rehabilitation plan.	Landscape Architect, ECO	Once off
Parking and Circulation	Provide adequate parking and circulation within defined areas to prevent encroachment into sensitive vegetation, creek margins or riparian areas.	Engineer, Architect	Once off
Local Employment and Procurement	Prioritise local labour and sourcing of materials where feasible to support the local economy.	Proponent, Project Manager	Once off
Fire and Emergency Planning	Incorporate appropriate fire risk management, emergency access, evacuation procedures and firefighting measures suited to the rural agricultural context and proximity to natural vegetation.	Engineer, Architect, Project Manager	Once off
Safety by Design	Integrate safe access, evacuation routes, emergency response planning, signage and visitor safety measures into the design.	Project Team	Once off

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Geotechnical Suitability	Undertake geotechnical input where required and ensure foundation design is appropriate to site conditions and minimises unnecessary excavation.	Engineer, Proponent	Once off
Chance Finds Procedure	Implement a heritage chance finds procedure and include it in contractor documentation, induction material and method statements.	ECO, Project Manager	Once off
Heritage Awareness	Brief all personnel on identification and reporting of heritage resources before works commence.	ECO, Contractor	Once off
Final Layout Plan	The final approved layout must remain the controlling layout for construction and operation. Any proposed change to building positions, access routes, service corridors, parking areas, greenhouse areas, boat storage areas, jetty related infrastructure, wastewater infrastructure or stormwater infrastructure must be reviewed by the ECO before implementation. Where the change may increase the approved footprint, affect a no go area, affect remaining indigenous vegetation, move closer to creek margins, drainage features, riparian areas or the Kromme River system, or alter the scope assessed in the DBAR, the change must be referred to the competent authority for confirmation of the required process before implementation.	Client, Engineer, Architect, Project Manager	Once off

3.2. PRE-CONSTRUCTION PHASE

The pre-construction phase is critical to establishing the environmental controls required before any site disturbance, site establishment, vegetation clearing, earthworks or construction related activity commences on Farm 838. The site occurs within a rural agricultural landscape in the Kouga Local Municipality and in proximity to the Kromme River estuarine and riparian environment. Although site verification indicates that much of the property is transformed or historically disturbed, the creek margins, riparian vegetation, drainage features, mapped biodiversity sensitivities and any remaining indigenous vegetation require specific protection before construction starts.

The pre-construction requirements are intended to ensure that all approvals, demarcation, environmental induction, site documentation, access controls, erosion controls, pollution prevention measures, vegetation management requirements and service infrastructure arrangements are in place before the contractor

establishes on site. Particular emphasis is placed on restricting all activities to approved and demarcated footprints, making use of existing disturbed access routes, avoiding unnecessary disturbance to sensitive areas and ensuring that no works commence until the ECO has verified the relevant controls.

The following table sets out the site-specific pre-construction management actions, responsibilities and monitoring requirements applicable to Farm 838.

ACTIVITY OR ISSUE	MANAGEMENT ACTION	RESPONSIBILITY	MONITORING FREQUENCY
Notice of commencement	Before the 14 day commencement notice is submitted, the Applicant, Project Manager and ECO must confirm that the following pre commencement requirements have been met: - The final approved layout and Environmental Control Plan are available. - The ECO has been appointed. - All required permits, licences, consents and approvals relevant to the first phase of works are in place. - No go areas and approved work areas have been demarcated. - The contractor has been inducted. - The site camp, laydown area, stockpile area and access routes have been approved by the ECO. - Stormwater and erosion controls have been installed where required. - Waste, ablution, spill response and fire control measures are available. - Biosecurity access requirements have been confirmed with the relevant landowners or affected farmers. - A baseline photographic record has been completed. - The environmental site file has been opened.	Client, ECO	Once off
Method statements	The following method statements must be submitted to the ECO and Project Manager before the relevant works commence: - Site establishment and site camp layout - Access road use and traffic control - Vegetation clearing and topsoil management - Earthworks, excavation and foundation preparation - Stormwater and erosion control - Wastewater treatment system installation	Contractor, ECO	Once off

	- Fuel, oil, cement and hazardous substance management - Waste handling and disposal - Work near drainage features, creek margins or riparian areas - Jetty, boat storage or river edge works, where authorised - Greenhouse and agricultural infrastructure installation - Rehabilitation and revegetation - Biosecurity access and disinfection controls - Emergency response and spill management		
Site camp establishment and management	Clearly demarcate the approved development footprints, access routes and lodge positions on site prior to any clearing or disturbance	Contractor, ECO	Once off
	Establish site camp, laydown and storage areas within previously disturbed or low sensitivity areas, strictly outside riparian buffers and no-go areas	Contractor, ECO	Once off
	Limit site infrastructure footprint to the minimum required to support low intensity construction within the reserve	Contractor	Ongoing
	All material deliveries to be confined to designated site camp areas and existing access tracks, with no storage or offloading outside approved areas	Contractor	Ongoing
	Store all materials securely to prevent wind dispersal, pollution or interaction with wildlife	Contractor	Ongoing
	Control access to the site through designated entry points; restrict unauthorised access to protect the reserve and ensure safety	Contractor	Ongoing
	Provide portable ablution facilities within the site camp, serviced regularly by an approved provider to prevent contamination	Contractor	Ongoing
	Install site signage including environmental awareness, emergency contacts and restricted area notices	Contractor	Once off
	Provide sealed waste storage facilities that are animal proof and regularly serviced to prevent littering and wildlife interaction	Contractor	Ongoing
Demarcation of sensitive areas	Clearly demarcate all no-go areas including riparian buffers, intact thicket vegetation and sensitive ecological features prior to construction	Contractor, ECO	Once off with ECO verification
	No construction activities, access or stockpiling permitted within demarcated no go areas	Contractor	Ongoing

Erosion and stormwater controls	Install temporary erosion control measures such as silt fences, berms or sandbags prior to any soil disturbance, particularly on slopes and near drainage lines	Contractor	Once off, monitored weekly
	Establish designated mixing, batching and refuelling areas on impermeable surfaces within the site camp	Contractor	Once off
	Prevent uncontrolled runoff by directing stormwater to infiltration areas; avoid concentration of flows that may cause erosion	Contractor, ECO	Ongoing
	Provide temporary erosion protection for all excavations and trenching works	Contractor	Ongoing
Community and communication	Notify adjacent landowners and relevant stakeholders of construction commencement and duration, particularly within the reserve context	Proponent, Contractor	Once off with updates
	Establish and maintain a complaints and incident register accessible on site	Contractor	Ongoing
Baseline site documentation	Undertake a detailed photographic record of the site prior to construction, including sensitive areas and existing disturbances	ECO	Once off
Vegetation clearing	Undertake preconstruction walk through to identify sensitive vegetation and confirm final footprint prior to clearing	ECO, Specialist	Once off
	Implement plant search and rescue for species of conservation concern where required	Specialist	Once off
	Limit vegetation clearing strictly to approved footprints; retain surrounding thicket vegetation to maintain ecological function	Contractor, ECO	Ongoing
	Stockpile and protect topsoil for use in rehabilitation	Contractor	Ongoing
Engineering services and approvals	Confirm that all required environmental authorisations and permits are in place prior to commencement	Proponent, Project Manager	Once off
	Ensure all design specifications for off grid services including water, wastewater and energy systems are finalised prior to construction	Engineer, Project Team	Once off
	Undertake geotechnical verification where required to confirm foundation suitability in variable soil conditions	Engineer	Once off
	Ensure all infrastructure is designed to minimise environmental impact and align with the low intensity nature of the development	Project Team, ECO	Once off

3.3. CONSTRUCTION PHASE

The construction phase is recognised as the period of highest potential environmental risk due to the direct disturbance of soils, vegetation, drainage features and ecological processes. For Farm 838, construction must be managed in relation to the full proposed activity, which includes a small scale mixed residential, tourism accommodation and agricultural lifestyle development adjacent to the Kromme River within a sensitive coastal and riparian environment.

The proposed construction activities will include site establishment, limited vegetation clearing, earthworks, excavation, foundation preparation, construction of one main residential dwelling, four self-contained accommodation units, elevated timber walkways, decks, a swimming pool, an agricultural shed and storage building, boat storage infrastructure, greenhouse structures, beekeeping support facilities, internal gravel access roads, parking, security fencing, wastewater treatment infrastructure, rainwater harvesting systems, renewable energy infrastructure and stormwater management measures.

The site comprises a historically disturbed and partially transformed brownfields area that has previously been subject to anthropogenic modification and agricultural disturbance. Construction must therefore be consolidated within these previously disturbed and lower sensitivity portions of the property as far as reasonably practicable. This is required to minimise intrusion into remaining indigenous vegetation, creek margins, riparian areas, drainage features and sensitive areas associated with the Kromme River corridor.

Although site verification indicates that much of Farm 838 is transformed or historically disturbed, construction activities may still result in localised impacts if not properly controlled. Key risks include vegetation clearance, disturbance to remaining indigenous vegetation, erosion, sedimentation, stormwater impacts, pollution, dust, noise, visual intrusion, waste generation, disturbance to fauna and livestock, and potential impacts on water quality and riparian functioning.

Specific attention must be given to any boat storage, jetty, launching, access, mooring or estuarine edge infrastructure. No jetty related construction, repair, upgrade, occupation or operational use may commence until all applicable Kouga Municipality permissions, lease agreements, landowner consents, ICMA related approvals, environmental authorisations and any other required permits have been confirmed and placed on record.

The construction phase management measures therefore focus on strict footprint control, use of existing disturbed access routes, protection of creek and riparian areas, prevention of sediment laden runoff, responsible handling of waste and hazardous substances, protection of remaining indigenous vegetation, protected species permitting, and rehabilitation of disturbed areas. All construction activities must remain within the approved and demarcated development footprints and no-go areas must be respected at all times.

The table below provides site specific construction phase mitigation measures aligned with the activity description, the site verification findings, the identified environmental risks and the preferred approach of locating development within transformed or previously disturbed areas as far as reasonably practicable.

Activity or issue	Management action	Responsibility	Monitoring frequency
Site establishment and footprint control	Establish all construction activities only within the approved and demarcated Farm 838 development footprint, including the main dwelling, guest accommodation units, agricultural shed, greenhouse areas, boat storage, internal roads, walkways, parking and service infrastructure.	Contractor, ECO	Ongoing
Site establishment and footprint control	Use the historically disturbed and transformed brownfields portions of the property as far as reasonably practicable for site camp, laydown, parking, temporary storage and construction access.	Contractor, ECO	Ongoing
Site establishment and footprint control	No site camp, laydown, batching, refuelling, storage or temporary works may be located within creek margins, riparian areas, drainage features, estuarine edge areas or other demarcated no-go areas.	Contractor, ECO	Ongoing
Site establishment and footprint control	Keep the construction footprint to the minimum practical area required for the approved works and prevent expansion into surrounding natural or semi-natural vegetation.	Contractor	Daily
Vegetation clearing and habitat loss	Restrict vegetation clearing strictly to approved building platforms, internal gravel access roads, service trenches, walkways, greenhouse areas, agricultural infrastructure, boat storage areas, stormwater infrastructure and other approved construction areas.	Contractor, ECO	Ongoing
Vegetation clearing and habitat loss	Confirm the final clearing limits on site before clearing commences and avoid remaining indigenous vegetation, riparian vegetation, creek margins and ecological buffer areas as far as reasonably practicable.	ECO, Contractor	Before clearing and ongoing
Vegetation clearing and habitat loss	Undertake a pre-clearing walk-through to identify protected trees, provincially protected plants, species of conservation concern and any other sensitive vegetation that may require avoidance, rescue or permitting.	ECO, Specialist	Once off before clearing
Vegetation clearing and habitat loss	Obtain all required permits before pruning, removing, damaging, translocating or otherwise disturbing protected species, including protected trees, protected plants or fauna.	Proponent, ECO, Specialist	Before disturbance

Activity or issue	Management action	Responsibility	Monitoring frequency
Vegetation clearing and habitat loss	Implement plant search and rescue where required and ensure rescued material is stored, maintained and replanted in suitable rehabilitation areas.	Specialist, ECO, Contractor	As required
Vegetation clearing and habitat loss	Stockpile and protect suitable topsoil from cleared areas for later use in rehabilitation, ensuring that topsoil is not contaminated, compacted or mixed with subsoil or construction waste.	Contractor	Ongoing
Vegetation clearing and habitat loss	Rehabilitate temporary disturbance areas using locally indigenous species and appropriate stabilisation measures once construction activities in that area are complete.	Contractor, ECO	Progressively and at close-out
Main residential dwelling and guest accommodation units	Construct the main dwelling and four self-contained accommodation units only within approved platforms and in accordance with the final authorised layout.	Contractor, Project Manager, ECO	Ongoing
Main residential dwelling and guest accommodation units	Minimise excavation, cut and fill for platforms, foundations, decks and associated outdoor areas, including the swimming pool and entertainment areas.	Contractor, Engineer, ECO	Ongoing
Main residential dwelling and guest accommodation units	Manage timber decks, pod-style structures or conventional accommodation units so that construction does not result in unnecessary compaction, vegetation disturbance or uncontrolled runoff beneath or around the structures.	Contractor, ECO	Ongoing
Elevated walkways and decks	Construct elevated timber walkways and decks in a manner that reduces ground disturbance, maintains local drainage patterns and avoids unnecessary clearance of vegetation beneath the structures.	Contractor, Architect, ECO	Ongoing
Elevated walkways and decks	Limit pedestrian and construction access to the approved walkway alignments and prevent informal footpaths or shortcuts from being created through vegetation or riparian margins.	Contractor, ECO	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
Agricultural shed, storage and support infrastructure	Construct the agricultural shed and storage building only within the approved agricultural infrastructure footprint and avoid expansion into sensitive vegetation or drainage areas.	Contractor, Project Manager, ECO	Ongoing
Agricultural shed, storage and support infrastructure	Store agricultural materials, tools, equipment, chemicals, fertilisers, fuels and maintenance substances in controlled areas with adequate containment to prevent contamination of soil and water resources.	Contractor, Facility Manager	Ongoing
Greenhouses and agricultural production areas	Construct greenhouse structures within the approved footprints and ensure that earthworks, drainage, irrigation and service connections do not affect creek margins, riparian vegetation or drainage features.	Contractor, Engineer, ECO	Ongoing
Greenhouses and agricultural production areas	Manage irrigation, fertiliser use and growing medium during construction and commissioning to prevent nutrient-rich runoff or polluted water from entering drainage lines, riparian areas or the Kromme River system.	Contractor, Facility Manager, ECO	Ongoing
Beekeeping infrastructure	Locate beekeeping infrastructure and support facilities within approved low sensitivity areas and ensure that installation does not require unnecessary vegetation clearance.	Contractor, Facility Manager, ECO	As required
Boat storage and jetty related works	No jetty construction, repair, upgrade, occupation or use may commence until all applicable Kouga Municipality permissions, lease agreements, landowner consents, ICMA related approvals and environmental authorisations have been confirmed.	Proponent, Project Manager, ECO	Before commencement
Boat storage and jetty related works	Restrict boat storage construction and any associated access works to approved footprints and prevent storage, refuelling, washing, servicing or waste disposal within riparian or estuarine edge areas.	Contractor, ECO	Ongoing
Boat storage and jetty related works	Where jetty related works are authorised, implement site specific method statements for work near the Kromme River, including sediment control, waste control, pollution prevention and emergency response measures.	Contractor, ECO, Engineer	Before and during works

Activity or issue	Management action	Responsibility	Monitoring frequency
Creek, riparian and Kromme River protection	Maintain strict no-go controls around creek margins, riparian vegetation, drainage features, estuarine edge areas and any buffer areas identified by the ECO or specialists.	Contractor, ECO	Ongoing
Creek, riparian and Kromme River protection	No stockpiling, refuelling, cement mixing, batching, vehicle servicing, wastewater discharge or waste storage may occur within or adjacent to sensitive drainage, riparian or estuarine areas.	Contractor	Ongoing
Creek, riparian and Kromme River protection	Prevent sediment laden runoff, cement contaminated water, hydrocarbon spills, litter or wastewater from entering drainage features, creek margins, riparian areas or the Kromme River system.	Contractor, ECO	Ongoing, especially after rainfall
Soil disturbance, erosion and sedimentation	Minimise earthworks and avoid unnecessary cut and fill, particularly on slopes, near drainage features and within areas prone to erosion.	Contractor, Engineer	Ongoing
Soil disturbance, erosion and sedimentation	Install erosion and sediment control measures such as silt fencing, berms, sandbags, check dams, sediment traps or geotextiles before soil disturbance in risk areas.	Contractor, ECO	Before disturbance and weekly
Soil disturbance, erosion and sedimentation	Stabilise exposed soils as soon as possible using mulch, brush packing, vegetation, erosion blankets, stone pitching or other approved methods.	Contractor, ECO	Ongoing
Soil disturbance, erosion and sedimentation	Suspend or limit earthworks during heavy rainfall where continuation would create unacceptable erosion, sedimentation or water quality risks.	Contractor, ECO	As required
Stormwater and water quality	Maintain natural drainage patterns as far as reasonably practicable and avoid concentrating runoff toward creek margins, riparian vegetation or the Kromme River system.	Contractor, Engineer, ECO	Ongoing
Stormwater and water quality	Install temporary stormwater controls during construction and maintain these until permanent stormwater management measures are operational.	Contractor, Engineer	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
Stormwater and water quality	Prevent discharge of contaminated water, cement wash water, wastewater, chemicals, fuels or oils into soil, groundwater, drainage features or surface water resources.	Contractor	Daily
Waste generation and pollution	Implement strict waste management procedures, including waste separation, secure storage, regular removal and disposal at licensed or approved facilities.	Contractor	Ongoing
Waste generation and pollution	Provide sealed, animal-proof waste containers and ensure that no litter or food waste attracts animals, livestock, birds or insects.	Contractor	Ongoing
Waste generation and pollution	Prohibit dumping, burning or burial of waste on Farm 838.	Contractor	Ongoing
Wastewater and effluent	Provide portable ablution facilities during construction and ensure that these are serviced regularly by an approved service provider.	Contractor	Ongoing
Wastewater and effluent	Install wastewater treatment infrastructure in accordance with the approved design and prevent any leakage, overflow or discharge of untreated effluent into the environment.	Contractor, Engineer, ECO	During installation and commissioning
Hazardous substances and contamination	Store fuels, oils, chemicals, paints, solvents and other hazardous substances in bunded or contained areas located away from drainage lines and sensitive areas.	Contractor	Ongoing
Hazardous substances and contamination	Use drip trays for parked vehicles, generators and stationary equipment where there is a risk of leaks or spills.	Contractor	Daily
Hazardous substances and contamination	Clean up spills immediately and dispose of contaminated material at an appropriate licensed facility.	Contractor	As required
Fauna, livestock and biodiversity connectivity	Prohibit hunting, trapping, collecting, feeding, harming or unnecessary disturbance of fauna, livestock, birds, reptiles or insects by construction personnel.	Contractor	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
Fauna, livestock and biodiversity connectivity	Maintain ecological movement and avoid unnecessary fencing, trenching or barriers that could trap animals; open trenches must be inspected and provided with escape ramps where required.	Contractor, ECO	Daily during trenching
Fauna, livestock and biodiversity connectivity	Enforce low vehicle speeds on internal gravel roads to reduce dust, noise and collision risks to fauna, livestock and site users.	Contractor	Ongoing
Access, traffic and internal roads	Use existing access routes and approved internal gravel roads as far as reasonably practicable and prevent the creation of informal tracks or new disturbance corridors.	Contractor, ECO	Ongoing
Access, traffic and internal roads	Maintain construction access roads to prevent erosion, rutting, sediment movement and dust nuisance.	Contractor	Ongoing
Noise, dust and visual disturbance	Restrict high-noise construction activities to daylight working hours and maintain machinery in good working order.	Contractor	Ongoing
Noise, dust and visual disturbance	Implement dust suppression on exposed surfaces and gravel access roads during dry and windy conditions, using water efficiently and avoiding runoff.	Contractor	As required
Noise, dust and visual disturbance	Keep the construction site neat, remove waste regularly, and store materials in designated areas to reduce visual intrusion within the Kromme River landscape.	Contractor	Ongoing
Materials, colours and landscape integration	Use approved materials, finishes and colours consistent with the authorised architectural approach, including timber, stone, brick, steel and glazing systems where specified.	Contractor, Architect	Ongoing
Materials, colours and landscape integration	Avoid unnecessary lighting spill during construction and orient temporary lighting away from riparian areas, the Kromme River and neighbouring properties.	Contractor	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
Fire prevention and emergency response	Maintain fire prevention measures appropriate to the rural and agricultural context, including fire extinguishers, emergency contacts and controlled hot work procedures.	Contractor	Ongoing
Fire prevention and emergency response	Prohibit open fires and uncontrolled burning on site.	Contractor	Ongoing
Heritage chance finds	Stop work immediately if archaeological, palaeontological or heritage resources are uncovered and notify the ECO and relevant heritage authority.	Contractor, ECO	As required
Compliance, reporting and corrective action	Maintain an environmental site file including induction records, method statements, permits, waste records, incident records, photographic records, ECO instructions and audit reports.	Contractor, ECO	Ongoing
Compliance, reporting and corrective action	Implement corrective actions issued by the ECO or competent authority within the required timeframe and record close-out evidence.	Contractor, ECO	As required

3.4. OPERATIONAL PHASE

The operational phase is characterised by the low intensity residential; tourism accommodation and agricultural lifestyle use of Farm 838 within a rural landscape adjacent to the Kromme River and associated coastal and riparian environment. Operational management must ensure that the main dwelling, guest accommodation units, agricultural shed, greenhouse structures, beekeeping infrastructure, boat storage area, jetty related infrastructure, access roads, parking areas, wastewater systems, rainwater harvesting systems, solar energy infrastructure and stormwater controls are operated and maintained in a manner that avoids pollution, erosion, habitat disturbance and encroachment into sensitive areas.

Particular attention must be given to the ongoing management of activities associated with the Kromme River edge, including any jetty, boat storage, launching, access, mooring or estuarine related infrastructure. Such infrastructure may only be operated, maintained, repaired or upgraded in accordance with the relevant approvals, municipal permissions, lease agreements, ICMA requirements, Environmental Authorisation conditions and any other applicable permits or authorisations.

Operational management must also ensure that agricultural and support activities, including greenhouse use, storage, beekeeping, waste handling, water use, fertiliser or chemical storage, and maintenance activities, do not result in contamination of soil, groundwater, drainage features, creek margins or the Kromme River system. Chemicals, fuels, oils, pesticides, herbicides, cleaning products and other potentially polluting substances must be stored and handled within designated controlled areas and must not be allowed to enter stormwater systems, drainage lines or riparian areas.

Visitor and access management must be implemented to ensure that guests, residents, staff, service providers and maintenance personnel remain within approved access routes, walkways, parking areas and designated use areas. No informal tracks, unauthorised river access points, uncontrolled vegetation clearing or expansion of operational areas may be permitted.

The operational phase therefore requires ongoing environmental stewardship, preventative maintenance, responsible resource use and adaptive management to ensure that all residential, tourism, agricultural and river related activities remain compatible with the environmental sensitivity of Farm 838 and the broader Kromme River landscape.

Activity or issue	Management action	Responsibility	Monitoring frequency
General operational footprint control	Operate the main dwelling, tourism accommodation units, agricultural support areas, greenhouses, boat storage, access routes, parking, service infrastructure and associated use areas only within approved operational footprints.	Applicant, Facility Manager	Ongoing
	Prevent incremental expansion of decks, paths, parking, storage, garden areas, agricultural areas or informal use areas into creek margins, riparian areas, drainage features or remaining indigenous vegetation.	Facility Manager, Maintenance Team	Ongoing
	Maintain all approved boundaries, fences, signs and access controls to distinguish operational areas from restricted or sensitive areas.	Facility Manager	Monthly
Residential and tourism accommodation use	Manage the main dwelling and guest accommodation units as low intensity residential and tourism accommodation uses consistent with the approved development description and Environmental Authorisation conditions.	Applicant, Facility Manager	Ongoing
	Ensure guests, residents, staff and service providers remain on approved roads, parking areas, walkways, decks and designated outdoor use areas.	Facility Manager, Operations Team	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
	Provide environmental awareness information to guests and staff regarding no go areas, waste control, water conservation, fire prevention, wildlife, livestock and riparian protection.	Facility Manager	On arrival and ongoing
Biodiversity and habitat protection	Maintain creek margins, riparian areas, drainage features and ecological buffers as no go or restricted access areas, except for authorised maintenance, rehabilitation or management activities.	Applicant, Facility Manager, ECO	Ongoing
	Retain and protect all indigenous vegetation outside approved operational footprints, access routes and service areas.	Facility Manager	Ongoing
	Undertake ongoing rehabilitation of disturbed or previously cleared areas using locally indigenous species appropriate to the Farm 838 site context.	Applicant, Landscaper, Facility Manager	Ongoing
	Prohibit disturbance, feeding, capture, collection or harassment of fauna by staff, guests, residents or service providers.	All staff and guests	Ongoing
Protected species	Ensure that any pruning, trimming, removal, relocation or disturbance of protected trees, provincially protected plants, species of conservation concern or protected fauna is only undertaken after the required permit, licence or written approval has been obtained.	Applicant, Facility Manager, ECO	As required
	Maintain records of protected species permits, licence conditions, specialist recommendations, relocation actions and compliance measures.	Facility Manager, ECO	Ongoing
Alien and invasive species control	Implement an ongoing alien and invasive plant control programme across operational areas, disturbed areas, access routes, creek margins and riparian zones.	Facility Manager, Maintenance Team, ECO	Ongoing
	Prioritise scattered aliens, regrowth areas and invasive species occurring within or adjacent to riparian and drainage features.	Maintenance Team	Ongoing
	Maintain records of alien clearing, disposal methods, follow up treatments and rehabilitation interventions.	Facility Manager, ECO	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
Agricultural shed and storage areas	Operate agricultural and storage infrastructure in a manner that prevents contamination, visual clutter, stormwater pollution, dust, odours and encroachment into sensitive areas.	Facility Manager, Maintenance Team	Ongoing
	Store fuels, oils, chemicals, cleaning products, paints, solvents, fertilisers, pesticides and other hazardous substances within designated bunded or controlled areas away from drainage lines and riparian areas.	Facility Manager, Maintenance Team	Ongoing
	Maintain material storage areas in a neat and stable condition and prevent windblown litter, runoff contamination or spill risk.	Facility Manager, Maintenance Team	Ongoing
Greenhouse operations	Operate greenhouse structures in a controlled manner that prevents nutrient enrichment, chemical runoff, contaminated irrigation return flows or sediment movement into drainage features, creek margins or riparian areas.	Facility Manager, Agricultural Manager	Ongoing
	Manage irrigation efficiently and prevent ponding, seepage, overflow or uncontrolled discharge from greenhouse areas.	Agricultural Manager, Maintenance Team	Ongoing
	Store fertilisers, pesticides, growing media and related materials within secure, covered and controlled areas.	Agricultural Manager	Ongoing
Beekeeping infrastructure	Manage beekeeping infrastructure in accordance with safety, access and environmental requirements, ensuring that hives do not obstruct approved access routes or create unmanaged risks to guests, staff or neighbouring land users.	Facility Manager, Beekeeper	Ongoing
	Avoid unnecessary clearing for beekeeping areas and keep all beekeeping infrastructure within approved disturbed or designated areas.	Facility Manager, Beekeeper	Ongoing
Jetty, boat storage and estuarine edge use	Operate any jetty, boat storage, launching, mooring or estuarine edge infrastructure only in accordance with applicable Kouga Municipality permissions, lease agreements, landowner consents, ICMA related approvals, Environmental Authorisation conditions and other permits.	Applicant, Facility Manager	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
	No maintenance, repair, upgrade, expansion or alteration of jetty or estuarine edge infrastructure may occur without confirming whether additional municipal, ICMA, environmental, water use or other approvals are required.	Applicant, Facility Manager, ECO	As required
	Prevent fuel, oil, detergents, litter, paint, treated timber residues, sediment or other pollutants from entering the Kromme River system during boat storage, cleaning, launching, maintenance or use.	Facility Manager, Maintenance Team	Ongoing
	Restrict access to approved river edge access points and prevent the creation of informal launch points, footpaths or cleared areas along the river or creek margins.	Facility Manager	Ongoing
Water supply and efficiency	Use rainwater harvesting systems as the primary water supply where feasible, supported only by lawful supplementary sources where required.	Facility Manager	Ongoing
	Monitor water use, tank levels and supply reliability to ensure sustainable operation and avoid unnecessary abstraction or wastage.	Facility Manager	Monthly
	Repair leaks, faulty valves, taps and fittings immediately and maintain water efficient fixtures.	Maintenance Team	As required
Wastewater management	Operate and maintain decentralised wastewater treatment systems in accordance with approved design specifications, manufacturer requirements and any applicable authorisation conditions.	Facility Manager, Maintenance Contractor	Ongoing
	Undertake regular inspections, servicing and performance checks of all wastewater treatment systems and associated infrastructure.	Maintenance Contractor, Facility Manager	Monthly or as specified
	Prevent any discharge of untreated or partially treated effluent to soil, groundwater, drainage lines, creek margins, riparian areas or the Kromme River system.	Facility Manager	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
	Reuse treated effluent only for approved non potable uses such as toilet flushing or controlled irrigation within growing tunnels, subject to suitable effluent quality and no runoff or seepage risk.	Facility Manager	Ongoing
	Maintain servicing, inspection and performance records for each wastewater treatment unit or system.	Facility Manager	Ongoing
	Treated effluent may only be reused for non-potable purposes, including toilet flushing or controlled irrigation within greenhouse or growing tunnel areas, where the wastewater treatment system is designed for such reuse, where treated effluent quality is suitable for the intended use, and where such reuse is legally permissible. Reuse must not result in ponding, odour, runoff, seepage, nutrient enrichment, groundwater contamination, discharge to drainage features or impact on the Kromme River system.	Facility Manager	Ongoing
Stormwater management	Promote infiltration, diffuse runoff and maintenance of natural drainage patterns across operational areas.	Facility Manager, Maintenance Team	Ongoing
	Prevent concentration of runoff toward creek margins, riparian areas, drainage lines or erosion prone slopes.	Maintenance Team	Ongoing
	Inspect stormwater behaviour after significant rainfall events and correct erosion, ponding, scouring or sediment movement immediately.	Facility Manager, Maintenance Team	Quarterly and after significant rainfall
	Maintain gravel surfaces, culverts, swales, mitre drains, erosion protection and drainage structures to prevent erosion and sedimentation.	Maintenance Team	Ongoing
Soil stability and erosion control	Maintain all disturbed, landscaped and previously rehabilitated areas in a stable and vegetated condition.	Maintenance Team	Ongoing
	Stabilise erosion areas immediately using approved measures such as mulch, brush packing, stone protection, reshaping, vegetation establishment or sediment barriers.	Maintenance Team, ECO	As required

Activity or issue	Management action	Responsibility	Monitoring frequency
	Restrict vehicle movement during wet conditions where use of access tracks may cause rutting, erosion or sediment mobilisation.	Facility Manager	As required
Solid waste management	Provide secure waste storage areas and sealed containers to prevent windblown litter, odours, scavenging and wildlife or livestock interaction.	Facility Manager	Ongoing
	Remove waste to an approved or licensed disposal or recycling facility at appropriate intervals.	Facility Manager	Ongoing
	Prohibit dumping, burning or burial of waste anywhere on Farm 838.	All staff	Ongoing
	Compost suitable green waste where feasible, provided that composting does not attract pests, create odours or contaminate water resources.	Maintenance Team	Ongoing
Noise management	Restrict operational noise to acceptable levels and comply with applicable municipal by laws and nuisance requirements.	Facility Manager	Ongoing
	Limit high noise maintenance activities to daytime hours and avoid unnecessary disturbance to guests, neighbouring land users, fauna and livestock.	Facility Manager	Ongoing
	Respond to noise complaints and implement corrective actions where required.	Facility Manager	As required
Air quality and dust control	Limit vehicle movement to designated access routes and operational areas only.	Facility Manager	Ongoing
	Implement dust suppression on gravel access routes or disturbed areas during dry and windy periods where nuisance dust occurs.	Maintenance Team	As required
	Prohibit burning of waste, vegetation or construction material residues on site.	Facility Manager	Ongoing
Traffic and access control	Restrict vehicles to existing and approved access roads, parking areas and service routes.	Facility Manager	Ongoing
	Enforce low vehicle speeds to reduce dust, erosion, safety risks and disturbance to fauna and livestock.	Facility Manager	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
	Prevent the creation of informal tracks, shortcuts or parking areas outside approved disturbed footprints.	Facility Manager	Ongoing
Visual and landscape management	Maintain natural vegetation screening and landscape integration around structures, parking areas, access routes and service infrastructure.	Maintenance Team	Ongoing
	Ensure structures, boardwalks, decks, service infrastructure, greenhouse structures, boat storage areas and external finishes are maintained in good condition and remain visually recessive where practicable.	Facility Manager	Ongoing
	Control external lighting to minimise glare, light spill and ecological disturbance, particularly near creek and riparian areas.	Facility Manager	Ongoing
Energy management	Operate and maintain solar photovoltaic systems, battery storage and associated electrical infrastructure efficiently and safely.	Maintenance Contractor, Facility Manager	Ongoing
	Monitor energy use and reduce unnecessary consumption through efficient appliances, operational controls and staff awareness.	Facility Manager	Ongoing
Fire risk management	Implement site specific fire management measures appropriate to the rural agricultural and riparian setting of Farm 838.	Facility Manager	Ongoing
	Maintain firefighting equipment, emergency access, defensible space around structures and safe storage of flammable materials.	Facility Manager, Maintenance Team	Ongoing
	Educate staff and guests on fire prevention, smoking controls, emergency procedures and reporting requirements.	Facility Manager	Ongoing
Health and safety	Ensure compliance with applicable Occupational Health and Safety requirements during operation, maintenance, agricultural activities, beekeeping, visitor use and river edge access.	Facility Manager	Ongoing
Socio economic and employment	Prioritise local employment, service providers and procurement opportunities where reasonably practicable.	Applicant, Operations Team	Ongoing

Activity or issue	Management action	Responsibility	Monitoring frequency
	Provide environmental awareness training to operational staff, including waste management, water conservation, fire prevention, alien control, chemical handling, visitor control and protection of sensitive areas.	Operations Team, Facility Manager	Ongoing
Community relations	Maintain a complaints register and respond to complaints or environmental issues timeously.	Facility Manager	Ongoing
	Provide accessible contact details for facility management to neighbouring landowners, authorities and relevant stakeholders.	Facility Manager	Ongoing
Environmental monitoring and compliance	Conduct regular inspections of environmental performance indicators, including wastewater, waste, stormwater, erosion, alien vegetation, rehabilitation, access control, agricultural storage, greenhouse operations and jetty related infrastructure.	Facility Manager, ECO	Ongoing
	Maintain records of monitoring, maintenance, incidents, complaints, corrective actions, approvals, permits, lease agreements and environmental inspections.	Facility Manager	Ongoing
	Undertake environmental audits where required by the Environmental Authorisation, EMPr or competent authority.	ECO, Independent Auditor	Annually or as required
Heritage chance finds	Stop maintenance or ground disturbing work immediately if heritage resources are identified and notify the ECO and relevant heritage authority.	Maintenance Team, ECO	As required

3.5. ASSUMED EA CONDITIONS AND RECOMMENDATIONS/MITIGATION RELEVANT TO THE PROJECT

The conditions and mitigation measures contained in this section are included as anticipated or assumed environmental management requirements based on comparable Environmental Authorisations and the project specific environmental risks identified during the Basic Assessment process. These conditions do not replace the conditions that may be imposed by DEDEAT in any Environmental Authorisation issued for the development. Once an Environmental Authorisation is issued, the EMPr must be updated where necessary to incorporate the final conditions of authorisation, final specialist recommendations, approved layout requirements and any additional permits, licences or approvals required before commencement.

Requirements	Completed (Check)
General conditions & notification of the EA	
In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014 as amended, you are instructed to notify all registered interested and affected parties, in writing and within fourteen (14) days of the date of this letter, of the Department's decision in respect of your application.	
Duration of Authorisation	
The development and associated infrastructure must commence within a period of 24 (twenty-four) months from the date of issue of this Authorisation. If commencement of the activity does not occur within this period, this Environmental Authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.	
All construction associated with the Development, as defined in Section 2 above and the FBAR, is to be completed within 60 (sixty) months of the commencement.	
Standard conditions and declarations	
Authorisation is subject to the conditions contained in this Environmental Authorisation which conditions form part of the Environmental Authorisation and are binding on the holder thereof.	
This Environmental Authorisation applies only to the activities and property described therein.	
This Environmental Authorisation does not negate the holder thereof of his/her responsibility to **comply with any other statutory requirements** that may be applicable to the undertaking of the activity, including but not limited to: • The National Environmental Management: Biodiversity Act, Act 10 of 2004; • The Spatial Planning and Land Use Management Act (No. 16 of 2013); • The Provincial Nature Conservation Ordinance, Ordinance 19 of 1974; • The National Water Act, Act 36 of 1998; • The Occupational Health and Safety Act, Act 85 of 1993; and • The Conservation of Agricultural Resources Act, Act 43 of 1983.	
The holder of this Environmental Authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee, or person rendering a service to the holder of this Environmental Authorisation.	
The holder of this Environmental Authorisation will be held liable in the event of non-compliance by any contractor and/or subcontractor involved in this activity.	

Should any environmental damage be detected, that in the opinion of this Department, is the result of the development, then the applicant shall be required to make good that damage to the satisfaction of the said authority at his/her own expense, this without limiting the generality of the provisions of Section 28 of the National Environmental Management Act, Act 107 of 1998.	
This Department reserves the right to impose additional conditions or requirements on the applicant in respect of impacts identified during the EIA process, or withdraw this authorisation, in the event that such impacts exceed its significance as predicted in the consultant's FBAR and supporting documentation referenced in Section 4.1 of this Environmental Authorisation.	
This authorisation applies strictly to the project description as outlined in Section 2 of this Authorisation read together with the Final BAR. Should the applicant wish to amend any component or aspect of the project hereby authorised, then approval will be required from this Department. The Department will advise what information is required as well as the process that must be followed in order to apply for an amendment to this Environmental Authorisation or, if needed, for authorisation in terms of the applicable EIA regulations promulgated in terms of the National Environmental Management Act, Act 107 of 1998.	
This Environmental Authorisation must be made available to any interested and affected party who has registered their interest in the proposed development. The applicant is responsible for ensuring that a copy of this Environmental Authorisation is given to any such interested and affected party including the neighbouring landowners within 14 (fourteen) days of receiving this Environmental Authorisation.	
This Environmental Authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the site. In this regard, **the Environmental Authorisation or a certified copy thereof must be kept on site for the duration of the construction period.**	
In all cases, the holder of the Environmental Authorisation must notify the Department, in writing, within 30 days if a condition of this authorisation is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.	
Non-compliance with a condition of this Environmental Authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, Act 107 of 1998 and the regulations.	
Project - specific conditions in relation to the design and construction phase	
Fourteen days' written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which the activity is anticipated to commence.	
The fourteen-day notice contemplated in the Condition above may only be submitted once all pre-construction conditions have been complied with and proof of such compliance to be submitted with the fourteen-day notice.	
Any recommendations / mitigatory measures contained in the FBAR and its appendices and not explicitly covered under the conditions contained in the Environmental Authorisation, are regarded as conditions in terms of this Environmental Authorisation. In the event that any such recommendation / mitigatory measure is contradictory to a condition contained in this Environmental Authorisation, such condition will be deemed to take precedence.	
Further to the Condition above, the holder of this Environmental Authorisation is to compile a detailed record of all Conditions, inclusive of recommendations / mitigatory measures contained in the FBAR, in tabular format for inclusion in the Construction phase Environmental Management Programme and / or Operational Phase Environmental Management Programme as applicable.	

The holder of this Environmental Authorisation will be held liable in the event of non-compliance by any contractor and/or subcontractor involved in this activity.	
Prior to any clearance, the areas to be cleared must be clearly demarcated and no disturbance of vegetation to take place outside the demarcated areas.	
A dedicated COEMPr to be compiled, submitted to and approved by the Department prior to the commencement of construction. In this regard sections of the EMPr within the FBAR that deals specifically with construction can be used as a framework. The COEMPr to include as a minimum: • Applicable conditions of this Environmental Authorisation; • All recommendations, measures, responsibilities, key actions, and other provisions contained in the FBAR; • General principles of environmental management as applicable to construction activities including environmental best practice, erosion and prevention and control, etc; • Measures to prevent erosion into nearby watercourses; • A rehabilitation plan, including the progressive rehabilitation of disturbed areas as soon as practically possible; • An alien vegetation management plan, inclusive of the method of removal and the stipulation that no herbicides may be used within 100m of a water course. • Copies of all permits / licences issued to the applicant in relation to this project that have relevance to the environment; • A general code of conduct for any contractor that may be carrying out any work on the relevant development sites; • A clear description of the construction activities to be carried out on the site; • Details regarding storage of construction material on site; and • A framework for all contracts associated with the construction phase of the development and the Environmental Method Statements that will be associated with such contracts.	
General principles of environmental management to be implemented during construction if not already included in the EMPr to include, amongst others, the following:	Information is contained in the EMPr and to be issued to main contractor at Environmental induction
• No cement/concrete mixing to take place on the soil surface. Cement mixers to be placed on large trays to prevent accidental spills from coming into contact with the soil surface; • Generators and fuel supply needed during construction must be placed on trays, which rest on clean sand. Once construction has been completed, this sand must be removed from the site and disposed of at a registered waste disposal site; • Any substrate contaminated by the spillage of hydrocarbons or other pollutants to be removed from the site and disposed of at a registered waste disposal site;	

• No servicing of vehicles and other machinery to take place on construction sites, and no fuel or other hazardous material to be stored on construction sites; • All excess construction material and any waste generated during construction must be removed from site on an on-going basis and disposed of at a suitably registered waste disposal site; • The contractor must provide adequate waste disposal facilities and must ensure that these facilities are used and maintained; • Clear stipulations as to who is responsible and accountable for what actions; • Sufficient erosion control measures must be stipulated and adhered to; and • All de-vegetated areas, and stockpiles of soil must have adequate erosion protection, such as silt fences, shade cloth etc.	
An Environmental Control Officer (ECO) to be appointed for the duration of the construction activities to oversee implementation of the CEMPr, as well as adherence to the conditions contained within this Authorisation. Details of the appointed ECO to be submitted together with the 14-day notice of commencement.	.
• The ECO is amongst others responsible for the following; • **A Pre-Commencement Audit of the conditions of this Environmental Authorisation, which must be submitted together with the notice of commencement.** • Ensuring that the COEMPr is implemented and strictly adhered to inclusive of the relevant conditions contained within this Environmental Authorisation; • To keep record of all activities on site, problems identified, transgressions noted as well as a schedule of tasks undertaken by the ECO; • keep and maintain a detailed incident and complaints register (inclusive of any spillages of hazardous substances and other materials) indicating how these issues were addressed (including any rehabilitation measures implemented) and preventative measures implemented to avoid re-occurrence of such incidents; • To keep copies of all reports submitted to the Department on site; and • To obtain and keep record of all documentation, permits, licences, and authorisations relevant to the project on site.	
The relevant conditions of this Environmental Authorisation shall form part of any contracts entered into between the applicant and any contractor(s) and or any sub-contractor(s).	
The COEMPr referred to in Condition above is to be implemented and strictly adhered to for the duration of the vegetation clearance and construction.	
All no-go areas are to be clearly demarcated prior to construction activities being affected.	
The holder of this Environmental Authorisation will be held liable in the event of non-compliance by any contractor and/or subcontractor involved in this activity.	
All construction activities to be restricted to normal working hours (8:00-17:00) during weekdays (i.e. Monday-Friday). No construction activities are to take place during weekends and public holidays.	
Prior to the commencement of the activity a plant search and rescue to be undertaken in order to remove any species of special concern as well as any other species that could be translocated. Such species to be used in rehabilitation / restoration initiatives on the site.	

Prior to the removal of any species contemplated in the Condition above, the necessary permits / approvals in terms of the relevant provincial and national legislation to be obtained.	
All sand, gravel stone or other building material to be used are to be obtained from a bona fide source and the building contractor is not allowed to source any such material from the surrounding environment.	
The South African Heritage Resources Agency (SAHRA) must be contacted immediately should any archaeological findings be discovered during debris and vegetation removal phase of the development.	
The construction phase to be audited on an ongoing basis by the ECO. The findings of such audits are to be consolidated and submitted to this Department on a quarterly basis and a final post construction audit to be conducted and submitted to this Department within three months of the completion of construction.	
As much as reasonably practicable, measures to mitigate the impacts of climate change must be implemented in the development to promote environmental sustainability e.g. the use of LED lighting, rainwater tanks etc.	
Prior to decommissioning of all or part of the operations the applicant must submit a decommissioning plan to DEDEAT.	
All decommissioned areas must be left in a state that is equal to or better than the original environment.	
Recommendations/Mitigation measures applicable extracted from FBAR and EMPr	
Recommendations of EAP in FBAR	
1. General Environmental Compliance Actions ▪ Appoint a suitably qualified Environmental Control Officer (ECO) before commencement of any site works. ▪ Ensure all contractors, sub-contractors and workers undergo a mandatory Environmental Induction prior to starting on site. ▪ Develop and implement a Method Statement and Site-Specific construction and operational Environmental Management Plan (EMPr) for approval by the relevant authority. ▪ Establish a site layout plan indicating sensitive area, no-go zones, construction boundaries, and material stockpile areas. ▪ Install hoarding and signage around the site prior to vegetation clearance. ▪ Ensure EMPr and all relevant permits are available on-site at all times. ▪ Implement regular site inspections and audits by the ECO to ensure compliance with the EMPr and environmental legislation. ▪ Maintain a daily dairy for reporting incidents, spills, issues of environmental non-compliance and ensure immediate corrective action is taken. ▪ All no-go areas, particularly riparian zones and intact vegetation, are clearly demarcated and enforced ▪ Adaptive management be applied to respond to any unforeseen environmental impacts ▪ Regular monitoring and maintenance of wastewater systems and stormwater infrastructure be undertaken This consolidated list of environmental and planning recommendations draws from the full impact assessment, specialist studies, and best-practice compliance guidance to inform responsible development.	

2. Vegetation Clearing

- Strict control of vegetation clearing and protection of riparian buffers
- Implementation of erosion and stormwater management measures
- Use of existing access routes to minimise disturbance
- Installation and proper management of self-contained wastewater treatment systems
- Protection of fauna and management of disturbance within the reserve environment
- Rehabilitation of disturbed areas and long-term environmental monitoring

3. Invasive Alien Species Management

- The Environmental Control Officer (ECO) is to identify all invasive species and report these to the relevant authorities if observed on site. The eradication of such species is to be done correctly with care being taken not to encourage the future spread of such species.
- Avoid unnecessary disturbance to areas outside of the approved development footprint
- Remove and eradicate all identified invasive species (e.g., *Cestrum laevigatum, Opuntia ficus-indica*) before construction begins.
- Dispose of all removed invasive plants in a manner that prevents re-establishment
- Implement a weed management strategy for construction and post-construction phases.
- Rehabilitated areas must be landscaped only with indigenous and endemic plant species.
- ECO to approve the final planting list and layout plan for reinstatement.
- Monitor for re-establishment of alien species post-construction and remove accordingly.
- Dispose of all removed invasive species correctly and off-site.

4. Stormwater management

- Incorporate a rational stormwater design using Sustainable Urban Drainage Systems (SUDS), including swales, attenuation ponds, permeable paving, and rainwater harvesting.
- Ensure post-development stormwater discharge does not exceed pre-development volumes.
- Implement erosion control measures such as gabion mattresses and vegetated swales in sensitive areas.
- Keep the stormwater network separate from the wastewater system at all times.

- Avoid accumulation of standing water; design drainage to remove runoff quickly without causing erosion.
- Install waste traps and sediment control measures to prevent litter, sediment, and pollutants from entering watercourses.
- Regularly inspect and maintain all SUDS and erosion control measures to ensure ongoing effectiveness.
- Implement emergency spill containment procedures.

5. Visual Impact Mitigation

- Adhere to municipal height restrictions and local planning bylaws.
- Use neutral, earthy tones for all external finishes and roof structures.
- Minimise architectural features and structures (e.g., light poles, signage) that protrude above the main roofline; keep them to the minimum allowable height.
- Incorporate indigenous screen planting along exposed edges.
- Integrate green open spaces, embankment seating berms, and pedestrian pathways into the natural landscape to reduce hard edges
- Ensure all lighting has diffusers or opaque covers to reduce glare and visual intrusion.
- Use minimal, unobtrusive signage, fencing, and minor infrastructure, with natural colours and materials that blend into surroundings.

6. Topsoil Management

- Strip and store topsoil in a secure, designated location.
- Topsoil stockpiles must be located away from construction activities to avoid contamination and erosion.
- Reuse topsoil during rehabilitation of landscaped and disturbed areas.
- Avoid creating steep slopes; use retaining walls or planters as needed.
- Use biodegradable soil saver fabrics (e.g., jute) on slopes >1:10.
- Excavate only to required depths for approved plans and reuse deeper fill onsite where possible.
- Post-completion rehabilitation must include composted mulch and organic soil enhancers.

7. Noise Control

- Restrict noisy operations to municipal construction hours.
- Avoid use of pneumatic tools unless essential.

- Use wheelbarrows for rubble removal to reduce noise.
- Erect temporary noise barriers or screens around high-noise areas.
- Notify adjacent property owners (within 50m) of construction times in advance.
- Use trucks and vehicles only on designated access routes to minimise noise.
- Control noise from PA systems and amplified sound, keeping maximum volume levels within municipal limits.
- Use strategic landscaping and vegetative buffers to absorb and deflect sound.
- Limit maintenance activities to daytime hours.

8. Dust Control

- Water dust-generating surfaces at least three times daily during dry periods.
- Wet down all material and rubble before transport.
- Deliver materials into hoarded sections of the site to prevent spread.
- Implement a speed restriction of 30–40 km/h for construction vehicles within the site.
- During the operational phase ensure adequate PPE for workers
- Ensure that there are adequate dust filtration systems and 'wet' management of raw materials.

9. Health and Safety

- Appoint a dedicated safety officer on site.
- Induct all workers and require appropriate PPE at all times.
- Erect hoarding and scaffolding to separate workers from public access.
- Control all access to the site.
- Adhere strictly to the Occupational Health and Safety Act, Act 85 of 1993.
- Ensure workers operating heavy machinery are trained to operate the equipment safely and identify potential hazards.
- Establish and communicate emergency procedures.
- Regularly inspect and maintain machinery and equipment to prevent accidents.
- Clearly demarcate the site with warning signs to prevent unauthorized access.

10. Waste and Effluent Management

- Remove all rubble and refuse daily and store in a wind-secure enclosure.

- Cart all non-reusable waste to a licensed municipal landfill.
- Store hazardous materials in designated containment areas.
- Cement and mortar mixing to occur on impermeable surfaces (e.g., plastic sheeting).
- Provide portable toilets for workers and have waste removed by licensed service providers.
- Maintain the tank regularly and check for leaks.
- Report any spills or contaminated material to the ECO and dispose of via registered operators.
- Repurpose or reuse materials where possible to minimize waste generation.
- On-site waste receptacles must be clearly marked for recyclable and non-recyclable streams (paper, plastic, glass, general refuse).
- Operational waste must be stored in covered bins to prevent wind dispersal

11. Aquatic Biodiversity

- Cement mixing, refuelling, and machinery cleaning must occur away from any identified watercourses
- Install sediment barriers and erosion controls before construction.
- Portable toilets must be positioned away from any watercourses
- Hydrocarbons, chemicals and hazardous materials must be stored offsite or in bunded areas away from surface waterbodies.

12. Contamination Prevention (Topsoil and Groundwater)

- Supervise all handling of wet or hazardous construction materials.
- Mix and store materials in hoarded areas only.
- Remove any contaminated soil for disposal at a licensed facility.
- Provide permanent or portable sanitation facilities on impermeable surfaces, serviced by approved providers.
- Ensure fuelling, maintenance and cleaning of equipment occur in designated bunded areas.
- Ensure that spill kits are readily available on-site and that personnel are properly trained in their correct use
- Avoid any washing of implements or hosing on natural ground surfaces.
- Connect to the bulk municipal sewage network in accordance with SANBS standards, ensuring all connections are approved and serviced by authorized providers.

13. Biodiversity Protection (General and Indirect) ▪ Conduct environmental induction training for all staff. ▪ Limit activity to within approved site boundaries, enforce no-go zones. ▪ Implement and maintain solid hoarding to restrict site access. ▪ Monitor and report any wildlife sightings, nests, or habitat disturbances. ▪ Avoid use of reflective or metallic lighting finishes and fixtures. ▪ Maintain dark zones outside essential areas to preserve nocturnal species behaviour. ▪ Remove all alien and invasive vegetation and limit impact to surrounding open space. ▪ Ensure rehabilitated areas are stabilised with endemic cover and erosion control measures. ▪ Locate temporary stockpiles away from vegetated areas and stabilize to prevent erosion or runoff. **14. Employment and Socio-Economic Benefit** ▪ Maximise use of local labour (skilled and unskilled) where feasible. ▪ Procure from local building material suppliers and subcontractors. ▪ Promote fair working conditions and transparency in hiring. ▪ Encourage the inclusion of youth and women in short-term job opportunities. ▪ Provide on-site training and skills transfer to enhance long-term employability. ▪ Prioritise local residents for operational roles, including maintenance, security, and administration. ▪ Support local businesses and community programs through catering, transport, and recreational services.	
Mitigation measures contained in the FBAR	
<u>Mitigation to reduce vegetation clearing impacts;</u> Avoidance and Footprint Control ▪ Limit all vegetation clearing strictly to the approved and demarcated development footprint. ▪ Avoid siting within intact vegetation patches and riparian zones wherever possible. ▪ Minimise disturbance outside of the immediate construction area. Site Demarcation and Protection ▪ Demarcate all no-go areas prior to commencement of construction using clearly visible markers. ▪ Protect surrounding vegetation from accidental damage by construction activities.	

▪ Restrict movement of machinery and personnel to designated areas. Vegetation Management ▪ Undertake search and rescue of plant species where required, particularly for species of conservation concern. ▪ Stockpile and reuse topsoil where feasible to support rehabilitation. ▪ Avoid unnecessary trimming or clearing for landscaping or aesthetic purposes. Rehabilitation and Restoration ▪ Rehabilitate all disturbed areas as soon as practicable following construction. ▪ Use locally appropriate indigenous species consistent with the surrounding vegetation type. ▪ Promote natural regeneration where feasible to restore ecological function. Alien and Invasive Species Control ▪ Implement measures to prevent the introduction and spread of alien and invasive plant species. ▪ Monitor rehabilitated areas and remove invasive species as required	
<u>Mitigation to reduce impacts of spread of alien and invasive species:</u> ▪ Limit disturbance strictly to within the approved development footprint to reduce colonisation opportunities. ▪ The Environmental Control Officer (ECO) must identify and record any invasive species observed on site and report to the relevant authorities where required. ▪ Eradicate all invasive alien plants within the construction footprint before site clearance in accordance with the National Environmental Management: Biodiversity Act (NEMBA) Alien and Invasive Species Regulations. ▪ Inspect disturbed areas regularly during construction for germination of invasive plants and remove them before they flower or set seed. ▪ Dispose of removed invasive plants responsibly, ensuring no re-establishment or seed dispersal. ▪ Rehabilitate disturbed areas post-construction using indigenous and endemic plant species to maintain the natural balance of local ecosystems. ▪ Use only indigenous and endemic species in landscaping during the operational phase, including in planted areas. ▪ Monitor the site and surrounding areas post-completion for invasive and alien species, removing and eradicating any new threats promptly. ▪ Implement a permanent invasive plant monitoring programme within the development site, including landscaped and open areas, with inspections at least quarterly. ▪ Establish and maintain drought-resistant, indigenous landscaping to reduce the likelihood of exotic invasive establishment.	

▪ Remove invasive plants manually or mechanically before flowering or seed set; use herbicides only when mechanical removal is impractical and in accordance with registered product instructions. ▪ Train facility maintenance staff to identify priority invasive alien species as listed under NEMBA Alien and Invasive Species Regulations. ▪ Manage stormwater drains, detention ponds, and adjacent buffer zones to prevent establishment of invasive aquatic and riparian plants.	
Disturbance to Riparian Systems and Watercourses **Avoidance and Buffer Protection** ▪ Maintain an appropriate and functional buffer between development activities and riparian areas ▪ Prohibit any construction, stockpiling, refuelling or servicing within the riparian zone ▪ Clearly demarcate riparian no-go areas prior to construction and enforce compliance **Stormwater and Runoff Management** ▪ Design stormwater systems to promote infiltration and diffuse flow ▪ Avoid concentration of runoff toward watercourses or drainage lines ▪ Implement measures to prevent sediment laden runoff entering the riparian system ▪ Separate clean and potentially contaminated runoff areas **Erosion and Sediment Control** ▪ Stabilise all disturbed areas immediately following construction ▪ Implement erosion control measures such as silt fencing, berms and vegetated swales where required ▪ Avoid construction activities during periods of heavy rainfall where feasible **Pollution Prevention** ▪ Prevent discharge of contaminated water, cement wash, fuels or chemicals into natural systems ▪ Designate refuelling and storage areas away from drainage pathways ▪ Implement spill prevention and response procedures	
Loss of Faunal Habitat and Disturbance **Avoidance and Site Planning** ▪ Avoid development within riparian zones and areas of intact high value habitat ▪ Position infrastructure within previously disturbed or low sensitivity areas ▪ Limit encroachment into surrounding natural vegetation	

Construction Phase Controls ▪ Restrict construction activities to defined areas and timeframes ▪ Limit vegetation clearing to the minimum required footprint ▪ Undertake pre-construction walkthroughs to identify and avoid sensitive habitats or active nesting sites where possible ▪ Implement speed limits and control vehicle movement to reduce risk of faunal injury ▪ Prohibit hunting, trapping, feeding or intentional disturbance of fauna by construction personnel **Lighting and Noise Management** ▪ Minimise artificial lighting and direct lighting away from natural habitats ▪ Use low intensity, downward facing lighting to reduce disturbance to nocturnal species ▪ Limit noise generating activities to daylight hours **Habitat Rehabilitation and Management** ▪ Rehabilitate disturbed areas with locally appropriate indigenous vegetation ▪ Restore habitat structure to the extent possible to support faunal return ▪ Avoid the use of invasive species in landscaping **Operational Phase Controls** ▪ Limit human activity within surrounding natural areas ▪ Implement ongoing environmental awareness for staff and visitors ▪ Monitor for signs of faunal disturbance and adapt management measures as required	
<u>Impacts on Biodiversity Connectivity</u> **Avoidance and Layout Design** ▪ Avoid siting of structures, access routes and associated infrastructure within riparian corridors and identified ecological linkages ▪ Cluster development within already disturbed or low sensitivity areas to prevent spread of disturbance ▪ Limit the overall development footprint to the minimum required area **Vegetation and Habitat Management**	

▪ Maintain continuous vegetation buffers between development areas and natural habitats ▪ Retain existing indigenous vegetation wherever possible ▪ Rehabilitate disturbed areas with locally appropriate indigenous species to restore connectivity ▪ Avoid introduction of alien or invasive species that may disrupt ecological processes **Access and Movement Control** ▪ Utilise existing access routes and avoid creation of new disturbance pathways through intact vegetation ▪ Limit informal footpaths and vehicular movement outside designated areas ▪ Demarcate no-go areas to prevent encroachment into sensitive habitats **Operational Controls** ▪ Minimise lighting spill into natural areas to reduce disturbance to nocturnal species ▪ Control noise and human activity levels, particularly near sensitive habitat edges ▪ Implement ongoing monitoring of vegetation and habitat condition	
Mitigation to reduce impacts of stormwater discharge and water quality impacts; **Stormwater Design and Management** ▪ Promote infiltration through the use of permeable surfaces and avoidance of hard paving ▪ Ensure all surfaces are graded to encourage sheet flow rather than concentrated runoff ▪ Avoid direct discharge of stormwater into watercourses, riparian zones or drainage lines ▪ Implement a clear separation between clean and potentially contaminated runoff areas **Gravel Access and Surface Management** ▪ Design gravel access roads with appropriate cross fall and camber to prevent water concentration ▪ Install water diversion measures such as berms, contour drains and level spreaders where required ▪ Use energy dissipation structures such as stone packing or vegetated swales at discharge points ▪ Regularly maintain gravel surfaces to prevent rutting, compaction and channel formation ▪ Limit vehicle movement during wet conditions to reduce surface degradation **Erosion and Sediment Control** ▪ Install temporary erosion control measures during construction, including silt fencing and sediment traps	

▪ Stabilise all exposed soils as soon as practicable following disturbance ▪ Revegetate disturbed areas using appropriate indigenous vegetation ▪ Avoid construction activities during periods of heavy rainfall where feasible **Water Quality Protection** ▪ Prevent contamination of stormwater from fuels, oils, cement or other hazardous substances ▪ Designate refuelling and material storage areas away from drainage pathways ▪ Implement spill prevention and response procedures **Maintenance and Monitoring** ▪ Undertake regular inspection of all stormwater and drainage features ▪ Maintain all erosion control and stormwater infrastructure to ensure functionality ▪ Monitor areas of known erosion risk and implement corrective measures where required	
<u>Waste Generation and Pollution Risk</u> **General Waste** ▪ Implement a waste management plan for both construction and operational phases ▪ Use designated and clearly demarcated waste storage areas ▪ Ensure all waste is removed and disposed of at licensed waste disposal facilities ▪ Prohibit illegal dumping or burning of waste on site ▪ Ensure proper handling, storage and disposal of hazardous materials **Wastewater and Effluent Management** ▪ Install self-contained wastewater treatment plants for each chalet unit, designed in accordance with applicable standards ▪ Ensure all systems are located outside of riparian buffers and sensitive areas ▪ Undertake regular inspection, maintenance and servicing of all treatment systems in accordance with manufacturer specifications ▪ Maintain records of servicing and system performance ▪ Ensure that treated effluent meets acceptable quality standards prior to reuse or discharge ▪ Reuse treated effluent for flushing of toilets and other appropriate non potable uses to reduce discharge volumes and water demand	

▪ Prevent overflow, leakage or uncontrolled discharge of effluent into the surrounding environment Implement contingency measures in the event of system failure	
Mitigation to reduce impacts on groundwater contamination; ▪ Adequate health, safety, and environmental induction for all construction personnel prior to commencing work. ▪ All hazardous materials (e.g., fuel, lubricants, cement slurry, paints, chemicals) must be stored in designated, bunded, and impermeable areas within the hoarding zone. ▪ Handling and mixing of hazardous materials must occur under controlled supervision, using drip trays or containment measures to prevent soil infiltration. ▪ Portable toilets must be provided on-site, positioned on impermeable surfaces away from any drainage lines. ▪ Portable toilet facilities must be regularly emptied and serviced to prevent leakage or overflow. ▪ Fuelling and maintenance of machinery must occur in a designated area with spill containment (e.g., bunded pads) and spill kits readily available. ▪ Accidental spillages must be cleaned immediately, with contaminated soil removed and disposed of at a licensed facility. ▪ Stormwater and runoff from construction areas should be diverted away from any watercourses to prevent potential contamination. ▪ All construction activities must be restricted to the site; no-go zones must be enforced. ▪ Permanent ablution facilities must comply with SANBS and all local building regulations and bylaws. ▪ Storage and use of chemicals (fertilisers, herbicides, pesticides, cleaning agents) must be in designated bunded areas. ▪ Any irrigation or water application near landscaped areas must avoid overwatering. ▪ Spill response procedures and kits must be maintained on-site for rapid containment and cleanup. ▪ Staff should be trained on the correct handling and disposal of hazardous materials to reduce the risk of accidental infiltration into the soil. ▪ Surface runoff should be directed away from sensitive areas, with drainage infrastructure designed to prevent contaminated water from reaching any watercourses.	
Mitigation to reduce Visual impact; **Design and Visual Integration** ▪ Ensure that all structures are of a low profile and limited height ▪ Use natural, muted colours and materials that blend with the surrounding environment ▪ Avoid reflective or highly contrasting finishes	

▪ Position structures to make use of existing vegetation for screening **Vegetation Screening and Rehabilitation** ▪ Retain existing indigenous vegetation wherever possible ▪ Supplement with additional planting of locally indigenous species to provide screening ▪ Allow for natural vegetation regrowth around structures to soften visual impact over time ▪ Avoid formal landscaping that contrasts with the natural setting **Lighting Control** ▪ Limit external lighting to the minimum required for safety and functionality ▪ Use low intensity lighting fixtures ▪ Ensure all lighting is downward facing and directed inward toward the structure ▪ Use diffused lighting to prevent glare and light spill into surrounding natural areas ▪ Avoid high mast or flood lighting ▪ Consider the use of timers or motion sensors to reduce unnecessary lighting **Construction Phase Controls** ▪ Minimise visual disturbance during construction by limiting cleared areas ▪ Remove construction materials and waste regularly ▪ Rehabilitate disturbed areas promptly	
Mitigation to reduce impacts related to loss of topsoil; ▪ Stockpiled top spoil is to be used to rehabilitate disturbed areas. ▪ The importing of organic materials and topsoil in order to condition and improve soil quality post construction. ▪ No steep slopes are to be created on site; all gradients greater than 1:10 must be stabilized using biodegradable geo-jute, erosion control mats, or retaining walls where necessary. ▪ All discarded excavated material must be carted off site and disposed of at a registered waste treatment facility. ▪ Only deep excavations are to be permitted where necessary for approved plans. ▪ Top-soil stockpiles must be located away from construction activities to avoid contamination and erosion. ▪ Endemic and indigenous plant species must be used in post-construction landscaping to stabilize soil, prevent erosion, and restore the ecological integrity of the site	
Mitigation to reduce noise pollution;	

Construction Management ▪ Restrict construction activities to daylight hours to avoid disturbance during early morning, evening and nighttime periods when wildlife activity is often higher ▪ Phase construction activities to limit the spatial extent of disturbance at any given time ▪ Avoid simultaneous construction at multiple widely separated sites where possible **Noise Control** ▪ Ensure all machinery and equipment are well maintained and fitted with appropriate silencers ▪ Avoid unnecessary idling of vehicles and equipment ▪ Limit the use of high noise generating equipment where feasible **Wildlife and Livestock Considerations** ▪ Avoid construction activities in close proximity to known wildlife congregation or movement areas where possible ▪ Allow for movement corridors to remain open and unobstructed ▪ Inform construction personnel of the presence of wildlife and livestock and implement awareness protocols ▪ Prohibit chasing, feeding or interacting with wildlife or bovines ▪ Implement reduced speed limits for all vehicles to minimise disturbance and risk of collision **Access and Movement Control** ▪ Limit vehicle movement to designated access routes ▪ Avoid unnecessary movement across the site ▪ Control access to prevent disturbance outside the defined construction areas **Communication and Monitoring** ▪ Coordinate with property management regarding animal movement patterns and sensitive areas ▪ Monitor animal behaviour during construction and adapt activities if significant disturbance is observed ▪ Temporarily halt or adjust activities if undue stress or disruption to animals is identified	
<u>Access and Traffic Impacts</u> **Access Planning and Design** ▪ Utilise existing access routes wherever possible and avoid the creation of new roads through intact vegetation	

▪ Limit any required new access to the minimum extent necessary and align with existing disturbed areas ▪ Design access routes to follow natural contours to minimise erosion **Traffic Management** ▪ Limit vehicle speeds across the property to reduce dust generation and minimise risk to wildlife and livestock ▪ Implement clearly defined access routes and restrict movement outside these areas Avoid unnecessary vehicle trips and consolidate deliveries where possible **Wildlife and Livestock Protection** ▪ Implement low speed limits to reduce risk of collision with wildlife and bovines ▪ Inform all drivers and contractors of the presence of animals and the need for caution ▪ Avoid driving during periods of high animal activity where feasible ▪ Allow animals right of way at all times **Dust and Surface Management** ▪ Manage dust on gravel roads through appropriate measures where necessary, such as light wetting during dry conditions ▪ Maintain road surfaces to prevent excessive rutting and erosion ▪ Avoid excessive use of routes during wet conditions to limit surface damage **Construction Phase Controls** ▪ Limit construction related traffic to designated routes and times ▪ Avoid unnecessary widening of existing tracks ▪ Rehabilitate any temporary access routes following construction **Operational Controls** ▪ Maintain access routes in a stable condition over time ▪ Monitor for signs of erosion or degradation and implement corrective measures ▪ Limit long-term traffic volumes through appropriate management of site use	
Servicing and Wastewater Impacts **System Design and Installation** ▪ Install self-contained wastewater treatment plants for each chalet unit in accordance with recognised standards and	

manufacturer specifications ▪ Ensure systems are appropriately sized for the anticipated load and usage ▪ Locate all treatment systems outside of riparian buffers and away from drainage lines and watercourses ▪ Ensure adequate separation distances from groundwater and sensitive receptors **Operation and Maintenance** ▪ Undertake regular inspection, servicing and maintenance of all treatment systems in accordance with manufacturer requirements ▪ Maintain a servicing schedule and record all maintenance activities ▪ Ensure that only appropriately trained personnel undertake system maintenance ▪ Monitor system performance to ensure effective treatment **Effluent Management and Reuse** ▪ Ensure treated effluent meets acceptable quality standards prior to reuse or discharge ▪ Reuse treated effluent for flushing of toilets and other suitable non potable applications to reduce discharge volumes ▪ Avoid direct discharge of effluent into the natural environment ▪ Ensure controlled and safe dispersal of any excess treated effluent **Pollution Prevention** ▪ Prevent leaks, overflows or system failures through proactive maintenance and monitoring ▪ Implement contingency measures in the event of system malfunction ▪ Prohibit disposal of harmful chemicals or substances into the wastewater system that may compromise treatment efficiency **Monitoring and Compliance** ▪ Undertake periodic inspection of surrounding areas for signs of contamination ▪ Ensure compliance with applicable environmental and health standards ▪ Implement corrective actions where any deficiencies are identified	
Mitigation to reduce impacts on air and dust pollution; ▪ The sprinkling down with water of exposed areas and stockpiles (including removed vegetation) at least 2–3 times per day during dry conditions to limit dust generation. ▪ All rubble that is to be removed to the municipal landfill site, is to be sprinkled down with water prior to departure so as to limit the amount of dust blown from the vehicle during transport.	

▪ All removed vegetation and topsoil stockpiles to be dampened prior to any relocation or reuse to prevent wind-blown dust. ▪ All neighboring properties within a 100m radius must be consulted and advised of scheduled working and such neighbours to be informed about the potential for elevated dust pollution. ▪ The prevailing wind directions should be taken into consideration when earthworks are undertaken. ▪ Speed restriction of 30-40km/h must be implemented for all construction vehicles within site to reduce dust generation. ▪ Limit vehicle movement to identified access routes and ensure that dust suppression is exercised during dry seasons and during maximum vehicle movement work periods. ▪ Dust must be suppressed on access roads and construction sites during dry periods by the regular application of water or a biodegradable soil stabilization agent. Water used for this purpose must be used in quantities that must not result in the generation of run-off. ▪ Appropriate dust suppression measures or temporary stabilizing mechanisms must be used when dust generation is unavoidable (e.g., dampening with water, chemical soil binders, straw, brush packs, chipping), particularly during prolonged periods of dry weather. Dust suppression to be undertaken for all bare areas, including construction areas, access roads, borrow pits, etc. ▪ The Contractor will take preventative measures to minimize complaints regarding dust nuisances (e.g., screening, dust control, timing, and pre-notification of affected parties). ▪ Delivery of construction materials to be done within hoarded or enclosed sections on-site to limit dust release. ▪ Regular monitoring of dust levels during peak use periods, with additional suppression measures applied if necessary.	
Mitigation on health and safety impacts; ▪ All flammable substances must be stored in dry areas which does not pose an ignition risk to the said substances. ▪ The contractor must ensure that all workers operating heavy machinery have received the required training and are equipped to operate such machinery. These staff members must also be adequately trained to identify any potential hazards associated with their job. ▪ Workers must wear appropriate Personal Protective Equipment (PPE), including respirators, disposable coveralls, gloves, and safety goggles. ▪ The site must be clearly demarcated with warning signs to prevent unauthorized access. ▪ A qualified safety officer is to be appointed on site to oversee adherence to safety protocols. ▪ Hard hats and safety clothing to be worn at all times. ▪ All workers to be inducted and deemed safe prior to starting work on site. ▪ All mandatory requirements of the Occupational Health and Safety Act, Act 85 of 1993 are to be met. ▪ Hoarding and scaffolding on the site must be implemented to create safe access on and around the site. ▪ Access to the site must be strictly controlled, only authorized personnel are allowed entry.	

▪ Emergency procedures, including first aid and fire response, must be established and clearly communicated to all site personnel. ▪ Machinery and equipment must be regularly inspected and maintained to prevent accidents. ▪ Safety briefings should be conducted at the start of each workday, with updates, as necessary. ▪ Adequate sanitary and ablutions facilities must be provided for construction workers. Durning operational phase: The site must remain clearly demarcated with signage indicating restricted areas and safe access routes. ▪ Maintenance workers must wear appropriate PPE when operating machinery and working in areas that produce dust. ▪ Emergency procedures, including first aid and fire response, must be in place and communicated to staff and users. ▪ Vehicle access routes and parking areas must be clearly marked to reduce the risk of accidents. ▪ Public areas must be maintained to prevent tripping hazards or other injuries. ▪ Safety training for operational staff must be conducted regularly to maintain awareness of risks and proper procedures. ▪ The sprinkling down with water of potential dust generating areas to be done at least three times per day	
Mitigation relating to employment opportunities; ▪ As far as possible, permanently employed skilled construction workers are to be from the local community. ▪ All unskilled and temporary construction workers are to be from the local community. ▪ Local building material suppliers are to be used where possible. ▪ Training and skills transfer initiatives should be implemented to ensure local employees gain long-term, marketable skills from both the construction and operational phases of the project. ▪ Contractor to appoint a Community Liaison Officer (CLO), or to assign such responsibilities to a competent staff member who will have adequate time to fulfil relevant functions. ▪ Local service providers (e.g., catering, security, cleaning) are to be prioritised for operational needs.	
Mitigation to reduce waste impacts; ▪ All relevant waste removal, handling, and disposal certificates must be submitted to the Environmental Control Officer (ECO) and included in compliance monitoring reports. ▪ All reusable material to be repurposed where possible. ▪ All rubble generated from the activity will be transported and disposed of at a licensed municipal landfill site in compliance with local regulations. ▪ Green waste from vegetation clearance must be chipped, composted or transported to an approved green waste facility. ▪ All excavated materials not reused must be carted off site and disposed of at a registered waste treatment facility. ▪ Waste must be collected daily, placed in secure, windproof containers, or skips and stored in a designated enclosed waste	

storage area with netting or cover to prevent wind dispersal. ▪ Portable toilets are to be placed on site for construction personnel. These must be placed in accessible locations for use and maintenance. ▪ All effluent from portable toilets is to be removed by registered and approved suppliers. ▪ All potentially contaminated rubble must be immediately reported to the ECO and the relevant authorities. ▪ All contaminated material is to be discarded by means of licensed and registered operators. ▪ Spill kits for hydrocarbons, cement and other hazardous substances must be available on site at all times, with staff trained to use them. ▪ Any accidental spills are to be reported to the ECO and cleaned up immediately using appropriate methods for the type and classification of materials spilled. ▪ All hazardous material is to be stored in a secure and safe storage facility appropriate for the type and classification of materials spilled. ▪ All mixing of cement and mortar must be done on a surface such as plywood board or thick micro plastic to prevent leaching of cement residue in the subsoil. ▪ No waste may be burned on site at any time. ▪ On-site waste receptacles must be clearly marked for recyclable and non-recyclable waste streams, including paper, plastic, glass, and general refuse. ▪ All operational waste must be stored in covered bins to prevent wind dispersal, odour, and pest attraction. ▪ General waste is to be removed from the site as part of the municipal refuse collection programme, with records kept for audit purposes. ▪ Effluent from ablution facilities must be directed into the municipal bulk sewage network. ▪ Green waste from ongoing maintenance (e.g., grass cuttings, pruning) should be composted on site where possible or taken to an approved green waste facility. ▪ Waste generated during events or high-usage periods must be removed immediately after the activity to prevent litter accumulation. ▪ Staff must be trained in waste separation, recycling, and spill response as part of operational procedures. ▪ The waste management system must be reviewed annually to improve recycling rates and reduce landfill disposal.	
<u>Mitigation reducing biodiversity impacts:</u> ▪ Adequate environmental induction prior to the start of the construction process for all staff. ▪ Due care and consideration must be implemented in the design, construction and operational phase to ensure that biodiversity is not disturbed but rather supported and protected. ▪ Construction activities to be limited to the site only with surrounding areas being considered as no-go areas.	

▪ Strict control of the removal of any vegetation is to be limited to only that on the site and which is to be affected by the construction activities. ▪ All identified listed invasive plant species must be removed and destroyed, and their presence monitored throughout construction and operation. ▪ Reporting of any vertebrate or invertebrate species to the Environmental Control Officer observed on or near the site during the construction phase. ▪ Reporting of any nests, burrows or animal dwellings observed on or near the activity. ▪ A solid hoarding must be conducted around the activity area. ▪ Construction machinery and personnel must avoid sensitive areas and stick to clearly demarcated access routes to minimise habitat disturbance. ▪ Temporary stockpiles of excavated soil and construction materials must be located away from vegetated areas and stabilized to prevent erosion or runoff. ▪ Lighting should use the lowest intensity necessary for safe play and be warm-coloured (≤3000 K) where possible. ▪ All external lights must be fully shielded (full cut-off) to direct light downward, preventing horizontal or upward spill onto natural areas. ▪ Motion sensors, timers, or automated dimming can be used to reduce lighting outside active play times. ▪ Floodlights should be positioned and angled to avoid overspill onto natural habitat patches or adjacent properties. ▪ All external lighting fixtures should be non-reflective, and clustering lights in essential areas is encouraged to maintain dark zones in non-essential areas. ▪ Monitoring for invasive species and native biodiversity must continue during the operational phase, with rapid response protocols for any new invasions or disturbances. ▪ Landscaping during operation should prioritize indigenous species to support local ecological networks and pollinators	
Mitigation Measures to Reduce Aquatic Biodiversity Impact: ▪ Erosion and sediment control measures (e.g., silt fencing, sediment traps) must be installed prior to construction and maintained throughout the works. ▪ All cement mixing, refuelling, and hazardous material storage must occur away from any identified watercourses. ▪ Stormwater runoff from the site must be managed this includes the use of permeable surfaces, swales, attenuation ponds, and bio-retention features. ▪ Portable toilets must be removed regularly by certified service providers. ▪ Any permanent ablution on site must comply with local building regulations, be located outside the buffer and be regularly maintained to prevent leaks. ▪ A designated Environmental Control Officer (ECO) must monitor compliance during construction, and periodic inspections	

during operation are recommended. ▪ Any accidental spillage of chemicals, cement or effluent must be immediately contained and cleaned, with the ECO and relevant authorities notified. ▪ Construction machinery must not be parked close to surface waterbodies overnight. When they are parked, drip trays must be placed under the vehicles and cleaned at regular intervals. ▪ Hydrocarbons, chemicals, and other hazardous substances must be stored off-site where possible, or in bunded areas away from surface waterbodies. ▪ Stormwater runoff, particularly from the first seasonal rains, must be treated onsite or diverted to ensure that only water of acceptable quality reaches the wetland. ▪ All disturbed or cleared areas must be rehabilitated and revegetated with indigenous species as soon as possible after construction to prevent erosion and encourage recovery.	
Mitigation reducing topsoil contamination; ▪ Stripping and stockpiling of topsoil in areas where construction activities are to take place, with stockpiles clearly demarcated, protected from wind and water erosion and located away from drainage lines. ▪ Stockpiled topsoil is to be used to rehabilitate disturbed areas post construction activities. ▪ Stockpiled topsoil must be covered with geotextile sheeting or organic mulch to prevent erosion and contamination. ▪ Soil protection techniques (e.g., heavy-duty groundsheets, drip trays, or timber boarding) must be implemented under all mixing and decanting areas for cement, mortar, paint, fuels, and chemicals to prevent accidental seepage into the soil. ▪ All handling, mixing, and decanting of materials must be carried out under controlled supervision in designated, bunded areas within the hoarding zone, with spill kits readily available. ▪ Portable toilets must be placed on impermeable surfaces, away from stormwater drains, drainage lines and must be regularly serviced by a licensed waste management company to prevent leakage. ▪ Any contaminated soil must be immediately excavated, stored in sealed containers, or lined skips and removed to a licensed landfill site for disposal. ▪ All hazardous materials must be stored in secure, bunded areas with 110% containment capacity and covered to prevent rainwater ingress. ▪ Emergency spill response procedures must be in place, with trained personnel and spill kits on-site at all times. ▪ No vehicle refuelling or servicing is to occur outside designated bunded areas with impermeable surfaces. ▪ Adequate health, safety, and environmental induction must be provided to all construction personnel, with refresher training on spill prevention and response. ▪ Limiting of construction activities and staff to the site only. ▪ Permanent sanitation infrastructure must be regularly inspected and maintained to prevent leaks or blockages; any leaks must	

be repaired immediately. ▪ All grounds maintenance equipment must be checked for oil or fuel leaks before use and refuelling must occur in designated, bunded areas. ▪ Fertiliser, pesticide, and herbicide application must be carefully managed, follow an Integrated Pest Management (IPM) approach and avoid application prior to heavy rain to prevent runoff. ▪ All maintenance activities involving hazardous substances (e.g., Fertiliser, hydrocarbons, effluent, cleaning agents etc) must be conducted in bunded areas with spill containment measures in place. ▪ Maintain an operational spill response plan, including the immediate containment and safe removal of contaminated soil, with disposal at a licensed facility. ▪ Ensure no contaminated runoff from operational areas can enter stormwater drains or flow towards the stormwater channels must be inspected and maintained to prevent pollutant build-up. ▪ Annual environmental audits must check for signs of soil contamination and ensure mitigation measures remain in place and effective.	
Mitigation affecting socio-economic impacts; ▪ As far as possible, permanently employed skilled construction workers are to be from the local community. ▪ All unskilled and temporary construction workers are to be recruited from the local area to maximize local employment benefits. ▪ Encourage the support of local business and suppliers where possible. ▪ Encourage the use of local sub-contractors where possible. ▪ Enhance the skills and expertise of local workers by providing on-site training and skills development for local workers, including construction techniques, health and safety, and facility management skills. ▪ Encourage local businesses to participate in catering, transport, and accommodation services for construction staff to generate additional income within the community. ▪ During operation, prioritize hiring local residents for facility management, maintenance, security, coaching, and administrative roles.. ▪ Monitor and report the socio-economic benefits delivered to the local community during both construction and operational phases to ensure transparency and maximize positive impact.	
Recommendations of Specialists in FBAR	
Mitigation affecting terrestrial biodiversity;	
1. Layout planning and avoidance ▪ The final layout must prioritise transformed, historically disturbed and lower sensitivity portions of the site.	

▪ Development must remain clustered within the approved development footprint and must avoid unnecessary expansion into surrounding natural or semi-natural areas. ▪ Creek margins, drainage features, riparian vegetation, remaining indigenous vegetation patches and any areas functionally linked to the Kromme River system must be avoided as far as reasonably practicable. ▪ Any intact or semi-intact vegetation associated with mapped Endangered or Critically Endangered vegetation units must be avoided. ▪ The final layout must avoid disturbance of any representative Albany Alluvial Vegetation or Humansdorp Shale Renosterveld should such vegetation be identified during final pegging or pre-construction walkdown. ▪ Any proposed change to the final layout that may move infrastructure into a higher sensitivity area must be reviewed by the EAP, ECO and terrestrial biodiversity specialist before implementation. ▪ No development, site camp, laydown area, stockpile, access road, service trench or parking area may be located within a no-go area or sensitive feature unless specifically assessed and authorised. 2. No-go areas and demarcation ▪ Sensitive areas must be clearly demarcated before commencement of any site establishment, clearing or earthworks. ▪ No-go areas must include creek margins, drainage features, riparian vegetation, remaining indigenous vegetation, protected species locations and any intact or semi-intact threatened vegetation remnants. ▪ No-go demarcation must be maintained for the full duration of construction. ▪ Construction personnel, contractors, subcontractors and suppliers must be informed of no-go areas during environmental induction. ▪ No vehicles, machinery, materials, waste, excavated soil or construction personnel may enter demarcated no-go areas. ▪ Any accidental encroachment into a no-go area must be reported immediately to the ECO and rehabilitated under ECO supervision. 3. Vegetation clearing ▪ Vegetation clearing must be limited to the minimum area required for the approved development footprint, access routes, service corridors and associated infrastructure. ▪ No blanket clearing of vegetation may be undertaken. ▪ Vegetation clearing must be phased and must only occur immediately before construction in the relevant area. ▪ The ECO must inspect and approve the pegged clearing areas before clearing commences. ▪ Clearing must be undertaken in a controlled manner to avoid damage to adjacent vegetation. ▪ Indigenous vegetation outside the approved footprint must not be cut, pruned, removed, trampled, damaged or disturbed. ▪ Cleared vegetation may be used for brush packing or rehabilitation where suitable and where it does not contain alien invasive material.	

4. Protected species and species of conservation concern ▪ A pre-construction walkdown must be undertaken before vegetation clearing to identify any protected trees, provincially protected plants, species of conservation concern or other sensitive flora within the final footprint. ▪ All protected trees and protected plant species must be avoided wherever possible through micro-siting of infrastructure. ▪ Where protected trees may be pruned, damaged, removed or disturbed, the required National Forests Act licence must be obtained before disturbance. ▪ Where provincially protected plants may be removed, disturbed, translocated or destroyed, the required provincial permits must be obtained before disturbance. ▪ Search and rescue must be undertaken where suitable protected, indigenous or transplantable species occur within the approved disturbance footprint. ▪ Rescued plant material must be relocated to suitable receptor areas or used in rehabilitation, subject to specialist or ECO guidance. ▪ No collection, harvesting, cutting or removal of indigenous plants by workers, visitors or contractors may be permitted. 5. Threatened vegetation units ▪ The TBA must recognise that the site is mapped in association with Endangered Albany Alluvial Vegetation and Endangered Humansdorp Shale Renosterveld in the broader 2024 VEGMAP and 2025 NBA context. ▪ Although site verification indicates that intact or representative examples of these vegetation units are largely absent from the proposed development footprint, any remaining intact or semi-intact patches must be treated as high sensitivity. ▪ Development must not result in the loss of intact representative threatened vegetation. ▪ Where any intact Endangered or Critically Endangered vegetation is identified during pre-construction verification, the affected area must be avoided and the layout must be adjusted where practicable. ▪ If avoidance is not possible, the matter must be referred back to the EAP, ECO and specialist for reassessment before any disturbance occurs. 6. Creek margins, riparian areas and drainage features ▪ Creek margins, riparian vegetation and drainage features must be treated as high sensitivity areas. ▪ No clearing, dumping, stockpiling, refuelling, cement batching, wastewater discharge or material storage may occur within these areas. ▪ Natural drainage patterns must be retained as far as practicable. ▪ No stormwater may be concentrated into creek margins, drainage features or riparian areas without suitable attenuation, energy dissipation and erosion protection. ▪ Any work near drainage features or riparian margins must be subject to an approved method statement and ECO supervision. ▪ Sediment controls must be installed before earthworks commence in areas where runoff may enter sensitive features.	

▪ No contaminated runoff may enter the Kromme River system. 7. Alien invasive plant management ▪ Alien invasive plant species must be controlled before, during and after construction. ▪ Priority areas for alien control include disturbed areas, access routes, service corridors, stockpile areas, creek margins, drainage features, riparian edges and rehabilitation areas. ▪ Category 1a and 1b alien invasive species must not be allowed to establish, spread or set seed. ▪ Alien clearing must be undertaken using appropriate mechanical or approved chemical control methods. ▪ Herbicide use near drainage features, creek margins, riparian vegetation or the Kromme River system must be avoided unless specifically approved and undertaken by competent persons. ▪ Alien plant material containing seed, fruit or viable vegetative material must be removed from site or disposed of in a manner that prevents spread. ▪ Follow-up clearing must be undertaken during the rehabilitation and operational phases. 8. Faunal protection ▪ No fauna may be hunted, trapped, killed, collected, disturbed, poisoned or intentionally harmed. ▪ Construction workers must be instructed not to interfere with snakes, birds, mammals, amphibians, reptiles, invertebrates, nests, burrows or other fauna. ▪ Any fauna encountered during clearing or construction must be allowed to move away safely. ▪ If fauna cannot move away safely, the ECO or a competent person must be contacted to assist with relocation. ▪ Speed limits must be enforced on access roads to reduce the risk of collisions with wildlife, livestock and birds. ▪ Open trenches or excavations must be inspected daily and before backfilling to ensure that trapped fauna are removed safely. ▪ Trenches left open overnight must include escape ramps where practicable. ▪ Construction lighting must be minimised and directed away from riparian areas, drainage features and natural vegetation. 9. Avifaunal considerations ▪ Disturbance to birds must be minimised through footprint control, reduced noise, controlled access and protection of riparian vegetation. ▪ No active nests may be disturbed or removed without specialist advice and relevant authorisation where required. ▪ Vegetation clearing should, where practicable, avoid peak breeding periods for birds. ▪ Lighting must be low intensity, downward directed and shielded to reduce disturbance to nocturnal fauna and birds. ▪ Large reflective surfaces and unnecessary glass glare should be minimised through appropriate architectural design. 10. Soil disturbance, erosion and sediment control ▪ Earthworks must be limited to the approved development footprint. ▪ Disturbed soils must be stabilised as soon as practicable.	

▪ Topsoil must be stripped, stockpiled and reused for rehabilitation where suitable. ▪ Topsoil stockpiles must be kept separate from subsoil and construction waste. ▪ Stockpiles must be located outside drainage features, creek margins, riparian areas and stormwater flow paths. ▪ Stockpiles must be stabilised or covered where erosion or windblown dust may occur. ▪ Erosion control measures must be installed before or during earthworks, especially on sloped or exposed areas. ▪ Sediment fences, silt socks, berms, mulch, brush packing, stone pitching or other suitable measures must be used where required. ▪ Erosion damage must be repaired immediately after rainfall events. 11. Stormwater management ▪ Stormwater must be managed at source and must not be allowed to concentrate into sensitive areas. ▪ Roof runoff, road runoff and hard surface runoff must be directed to stable, vegetated or engineered discharge points. ▪ Stormwater infrastructure must include erosion protection and energy dissipation where required. ▪ Dirty water and clean stormwater must be kept separate. ▪ Stormwater must not be routed through fuel storage, waste storage, chemical storage, wastewater, greenhouse or agricultural input areas. ▪ Drainage infrastructure must be inspected after significant rainfall events. ▪ Any sediment accumulation in drains, swales, silt traps or stormwater structures must be removed. 12. Wastewater and pollution prevention ▪ Wastewater treatment systems must be designed, installed and maintained to prevent contamination of soil, groundwater, drainage features, riparian vegetation and the Kromme River system. ▪ No untreated wastewater, greywater, sewage or contaminated water may be discharged to the environment. ▪ Treated effluent may only be reused where legally permissible, suitably treated and managed to avoid runoff, seepage, nutrient enrichment or pollution. ▪ Portable toilets and temporary ablutions must be located outside sensitive areas and must be serviced by an approved service provider. ▪ Fuel, oil, cement, chemicals, paints, solvents, detergents, fertilisers, pesticides and herbicides must be stored in designated controlled areas. ▪ Spill kits must be available on site at all times. ▪ Any spill must be contained, cleaned and reported immediately. ▪ Contaminated soil must be removed and disposed of at a licensed facility. 13. Agricultural, greenhouse and beekeeping activities ▪ Greenhouse areas must be located outside sensitive riparian and drainage areas.	

▪ Fertilisers, compost, pesticides, herbicides and other agricultural inputs must be stored in controlled areas. ▪ No nutrient enriched runoff from greenhouse or agricultural areas may enter drainage features, creek margins, riparian vegetation or the Kromme River system. ▪ Beekeeping infrastructure must be located in areas that do not require unnecessary vegetation clearing. ▪ Beekeeping must be managed to reduce risk to workers, guests, livestock and wildlife. ▪ Agricultural and greenhouse waste must be collected and disposed of responsibly. 14. Boat storage, jetty and river edge controls ▪ No boat storage, jetty, river access, mooring, launching or estuarine edge works may commence unless all required municipal, ICMA, environmental, landowner and other statutory approvals are in place. ▪ River edge areas must not be cleared or modified unless specifically assessed and authorised. ▪ Boat storage areas must be designed to avoid fuel, oil, wash water or contaminated runoff entering the Kromme River system. ▪ No boat maintenance involving oils, fuels, solvents, antifouling paints or hazardous substances may occur outside a controlled area. ▪ River access must be controlled to avoid trampling, erosion, informal paths and disturbance to riparian vegetation. 15. Construction access and traffic ▪ Existing access roads and disturbed routes must be used as far as practicable. ▪ No new informal tracks may be created. ▪ Vehicles must remain on approved access routes and parking areas. ▪ Speed limits must be enforced to reduce dust, erosion, faunal disturbance and risk to livestock. ▪ Turning, parking, refuelling and material delivery areas must be located outside sensitive areas. ▪ Access through active farming areas must comply with landowner and biosecurity requirements. 16. Biosecurity ▪ Access through active cattle and dairy farming areas must be managed in accordance with landowner, farmer, State Veterinarian or agricultural authority requirements. ▪ Vehicles, machinery and personnel must comply with any applicable Foot and Mouth Disease or communicable animal disease protocols. ▪ Visitor and contractor access must be controlled and recorded where required. ▪ No unauthorised movement into livestock areas may occur. ▪ Biosecurity measures must be included in contractor induction. 17. Rehabilitation ▪ All disturbed areas not required for permanent infrastructure must be rehabilitated. ▪ Rehabilitation must be undertaken progressively where possible and not delayed until the end of construction.	

▪ Rehabilitated areas must be stabilised using suitable topsoil, mulch, brush packing, erosion control measures and locally appropriate indigenous vegetation where required. ▪ Disturbed areas must be monitored until vegetation cover is established and erosion risk is controlled. ▪ Alien invasive plants must be removed from rehabilitation areas. ▪ Rehabilitation must aim to stabilise soils, restore vegetation cover, prevent erosion and reduce edge effects on remaining natural vegetation. 18. Operational management ▪ The operational phase must maintain the approved footprint and prevent incremental expansion into sensitive areas. ▪ No informal footpaths, vehicle tracks, picnic areas, river access points or storage areas may be created outside approved areas. ▪ Guests, staff and service providers must be informed of no-go areas and environmental controls. ▪ Waste, wastewater, stormwater, alien plants, lighting, noise and access must be managed throughout operation. ▪ Maintenance of roads, stormwater structures, wastewater systems, solar systems, greenhouse areas and river edge infrastructure must be undertaken in a manner that avoids vegetation loss and pollution. 19. Monitoring and auditing ▪ The ECO must inspect the site before commencement to confirm demarcation, no-go areas, sensitive features and approved work areas. ▪ Regular ECO inspections must be undertaken during construction. ▪ Inspections must specifically monitor vegetation clearing, no-go compliance, erosion, sediment control, stormwater, waste, pollution, alien vegetation, fauna incidents and rehabilitation. ▪ A photographic record must be kept before construction, during construction and after rehabilitation. ▪ Non-compliance must be recorded and corrected within a specified timeframe. ▪ Operational monitoring must include alien vegetation, erosion, stormwater, wastewater, riparian protection, access control and rehabilitation success. 20. Reporting and documentation ▪ The environmental site file must include the Environmental Authorisation, EMPr, approved layout, permits, method statements, induction records, audit reports, incident records, complaints register, waste disposal slips, photographs and rehabilitation records. ▪ All incidents involving vegetation damage, protected species, fauna, spills, erosion, stormwater failure, wastewater failure or no-go area encroachment must be reported to the ECO. ▪ Any significant environmental incident must be reported to the relevant authority where required.	

▪ Final close-out must confirm that all disturbed areas have been stabilised, waste removed, alien plants controlled and rehabilitation measures implemented.	
Mitigation measures related to Aquatic recommendations	
▪ All development structures, excluding the jetty, must be positioned at least 30 m from the edge of the Kromme Estuary. ▪ Development must be confined to previously disturbed or transformed areas as far as practicable. ▪ Remaining indigenous vegetation, riparian vegetation, creek margins, salt marsh habitat and ecological buffer areas must be retained and treated as no go areas. ▪ No boundary fencing may be constructed along the portions of the property adjoining the estuary bank. ▪ An Environmental Control Officer must be appointed to oversee construction, confirm the location of structures and jetty components, monitor compliance and supervise rehabilitation. ▪ The riparian area adjoining the main estuary channel, outside the approved development footprint, must be rehabilitated using suitable locally indigenous pioneer species. ▪ Vehicles and construction machinery must not enter or operate within 30 m of the estuary edge. ▪ Machinery required for jetty construction must remain outside the 30 m setback, with materials transported manually to the jetty construction area. ▪ All machinery and vehicles must be regularly inspected and maintained to prevent fuel and oil leaks. ▪ Generators and other small machinery must be placed on drip trays containing fine sand or another suitable hydrocarbon absorbent material. ▪ Drip trays must be regularly inspected and cleaned, with contaminated material removed to an appropriately authorised waste facility. ▪ Hydrocarbon spills from vehicles or larger equipment must immediately be covered with absorbent material or sand, manually removed and disposed of at an authorised facility. ▪ All uncontained spills must be reported immediately to the ECO. ▪ A spill response kit must be available on site at all times. ▪ Any fauna affected by contamination must be documented. Where birds are affected, SANCCOB or another suitably qualified wildlife rehabilitation organisation must be contacted. ▪ Cement and concrete products must be mixed as far from the estuary as practicable and no closer than 30 m from the estuary edge. ▪ Cement mixers must operate over suitably sized drip trays or impermeable containment surfaces. ▪ Manual cement mixing must take place on a mobile, impermeable surface and not directly on bare ground. ▪ Cement required for the jetty base must be mixed outside the 30 m setback and manually transported to the construction area.	

▪ Cement spills must be cleaned up immediately by hand and removed from the site. ▪ Cement mixers, tools and equipment must not be washed directly on the ground or where wash water could enter the estuary. ▪ Cement contaminated water must be collected in suitable containers and removed for appropriate off site disposal. ▪ Temporary sediment screens must be installed downslope of all cleared or exposed areas before earthworks commence. ▪ Sediment controls must remain in place throughout construction and until exposed soil has been stabilised or successfully rehabilitated. ▪ Cleared and disturbed areas must be kept to the minimum required for construction. ▪ The land based jetty base must be positioned at least 5 m back from the estuary bank to reduce erosion and bank destabilisation. ▪ The fixed jetty walkway must be supported on pylons and extend over the intertidal habitat without placing fill within the salt marsh or estuarine environment. ▪ The fixed walkway must be kept to the minimum length necessary to connect safely with the articulated section. ▪ The floating pontoon must be positioned beyond the spring low tide mark to prevent smothering of subtidal habitat. ▪ The final positions of the jetty base, walkway, pylons and pontoon must be confirmed on site by the ECO, with specialist or engineering input where required. ▪ Jetty pylons must comprise fibre reinforced plastic, recycled polymer lumber or another inert material that will not leach harmful chemicals into the estuary. ▪ Construction access through salt marsh habitat must be restricted to the narrowest practical route. ▪ Trampling of intertidal and salt marsh vegetation must be minimised, with disturbed areas allowed to recover naturally and monitored for between 6 and 12 months. ▪ Individual conservancy tanks must be positioned behind the respective structures to maximise their distance from the estuary. ▪ The main modular wastewater treatment plant should be positioned towards the north western edge of the property, as far from the estuary as practicable. ▪ Conservancy tanks and the wastewater treatment plant must be located more than 30 m from the estuary or any watercourse. ▪ The conservancy tanks, pipelines, pumps and wastewater treatment plant must be sized adequately for the anticipated wastewater volumes. ▪ All wastewater infrastructure must be installed, operated and maintained in accordance with the manufacturer's specifications.	

▪ Wastewater infrastructure and surrounding ground must be inspected frequently for leaks, surface moisture, unusual vegetation growth or unpleasant odours. ▪ Any leak, blockage, overflow, odour or suspected wastewater failure must be investigated and repaired immediately. ▪ Records of wastewater inspections, maintenance, repairs and incidents must be retained by the Operations or Facility Manager.	
Mitigation measures related to heritage recommendations	
▪ Based on the available information, it is likely that the proposed development will impact on significant resources and as such, it is recommended that further heritage studies in terms of archaeological and palaeontological impacts are required. ▪ Generally, the outcome of a full heritage impact assessment requires that the Chance Finds Protocol be followed in the construction phase of the project. ▪ If heritage or archaeological resources are uncovered during maintenance or landscaping, stop activity and notify SAHRA. ▪ The South African Heritage Resources Agency (SAHRA) must be contacted immediately should any archaeological findings be discovered during the course of the development.	
Mitigation measures related to agricultural recommendations	
▪ The agricultural specialist concluded that the proposed development footprint has low agricultural sensitivity and that no specific agricultural mitigation measures are required. ▪ The total development footprint must remain limited to a maximum of approximately 6 000 m², as assessed by the agricultural specialist. ▪ Approximately 72 000 m² of the property must remain available for agricultural or rural land use. ▪ Development should remain concentrated within the previously disturbed brownfield portions of the property. ▪ Unnecessary disturbance of land outside the approved development footprint must be avoided. ▪ Existing areas of indigenous thicket along the eastern boundary must be retained and protected from construction disturbance. ▪ The stream forming the eastern boundary must be protected from encroachment, pollution and sediment runoff. ▪ Due to the moderate to high erosion vulnerability identified by the specialist, exposed sandy soils should be stabilised and rehabilitated promptly following disturbance. ▪ Construction traffic, materials storage and temporary working areas should remain within approved and demarcated areas to prevent unnecessary loss or compaction of land. ▪ Topsoil removed from construction areas should be separately stockpiled and reused for rehabilitation wherever practicable. ▪ Alien invasive vegetation should be controlled to reduce erosion risk and prevent further degradation of the remaining agricultural and ecological land.	

▪ Any future expansion beyond the assessed 6 000 m² footprint should be referred to the agricultural specialist or competent authority for confirmation of whether further assessment is required. ▪ The agricultural report is marked as a draft and should be finalised and signed before submission or incorporation as a final specialist report.	

3.6. Biosecurity Risk Mitigation and Precautionary Measures for Communicable Animal Diseases: Foot and Mouth Disease

Farm 838 is located within an active agricultural and livestock production context, with access to the site and the broader area occurring through active cattle and milk farming areas. The movement of construction vehicles, contractors, service providers, visitors, materials and equipment through these farms may create a biosecurity risk, particularly during periods when Foot and Mouth Disease or any other communicable animal disease is confirmed, suspected or subject to official control measures.

The purpose of this section is to ensure that all planning, pre-construction, construction and operational activities are undertaken in a manner that protects surrounding cattle and dairy farming operations, limits the risk of disease transmission, and ensures that the project complies with any instructions issued by the landowner, affected farmers, Kouga Municipality where relevant, the Department of Agriculture, Land Reform and Rural Development, the State Veterinarian, local farmer organisations and any applicable animal health authority.

No person, vehicle, equipment, material or contractor may enter active livestock areas unless access has been authorised and the required biosecurity measures have been implemented. Where an outbreak, quarantine area, control zone or precautionary restriction is declared or communicated, construction access, deliveries and non-essential site activities must be reviewed and, where necessary, suspended, restricted or re-routed until the biosecurity risk has been addressed.

Phase and Activity Issue	Management Action	Responsibility	Monitoring Frequency
Planning, biosecurity coordination	Confirm all biosecurity requirements with the landowner, affected cattle and dairy farmers, site access controllers, local farmer organisations and relevant agricultural authorities before site establishment. Access arrangements must recognise that the site and access routes occur through active livestock farming areas.	Proponent, Project Manager, Landowner, Affected Farmers	Once off before commencement and updated as required

Phase and Activity Issue	Management Action	Responsibility	Monitoring Frequency
Planning, authority liaison	Confirm whether any Foot and Mouth Disease control measures, animal movement restrictions, quarantine requirements, disinfection requirements or access limitations apply to the site, access roads or surrounding farming areas.	Proponent, Project Manager, Department of Agriculture, Land Reform and Rural Development, State Veterinarian where applicable	Before commencement and during any outbreak or official control period
Planning, access protocol	Prepare a site specific biosecurity access protocol for all vehicles, equipment, personnel, contractors, visitors and deliveries. The protocol must include designated access routes, gate control, vehicle log procedures, disinfection requirements, parking arrangements and restrictions on contact with livestock.	Proponent, Project Manager, Contractor, ECO	Once off before site establishment and reviewed as required
Planning, contractor requirements	Include biosecurity obligations in contractor appointment documentation, method statements and site induction material. Contractors must be informed that non-compliance with access and disinfection requirements may result in removal from site.	Proponent, Project Manager, Contractor	Before contractor appointment and commencement
Planning, site layout	Locate parking, laydown areas, site camp and delivery areas away from livestock handling areas, water troughs, feed areas, milking infrastructure, grazing camps and farm management routes as far as practicable.	Project Manager, Contractor, ECO, Landowner	Once off before site establishment
Pre-construction, biosecurity induction	Provide biosecurity training to all site personnel before access is granted. Training must cover Foot and Mouth Disease risk, livestock contact restrictions, personal hygiene, footwear and clothing disinfection, vehicle disinfection, reporting obligations, and emergency procedures if an outbreak or suspected case is reported.	Contractor, ECO, Proponent, Affected Farmers where required	Before site access and for all new personnel
Pre-construction, access control	Establish controlled access points and ensure that only authorised personnel, vehicles and equipment enter the site. Access must be	Contractor, Proponent, Landowner	Ongoing

Phase and Activity Issue	Management Action	Responsibility	Monitoring Frequency
	limited to essential vehicles and essential personnel only, particularly during any declared outbreak or precautionary control period.		
Pre-construction, disinfection facilities	Provide appropriate disinfection facilities at access points where required, including vehicle wheel or tyre disinfection, equipment disinfection, footwear disinfection and hand hygiene measures. Disinfectants must be suitable for the purpose and managed to prevent environmental contamination.	Contractor, Proponent, Landowner, Agricultural Authorities where applicable	Before commencement and maintained throughout construction
Pre-construction, PPE and clothing control	Ensure that construction personnel are provided with appropriate personal protective equipment where access near animal areas is unavoidable. Footwear and clothing must be cleaned and disinfected before and after entry into any livestock associated area where required.	Contractor	Ongoing
Pre-construction, visitor and vehicle records	Establish and maintain visitor, vehicle, delivery and equipment movement logs. Records must include dates, times, names, vehicle registration numbers, origin, destination on site and confirmation of any disinfection procedure undertaken.	Contractor, Site Manager	Ongoing
Pre-construction, livestock separation	Install temporary fencing, barriers or warning tape where necessary to prevent livestock from entering construction areas and to prevent construction personnel from entering livestock camps or animal handling areas.	Contractor, Landowner, Affected Farmers	Before construction and inspected regularly
Construction, gate management	All gates must remain closed and locked where required. Gates may only be opened for authorised access and must be closed immediately after use to prevent livestock movement, security risks and uncontrolled access.	Contractor, All Personnel	Daily and ongoing

Phase and Activity Issue	Management Action	Responsibility	Monitoring Frequency
Construction, restricted movement	Construction personnel must remain within approved access routes, construction footprints, parking areas and site camp areas. No walking through grazing camps, milking areas, animal handling facilities or adjoining farms is permitted unless authorised.	Contractor, Site Manager, ECO	Ongoing
Construction, vehicle and equipment movement	Limit vehicle movement to designated access routes. Vehicles and equipment that have been used on other farms, livestock premises, auctions, feedlots or animal handling areas must be cleaned and disinfected before entering the access route or site where required.	Contractor, Delivery Contractors, Site Manager	Ongoing and before entry
Construction, contact with livestock and wildlife	No construction personnel may touch, feed, herd, chase, disturb or otherwise interact with livestock or wildlife. Any sick, injured, dead or unusual animal behaviour observed must be reported immediately to the landowner, affected farmer and Site Manager.	All Personnel, Contractor	Ongoing
Construction, outbreak response	If a Foot and Mouth Disease outbreak, suspected case, quarantine instruction or movement restriction is reported in the area, the Proponent and Contractor must immediately consult the landowner, affected farmers and relevant agricultural authority. Non-essential access and construction activities must be suspended or restricted where required.	Proponent, Contractor, Landowner, Agricultural Authorities	As required during an outbreak or suspected outbreak
Construction, signage	Install clear biosecurity signage at site entry points, site camp areas and any farm access gates. Signage must indicate authorised access only, disinfection requirements, no livestock contact, keep gates closed, and any quarantine or no-go areas.	Contractor, Proponent	Once off and maintained throughout construction
Construction, waste and contaminated material	All waste must be secured and removed from site to prevent attracting animals or contaminating farm areas. Potentially contaminated PPE, wipes, absorbents or cleaning materials must be bagged, stored securely and disposed of appropriately.	Contractor	Ongoing

Phase and Activity Issue	Management Action	Responsibility	Monitoring Frequency
Construction, water security and drainage	Prevent runoff, wash water, disinfectant, sediment, wastewater, fuel, oils, cement residue or other pollutants from entering livestock drinking water sources, drainage lines, dams, troughs, irrigation areas, creek margins or the Kromme River system.	Contractor, ECO, Site Manager	Daily during works and after rainfall
Construction, refuelling and maintenance	No refuelling, servicing or washing of vehicles or equipment may occur near livestock areas, water troughs, drainage lines, creek margins or watercourses. Controlled areas with spill kits and containment must be used.	Contractor	Ongoing
Construction, deliveries	Deliveries must be scheduled and controlled to avoid unnecessary vehicle movement through active farms. Drivers must remain within designated access and delivery areas and must comply with all biosecurity controls.	Contractor, Suppliers, Site Manager	Ongoing
Construction, monitoring and reporting	The ECO or Site Manager must monitor compliance with biosecurity controls during inspections and record any non-compliance, complaints, gate incidents, unauthorised access, livestock interaction or failure of disinfection measures.	ECO, Site Manager, Contractor	Weekly during construction and as required
Operational phase, access management	Operational access for residents, guests, staff, service providers and agricultural activities must continue to respect farm biosecurity requirements. Guest access must be managed to avoid unauthorised entry into neighbouring or active livestock areas.	Facility Manager, Proponent	Ongoing
Operational phase, visitor awareness	Provide visitors and staff with clear access instructions, biosecurity rules and restrictions relating to livestock areas, gates, farm roads, pets, footwear, waste and interaction with animals.	Facility Manager	Ongoing

Phase and Activity Issue	Management Action	Responsibility	Monitoring Frequency
Operational phase, pets and animal contact	Domestic pets must be controlled and may not roam into livestock areas, riparian areas or neighbouring farms. No feeding, touching or disturbance of livestock or wildlife is permitted.	Facility Manager, Guests, Staff	Ongoing
Operational phase, agricultural activities	Greenhouse, beekeeping, storage and maintenance activities must be managed to avoid contamination of livestock water sources, feed areas, drainage lines and the Kromme River system. Chemicals, fertilisers and cleaning products must be stored in controlled areas.	Facility Manager, Maintenance Team	Ongoing
Operational phase, outbreak response	Where an animal disease outbreak or official restriction is declared, access to Farm 838 must be reviewed and precautionary measures implemented in consultation with the landowner, affected farmers and relevant agricultural authority. Non-essential visitor or service access must be restricted where required.	Proponent, Facility Manager, Landowner, Agricultural Authorities	During outbreak or official restriction

4. Framework for all Contracts Associated with the Construction Phase

All contracts, appointments, purchase orders, work packages and subcontract agreements associated with the construction phase of the Farm 838 development must incorporate the relevant requirements of the Environmental Authorisation, Environmental Management Programme, approved method statements, specialist recommendations, permits, licences and any other environmental approvals applicable to the project.

This contractual framework is required to ensure that environmental compliance is not treated as a separate or optional obligation, but is integrated into the formal responsibilities of all contractors, subcontractors, suppliers, service providers and professional team members appointed to undertake work on the site.

The Applicant, Proud Heritage Properties (Pty) Ltd, the Project Manager and Principal Agent must ensure that the relevant provisions of this EMPr are included in all construction related contracts and that all appointed parties are contractually bound to comply with the environmental controls applicable to their scope of work.

The construction contracts must include, as a minimum, the following requirements:

4.1. Compliance with the Environmental Authorisation and EMPr

All contractors and subcontractors must comply fully with the Environmental Authorisation, this EMPr, approved method statements, ECO instructions, specialist recommendations and all applicable environmental permits and approvals.

No contractor or subcontractor may claim ignorance of the EMPr or Environmental Authorisation as a defence for non-compliance.

4.2. Appointment and Authority of the ECO

All contracts must recognise the role and authority of the Environmental Control Officer to monitor compliance, inspect the site, issue environmental instructions, request corrective action, require records, attend site meetings and recommend suspension of works where significant environmental risk or non-compliance is identified.

The Contractor must provide the ECO with reasonable access to the site, records, personnel, method statements, registers and any information required to verify environmental compliance.

4.3. Environmental Induction and Training

All personnel, including subcontractors, delivery drivers and service providers, must attend environmental induction before commencing work on site.

The Contractor must keep induction records and ensure that new personnel are inducted before entering the construction area.

The induction must include site specific requirements relating to the Kromme River setting, creek margins, riparian vegetation, drainage features, no-go areas, protected species, waste management, pollution prevention, biosecurity controls and emergency procedures.

4.4. Approved Development Footprint and No-Go Areas

All contracts must require strict compliance with the approved layout, demarcated construction footprint, approved access routes, service corridors, site camp, laydown areas and storage areas.

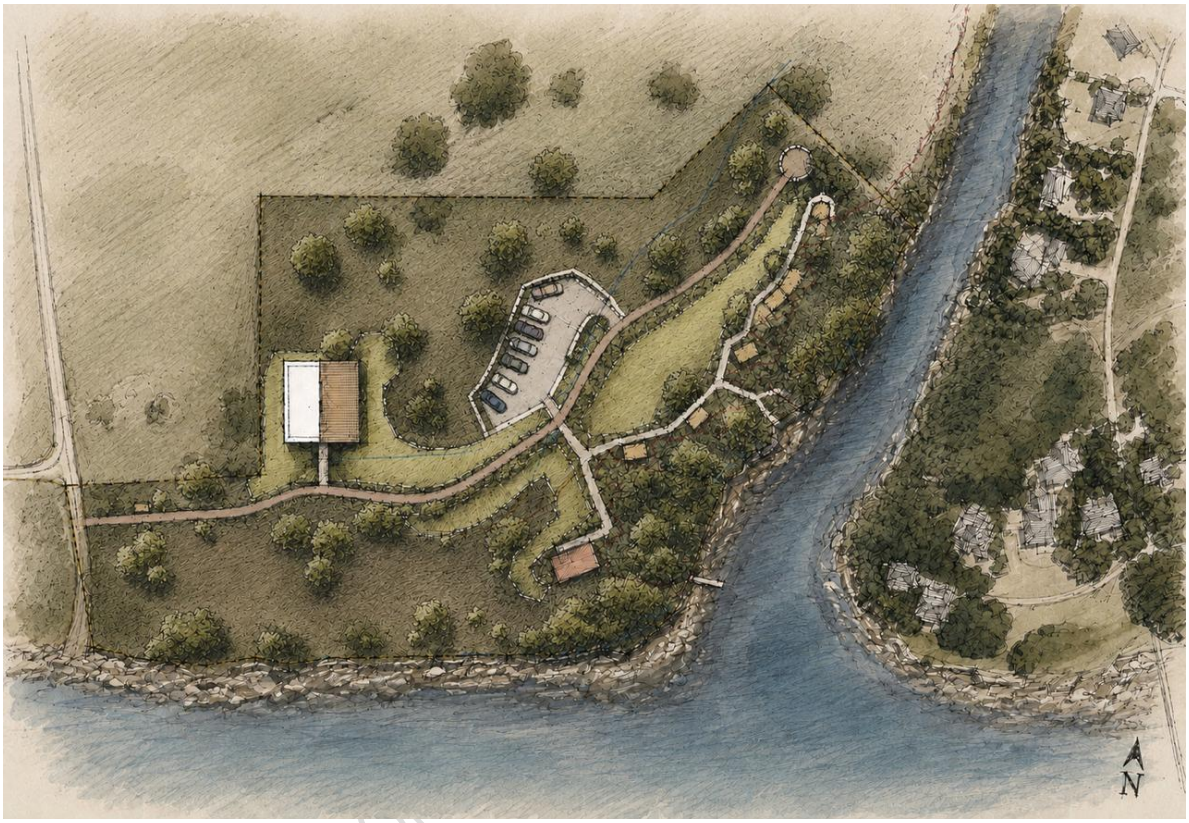


Figure 3 Preliminary Activity SDP

No work, access, stockpiling, dumping, parking, refuelling, vegetation clearing or disturbance may occur outside approved and demarcated areas.

Creek margins, riparian areas, drainage features, remaining indigenous vegetation, rehabilitated areas, protected species areas and any other areas identified by the ECO or specialists must be treated as no-go areas unless specifically authorised.

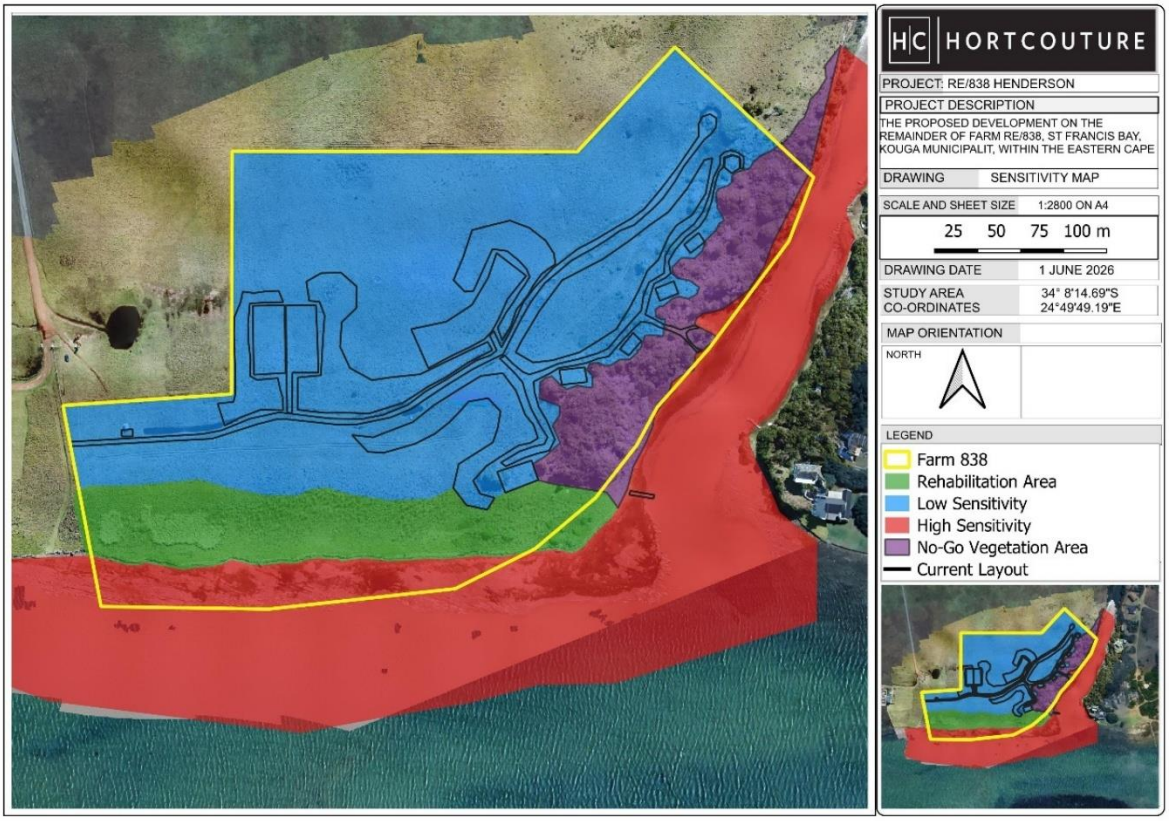


Figure 4 Site sensitivity map indication sensitive areas and no go areas to be followed during construction

4.5. METHOD STATEMENTS

The Contractor must prepare and submit method statements for activities that may result in environmental risk. These must be reviewed by the ECO and approved by the Project Manager or Principal Agent before the relevant activity commences.

Method statements addressing the following must be submitted to the ECO and Project Manager before the relevant works commence:

- Site establishment and site camp layout
- Access road use and traffic control
- Vegetation clearing and topsoil management
- Earthworks, excavation and foundation preparation
- Stormwater and erosion control
- Wastewater treatment system installation
- Fuel, oil, cement and hazardous substance management
- Waste handling and disposal
- Work near drainage features, creek margins or riparian areas
- Jetty, boat storage or river edge works, where authorised
- Greenhouse and agricultural infrastructure installation
- Rehabilitation and revegetation
- Biosecurity access and disinfection controls
- Emergency response and spill management

4.6. PERMITS, LICENCES AND APPROVALS

All contracts must state that no activity requiring a permit, licence, lease agreement, municipal consent or other approval may commence until such approval has been obtained and placed on the environmental site file.

This includes, where applicable:

- Protected tree, protected plant or protected fauna permits.
- Search and rescue, pruning, removal, translocation or disturbance permits.
- Water use related approvals or confirmations.
- Kouga Municipality permissions, lease agreements or consents relating to jetty, access, occupation, launching, mooring or associated infrastructure.
- ICMA related approvals or confirmations.
- No construction, repair, upgrade, use, occupation or operation of any jetty, boat storage, mooring, launching, river access or estuarine edge infrastructure may commence until the legal status of the structure and associated access has been confirmed. Where required, written Kouga Municipality consent, lease agreement, occupation agreement, landowner consent, ICMA related approval, Environmental Authorisation condition, water use related confirmation and any other applicable permit or authorisation must be obtained and placed in the environmental site file before the relevant activity commences.
- Heritage chance find procedures and any heritage related approvals.
- Waste disposal and hazardous waste documentation.
- Biosecurity permissions or instructions where disease control measures apply.

4.7. POLLUTION PREVENTION AND WASTE MANAGEMENT

All construction contracts must include binding requirements for pollution prevention, waste management, spill prevention and housekeeping.

The Contractor must provide appropriate waste containers, remove waste regularly to approved facilities, prevent littering, prohibit burning or burial of waste, control cement wash water, manage hazardous substances and ensure that all spills are immediately contained, cleaned and reported.

No contaminated water, untreated effluent, cement wash water, fuel, oil, chemicals or polluted runoff may be discharged into soil, drainage features, creek margins, riparian areas, the Kromme River system or municipal systems.

4.8. EROSION, SEDIMENT AND STORMWATER CONTROL

All contractors must implement erosion, sediment and stormwater controls before and during disturbance activities.

Contracts must require the Contractor to stabilise exposed soils, protect stockpiles, maintain drainage patterns, avoid concentration of runoff, prevent sediment laden water from entering drainage features or riparian areas, and repair erosion damage immediately when instructed by the ECO.

4.9. BIOSECURITY REQUIREMENTS

Given that access to Farm 838 and the surrounding area occurs through active cattle and dairy farming areas, all contracts must include biosecurity obligations.

Contractors must comply with access controls, gate controls, vehicle and equipment hygiene requirements, personnel hygiene requirements, footwear disinfection, visitor logs, livestock separation measures and any instructions issued by the landowner, affected farmers, the State Veterinarian, Department of Agriculture, Land Reform and Rural Development, local farmer organisations or other relevant authority.

Where Foot and Mouth Disease or any other communicable animal disease risk is confirmed, suspected or subject to official control measures, access may be restricted, suspended or subject to additional disinfection and screening requirements.

4.10. CONTRACTOR LIABILITY AND PENALTIES

All contracts must include provisions confirming that the Contractor is liable for environmental damage, non-compliance, pollution, unauthorised clearing, damage to no-go areas, failure to comply with biosecurity controls, and any costs associated with corrective action, rehabilitation, clean-up, specialist input, delays arising from non-compliance and penalties imposed in terms of the contract.

The penalty schedule contained in this EMPr must be incorporated into the construction contract or referenced as a binding contractual requirement.

The imposition of a penalty does not remove the Contractor's obligation to remedy the environmental damage or implement corrective action.

4.11. INCIDENT REPORTING AND CORRECTIVE ACTION

Contracts must require immediate reporting of all environmental incidents, including spills, erosion, sedimentation, unauthorised clearing, disturbance to no-go areas, protected species impacts, fauna incidents, biosecurity concerns, heritage chance finds, wastewater failures, fire, pollution or complaints.

The Contractor must implement corrective action within the timeframe specified by the ECO, Project Manager or Principal Agent.

Failure to implement corrective action may result in a written instruction, contract notice, penalty, suspension of work or escalation to the relevant authority.

4.12. RECORD KEEPING

All contractors must maintain and submit records required by the EMPr, including induction records, method statements, waste disposal slips, inspection records, incident reports, complaints, permits, delivery records, hazardous substance records, biosecurity access records and evidence of corrective action.

These records must be made available to the ECO, Applicant, Project Manager, Principal Agent and relevant authorities upon request.

4.13. SUBCONTRACTOR MANAGEMENT

The Contractor remains responsible for the environmental performance of all subcontractors, suppliers, delivery personnel and service providers appointed by it.

Subcontractors must be informed of and bound by the relevant EMPr and Environmental Authorisation requirements. The Contractor must ensure that subcontractors are inducted, supervised and compliant at all times.

4.14. SUSPENSION OF WORK

The contracts must provide for the suspension of work where the ECO, Project Manager or Principal Agent determines that an activity presents an unacceptable environmental risk or where significant non-compliance has occurred.

Work may only recommence once the non-compliance has been rectified, corrective action has been implemented and the ECO has confirmed that the environmental risk has been adequately addressed.

Any delay resulting from preventable environmental non-compliance shall be for the Contractor's account and shall not entitle the Contractor to claim additional time or cost, unless otherwise determined in terms of the contract.

4.15. CLOSE-OUT REQUIREMENTS

Before construction close-out, the Contractor must remove all temporary infrastructure, waste, surplus materials, plant and equipment from the site, rehabilitate disturbed areas, stabilise exposed soils, provide all required records, close out non-compliances and confirm that all environmental controls have been implemented to the satisfaction of the ECO.

The Contractor must assist the ECO with the post-construction close-out audit and provide any information required to demonstrate compliance with the EMPr and Environmental Authorisation.

This contractual framework ensures that environmental obligations are clearly allocated, enforceable and integrated into the construction phase of the Farm 838 development. It further ensures that all contractors and subcontractors understand that compliance with the EMPr, Environmental Authorisation, permits, biosecurity requirements and ECO instructions forms a binding condition of appointment.

5. Auditing and Corrective Action

Auditing and the implementation of corrective action form a critical component of the EMPr management cycle for the proposed development on Farm 838. The project includes a small scale residential, tourism accommodation and agricultural lifestyle development within a historically disturbed and partially transformed site located adjacent to the Kromme River and within a sensitive coastal, estuarine and riparian environment. Compliance auditing is therefore required to ensure that the development is implemented in accordance with the Environmental Authorisation, the Basic Assessment Report, the approved EMPr, specialist recommendations and all applicable permits, licences and approvals.

Auditing and corrective action must ensure that:

- The required EMPr management measures and Environmental Authorisation conditions are implemented and reported appropriately.
- Construction activities remain limited to the approved and demarcated development footprint, access routes, service corridors, storage areas and working areas.
- No unauthorised disturbance occurs within no-go areas, creek margins, riparian vegetation, drainage features, remaining indigenous vegetation, rehabilitated areas or areas identified as sensitive by the ECO or specialists.
- The implementation of the proposed residential dwelling, guest accommodation units, agricultural shed, greenhouse structures, beekeeping infrastructure, boat storage, jetty related infrastructure, internal roads, parking areas, raised walkways and services infrastructure is undertaken in accordance with the approved layout and environmental specifications.
- Ongoing inspections of pre-construction, construction and operational activities are undertaken and reported appropriately.
- Internal audits are undertaken during the construction phase to assess compliance with the EMPr and to focus on specific performance issues relating to the conditions of the Environmental Authorisation.
- Any jetty related works, use, repair, upgrade, access or occupation only proceed in accordance with the required Kouga Municipality permissions, lease agreements, ICMA related approvals, Environmental Authorisation conditions and any other applicable permits or consents.
- Any permits required for protected trees, protected plants, species of conservation concern, protected fauna, search and rescue, pruning, removal, translocation or disturbance are obtained before the relevant activity takes place.
- Monitoring results inform adaptive management and additional mitigation measures are implemented where monitoring identifies emerging environmental risks.

There are several mechanisms for implementing corrective action during the pre-construction, construction and operational phases. The main instruments used to address non-compliance are the following:

- Minor transgressions of the Environmental Authorisation or EMPr may be addressed through verbal instructions issued by the ECO, Project Manager or Principal Agent. These instructions must be recorded in the ECO inspection report or site meeting minutes.
- Written instructions may be issued by the ECO to support and formalise verbal instructions where corrective action is required within a defined timeframe
- A contract notice may be issued by the Project Manager or Principal Agent where a material breach of contract, repeated non-compliance or failure to implement corrective action occurs
- A stop-work instruction may be issued by the ECO, Project Manager or Principal Agent where an activity poses an immediate environmental risk, including unauthorised clearing, disturbance of no-go areas, pollution, erosion, sediment release, damage to riparian areas, non-compliance with biosecurity controls or works undertaken without the required permits or approvals.
- A directive or compliance instruction may be issued by the competent authority or other regulating authority where there is material non-compliance with the Environmental Authorisation, EMPr, NEMA, ICMA, NWA, NEMBA, provincial conservation requirements or any other applicable legislation.

Corrective actions must be reasonable, practical, time bound and proportionate to the nature and significance of the non-compliance. Corrective action may include rehabilitation, removal of waste, repair of erosion controls, reinstatement of damaged areas, removal of unauthorised infrastructure,

additional training, revision of method statements, improved demarcation, additional monitoring or reporting to the relevant authority where required.

6. Site Reporting and Documentation

The Contractor must establish an environmental site file before site establishment commences. The file must include the Environmental Authorisation, approved EMPr, approved layout plan, Environmental Control Plan, permits, method statements, induction records, inspection reports, incident register, complaints register, waste disposal records, spill records, biosecurity access records where applicable, photographic records and corrective action close out records. The file must be available for inspection by the ECO, Applicant, Project Manager and authorised officials.

All non-compliance issues must be recorded by the ECO and reported to the Applicant, Proud Heritage Properties (Pty) Ltd, the Project Manager, Principal Agent and Contractor on a regular basis during the construction phase. Serious incidents, material non-compliance, pollution events, unauthorised vegetation clearance, damage to sensitive areas, non-compliance with biosecurity controls or any activity undertaken without the required permits or approvals must be reported immediately to the Applicant and, where required, to the competent authority.

The following site documentation must be kept on site at all times and must be available for inspection by the ECO, Applicant, Project Manager, Principal Agent, Contractor, authorised officials and any other person legally entitled to request such documentation:

- Certified copy of the Environmental Authorisation.
- Approved Environmental Management Programme.
- Basic Assessment Report and relevant appendices.
- Site layout plan showing approved development footprints, access routes, service corridors, no-go areas, sensitive areas, storage areas and site camp location.
- Project risk register, including environmental and biosecurity risks.
- Project health, safety and environmental plan.
- Copies of all relevant permits, licences, consents and approvals, including protected species permits, water use related approvals where applicable, Kouga Municipality permissions, lease agreements or consents for jetty related infrastructure, and any ICMA related approvals where applicable.
- Environmental induction records and attendance registers.
- Approved method statements.
- Complaints register.
- Environmental incident register.
- Biosecurity access register, where required.
- Visitor and delivery register, where required.
- Waste disposal records and safe disposal certificates.
- Records of wastewater system installation, servicing and maintenance where applicable.
- Records of fuel, chemical or hazardous substance storage and spill response where applicable.
- ECO inspection reports.
- Interim audit reports recording compliance and non-compliance with the EMPr and Environmental Authorisation conditions.
- Written corrective action instructions.
- Photographic records of baseline conditions, construction progress, sensitive areas, incidents, rehabilitation and close-out conditions.

- Proof that incidents, complaints and non-compliances have been closed out appropriately.

The findings of all ECO inspections, site inspections and internal audits must be structured into clear compliance reporting and provided to the Applicant, Project Manager, Principal Agent and Contractor. Corrective actions must be clearly defined, with responsible persons and timeframes for implementation.

The Project Manager or Principal Agent must review ECO findings and corrective action instructions to ensure that they are implemented timeously. Where non-compliance is repeated, unresolved or significant, the matter must be escalated to the Applicant and, where legally required, to the competent authority.

No construction, repair, upgrade, use, occupation or operation of any jetty, boat storage, mooring, launching, river access or estuarine edge infrastructure may commence until the legal status of the structure and associated access has been confirmed. Where required, written Kouga Municipality consent, lease agreement, occupation agreement, landowner consent, ICMA related approval, Environmental Authorisation condition, water use related confirmation and any other applicable permit or authorisation must be obtained and placed in the environmental site file before the relevant activity commences.

7. Environmental Monitoring

The aim of environmental compliance monitoring is to verify that the responsible parties adhere to the procedures, management measures and specifications contained in this EMPr and the conditions set out in the Environmental Authorisation. An environmental monitoring programme must be implemented for the duration of the pre-construction and construction phases, and where required during the operational phase.

The environmental monitoring programme must include the following:

- The appointment of a suitably qualified Environmental Control Officer by the Applicant before commencement of site establishment, vegetation clearing, earthworks or construction.
- A pre-commencement site inspection by the ECO to confirm that the approved development footprints, access routes, site camp, storage areas, no-go areas, creek margins, riparian areas, drainage features, remaining indigenous vegetation and sensitive areas have been identified and demarcated.
- A baseline photographic record of the site prior to construction, including existing disturbed areas, access routes, creek margins, riparian vegetation, drainage features, remaining indigenous vegetation, proposed development nodes, areas proposed for rehabilitation and any existing erosion or disturbance.
- Verification that all required permits, approvals, lease arrangements, municipal consents, ICMA related approvals, protected species permits and other relevant authorisations are in place prior to the commencement of the relevant activity.
- ECO inspections at least once per month during the construction phase, or more frequently where required by the Environmental Authorisation, site conditions, construction intensity, proximity to sensitive areas, rainfall events, incidents or non-compliance.
- Additional ECO inspections during high risk activities, including vegetation clearing, earthworks, stormwater installation, wastewater infrastructure installation, works near drainage

features, construction or repair of any jetty related infrastructure, work near riparian areas, and rehabilitation.

- Monitoring of compliance with no-go area demarcation, approved footprints, access control, waste management, erosion and sediment control, stormwater management, wastewater management, fuel and chemical storage, dust control, noise control, biosecurity measures and rehabilitation.
- Monitoring of construction activities to ensure that clearing remains limited to the minimum required footprint and that surrounding indigenous vegetation, creek margins, riparian vegetation and drainage features are protected.
- Monitoring of alien invasive plant control and rehabilitation measures, including follow-up control where required.
- Recording of any incidents of non-compliance and the recommendation of corrective measures. Corrective measures must be issued to the Applicant, Project Manager, Principal Agent and Contractor.
- Compilation of regular ECO audit reports rating compliance with the EMPr and Environmental Authorisation. The audit reports must include photographic records of construction progress, environmental controls, compliance, non-compliance and corrective actions.
- Submission of ECO audit reports to the competent authority where required by the Environmental Authorisation.
- A post-construction close-out audit report summarising all previous audits, incidents, corrective actions, rehabilitation measures and remaining environmental obligations. This report must be submitted to the Applicant, Project Manager, Principal Agent and Contractor, and to the competent authority where required.
- Operational phase monitoring where required, including monitoring of wastewater treatment systems, stormwater infrastructure, access routes, alien vegetation control, rehabilitation success, waste management, jetty related infrastructure, agricultural support activities, beekeeping areas and any areas adjacent to creek or riparian margins.

Monitoring must support adaptive management. Where monitoring identifies emerging risks, ineffective mitigation, repeated non-compliance or unanticipated impacts, the ECO must recommend additional mitigation measures and the Project Manager, Principal Agent, Contractor or Facility Manager must ensure implementation within the required timeframe.

8. Environmental Compliance

8.1. NON-COMPLIANCE

The Contractor shall be responsible for complying with this EMPr, the Environmental Authorisation, approved method statements, site instructions, specialist recommendations and all applicable environmental permits and approvals throughout the construction phase of the proposed development on Farm 838.

Non-compliance will be deemed to have occurred where the Contractor, subcontractor, supplier, employee or any person acting on behalf of the Contractor undertakes an activity that is inconsistent with the approved EMPr, Environmental Authorisation, approved layout, demarcated development footprint, no-go areas, method statements, permit conditions or applicable environmental legislation.

Non-compliance may include, but is not limited to, unauthorised vegetation clearance, disturbance outside approved footprints, encroachment into creek margins, riparian areas or drainage features,

pollution of soil or water resources, failure to implement erosion and sediment control measures, unlawful disturbance of protected species, failure to comply with biosecurity protocols, uncontrolled waste disposal, unauthorised access through active livestock areas, or undertaking jetty related works without the required permissions or approvals.

Where non-compliance is identified, the ECO, Project Manager or Principal Agent shall issue an instruction to the Contractor requiring corrective action. The instruction may be verbal for minor issues, but must be recorded in the ECO inspection report, site diary or site meeting minutes. Written corrective action instructions must be issued where the non-compliance is repeated, significant or requires implementation within a defined timeframe.

The Contractor shall be required to correct the non-compliance at its own cost and within the timeframe specified by the ECO, Project Manager or Principal Agent. Where environmental damage has occurred, the Contractor shall be responsible for rehabilitation, reinstatement, clean-up, removal of contamination, repair of erosion controls or any other remedial measures required to restore the affected area to the satisfaction of the ECO and relevant authority, where applicable.

Through the Principal Agent, the ECO shall have the authority to recommend that work be stopped in the event of significant infringement of the EMPr, Environmental Authorisation, no-go area controls, biosecurity requirements, protected species requirements, watercourse protection measures, ICMA related requirements or any other environmental condition that may result in serious or irreversible environmental harm. Work may only recommence once the non-compliance has been rectified and the ECO, Project Manager or Principal Agent has confirmed that the environmental risk has been adequately addressed.

Any stoppage arising from environmental non-compliance, failure to implement corrective action, unauthorised works or preventable environmental damage shall not entitle the Contractor to a claim for delay, extension of time or additional costs, unless otherwise determined through the contract.

Where a non-compliance constitutes a reportable incident, pollution event, unauthorised vegetation clearance, protected species impact, damage to a watercourse, breach of biosecurity control or contravention of any permit or authorisation, the matter must be escalated to the Applicant, Proud Heritage Properties (Pty) Ltd, and reported to the relevant authority where legally required.

Complaints received regarding construction or operational activities must be recorded in a dedicated complaints register kept on site. The register must include the date of the complaint, complainant details where provided, nature of the complaint, response action, responsible person and close-out date. The ECO must be informed of all environmental complaints and must include relevant complaints and responses in the ECO audit reports.

8.2. PENALTIES

Where environmental damage is caused by any means whatsoever, or where there is failure to comply with the environmental specifications contained in this EMPr, the Environmental Authorisation, approved method statements, permit conditions or written ECO instructions, the Contractor and, where applicable, subcontractors shall be liable for corrective action and associated costs.

The liability and corresponding penalty shall include, at a minimum, the cost required to remedy the environmental damage, rehabilitate the affected area, remove pollution, replace damaged controls,

appoint specialists where required, and implement any additional mitigation measures required by the ECO, Applicant or competent authority.

The penalties set out below are recommended contractual penalties that may be imposed by the Applicant on the Contractor. These penalties do not replace, limit or affect the rights of DEDEAT, Kouga Municipality, the Department of Water and Sanitation, the Department responsible for Forestry, Fisheries and the Environment, the Department of Agriculture, Land Reform and Rural Development, the State Veterinarian, or any other competent authority to issue compliance notices, directives, administrative fines, criminal enforcement action or work stoppages in terms of applicable legislation.

Recommended penalties for non-compliance include the following:

1. Any employee, vehicle, plant, equipment or activity associated with the Contractor entering, operating in or disturbing a demarcated no-go area, including creek margins, riparian areas, drainage features, protected vegetation areas or sensitive ecological areas, R10 000.
2. Unauthorised vegetation clearing outside the approved and demarcated development footprint, R10 000.
3. Destruction, pruning, removal, translocation or disturbance of protected trees, protected plants, species of conservation concern or protected fauna without the required permit or approval, R10 000.
4. Undertaking jetty related works, repairs, upgrades, access works, launching infrastructure or estuarine edge activities without the required Kouga Municipality consent, lease agreement, ICMA related approval, Environmental Authorisation condition or other applicable permission, R15 000.
5. Pollution, spillage or contamination of soil, groundwater, drainage features, creek margins, riparian areas or the Kromme River system resulting from negligence or failure to implement required controls, R15 000.
6. Discharge of contaminated water, cement wash water, untreated effluent, chemicals, fuel, oil or wastewater into the environment, drainage features, municipal systems or watercourses, R10 000.
7. Persistent and unrepaired oil, fuel, hydraulic fluid or chemical leaks from vehicles, plant or machinery, R3 000.
8. Failure to use, maintain or empty drip trays timeously, R1 000.
9. Use of inappropriate refuelling, chemical handling or hazardous substance storage methods, R2 000.
10. Servicing of vehicles or machinery outside a designated and controlled area, R3 000.
11. Littering or poor housekeeping associated with construction activities, R1 000.
12. Failure to manage waste bins, waste storage areas or waste removal on a regular basis, R1 000.
13. Dumping, burying or burning of waste on site, R5 000.
14. Deliberate lighting of unauthorised fires on site, R5 000.
15. Employees not making use of approved ablution facilities, R2 000.
16. Failure to implement specified noise controls, working hour restrictions or nuisance controls, R2 000.
17. Inadequate dust control or failure to implement dust suppression where required, R1 000.
18. Reckless driving, speeding or unauthorised vehicle movement outside designated access routes, R1 000.
19. Creation of informal access tracks, turning areas, parking areas or storage areas outside approved routes and footprints, R5 000.

20. Trapping, hunting, feeding, injuring, killing or disturbing fauna, livestock, bees or wildlife, R5 000.
21. Failure to comply with biosecurity access controls, disinfection protocols, visitor logs, livestock separation measures or instructions issued during a Foot and Mouth Disease or other communicable animal disease risk period, R10 000.
22. Failure to implement erosion and sediment control measures, or failure to repair erosion damage after instruction by the ECO, R5 000.
23. Failure to rehabilitate disturbed areas, stabilise exposed soils or protect stockpiled topsoil as required by the EMPr, R5 000.
24. Failure to comply with a written ECO instruction within the required timeframe, R2 000.
25. Repeated non-compliance after prior warning or instruction, R5 000.

For each subsequent similar offence, the fine may be doubled in value up to a maximum value of R100 000. The imposition of a penalty does not remove the obligation to implement corrective action, rehabilitate the affected area or comply with any instruction issued by the ECO, Applicant, Project Manager, Principal Agent or competent authority.

9. Environmental Awareness Plan

Prior to commencement of site establishment, vegetation clearing, earthworks or construction on Farm 838, environmental awareness training must be provided to all contractors, subcontractors, site personnel, drivers, security personnel, suppliers, service providers and any other persons who will undertake work on site. No personnel may be allowed to commence work on site without having received instruction on the requirements of the approved EMPr, Environmental Authorisation, site specific sensitivities and applicable permits or approvals.

The purpose of environmental awareness training is to ensure that the Contractor and all personnel have the necessary level of environmental awareness and competence to undertake work within the Farm 838 site context. Particular attention must be given to the site's location adjacent to the Kromme River, the presence of creek margins, riparian vegetation, drainage features, transformed and historically disturbed areas, remaining indigenous vegetation, agricultural and livestock access context, biosecurity risks, protected species requirements, and the need to restrict all activities to approved and demarcated footprints.

The Contractor shall ensure that its employees, subcontractors and service providers are adequately trained regarding the implementation of this EMPr, the Environmental Authorisation, approved method statements, emergency procedures, biosecurity protocols, protected species requirements, pollution prevention measures and all applicable environmental legal obligations.

Environmental awareness training is aimed at:

- Promoting environmental awareness and responsible site behaviour.
- Informing the Contractor and personnel of the environmental procedures, controls, policies and reporting requirements applicable to Farm 838.
- Providing generic training on the implementation of environmental management specifications.
- Providing job specific training to ensure that personnel understand the key environmental features of the site and the surrounding Kromme River, riparian, agricultural and livestock farming context.

- Ensuring that all personnel understand the importance of remaining within approved access routes, work areas, laydown areas, parking areas and demarcated construction footprints.
- Ensuring that all personnel understand the purpose and legal significance of no-go areas, creek margins, riparian buffers, drainage features, sensitive vegetation areas and rehabilitated areas.
- Ensuring awareness of protected species requirements and the prohibition on unauthorised pruning, removal, disturbance, collection or translocation of protected trees, protected plants or protected fauna.
- Ensuring awareness of biosecurity measures required due to access through active cattle and dairy farming areas, including Foot and Mouth Disease precautions where applicable.
- Ensuring that personnel understand the restrictions and approval requirements applicable to any jetty related works, boat storage areas, estuarine access, launching, repairs, mooring or river edge activities.

Training must be provided before construction commences and repeated for any new personnel, subcontractors, delivery drivers or service providers entering the site. Toolbox talks must be undertaken where required for high-risk activities, including vegetation clearing, earthworks, work near drainage features, wastewater system installation, fuel or chemical handling, stormwater works, rehabilitation, biosecurity access and any work near the Kromme River or jetty related infrastructure.

The Contractor shall ensure that records of all environmental training interventions are kept in accordance with the record keeping requirements of this EMPr. Training records must include the date of training, name of trainer, names and signatures of attendees, topics covered and confirmation that personnel understand the relevant requirements. Copies of training records must be provided to the ECO and kept in the environmental site file.

The environmental training must address the following:

- The importance of compliance with the Environmental Authorisation, EMPr, approved method statements, permit conditions and environmental legislation.
- The actual and potential environmental impacts of construction activities on Farm 838.
- The environmental benefits of improved personal performance and responsible site behaviour.
- Workers' roles and responsibilities in achieving compliance with the EMPr, Environmental Authorisation, permits and emergency preparedness requirements.
- The mitigation measures required when conducting work activities.
- The need to remain within approved development footprints, access routes, storage areas and working areas.
- The prohibition on entering or disturbing no-go areas, creek margins, riparian areas, drainage features, sensitive vegetation areas and rehabilitated areas.
- The importance of avoiding unnecessary vegetation clearing and protecting remaining indigenous vegetation.
- The prohibition on disturbing, feeding, trapping, injuring or killing fauna, livestock, bees or wildlife.
- The importance of protecting the Kromme River system, watercourses, drainage features, groundwater and stormwater pathways from pollution.
- The correct handling and storage of fuels, oils, chemicals, cement, wastewater, waste and hazardous materials.
- Spill prevention, spill response and reporting procedures.
- The importance of not littering and using designated waste facilities.
- The importance of using supplied ablution facilities and preventing untreated effluent discharge.

- The need to use water sparingly and to prevent unnecessary wastage.
- Dust, noise and traffic control measures.
- Fire prevention requirements and emergency response procedures.
- Biosecurity protocols applicable to access through active livestock and dairy farming areas, including vehicle, equipment, footwear and personnel hygiene requirements where applicable.
- The need to comply with all access controls, visitor registers, gate controls and designated parking arrangements.
- Details of heritage and archaeological chance find procedures, including the requirement to stop work and notify the ECO if any archaeological, palaeontological or historical material is uncovered.
- The requirement to report incidents, complaints, non-compliance, erosion, spills, wildlife incidents, protected species impacts, biosecurity concerns or environmental risks immediately to the Contractor's site manager and ECO.

10. Emergency and Contingency Plan

10.1. INTRODUCTION

This section sets out the emergency organisation, equipment, communication procedures and standard response measures for credible incidents that may occur during the construction and operational phases of the Farm 838 development. It complements the mitigation, monitoring, biosecurity and environmental compliance requirements set out elsewhere in this EMPr and must be implemented together with the approved stormwater, erosion control, wastewater, waste management, fire, access and biosecurity measures.

The emergency and contingency procedures apply to the full development, including the main residential dwelling, guest accommodation units, agricultural shed and storage infrastructure, greenhouses, beekeeping areas, boat storage, jetty related infrastructure, internal access roads, parking areas, raised walkways, wastewater treatment infrastructure, rainwater harvesting systems, solar energy systems and associated construction and operational areas.

10.2. RISK ASSESSMENT

The purpose of the emergency risk assessment is to identify credible emergency scenarios, assess their likely consequence and prescribe appropriate controls and response actions.

The ECO, together with the Contractor during construction and the Facility Manager during operation, must maintain a live Emergency Risk Register. The register must be updated after any incident, material design change, audit finding, change in site access arrangements, biosecurity alert, rainfall event causing damage, or other change that may affect emergency preparedness.

The risk rating method must include:

- Likelihood, being rare, unlikely, possible, likely or almost certain.
- Consequence, being minor, moderate, major, severe or catastrophic.
- Risk rating, being low, medium, high or extreme, based on the risk matrix adopted for the project.
- Principal credible emergency scenarios for Farm 838 include:
- Hydrocarbon, fuel, oil or chemical spills.

- Cement wash water or contaminated runoff.
- Sewage, wastewater treatment or ablution failure.
- Fire, including veld fire, structural fire, equipment fire or greenhouse related fire.
- Severe weather, stormwater overflow, erosion or sedimentation.
- Flooding or high-water conditions associated with the Kromme River or drainage features.
- Medical emergency.
- Traffic or vehicle incident on the site or along agricultural access routes.
- Wildlife, snake, bee or livestock encounter.
- Biosecurity incident or suspected exposure to a communicable animal disease, including Foot and Mouth Disease.
- Protected species impact or unauthorised vegetation disturbance.
- Heritage or palaeontological chance find.
- Security incident, unauthorised access or visitor control issue.
- Electrical failure, solar system fault, battery storage incident or lighting failure.
- Incident associated with boat storage, jetty use, river access, launching, mooring or estuarine edge activities.

10.3. EMERGENCY ORGANISATION & COMMUNICATION

The emergency response structure must be aligned with the roles and responsibilities set out in this EMPr.

The Proponent, Proud Heritage Properties (Pty) Ltd, retains ultimate accountability for ensuring that adequate emergency planning, resourcing and reporting systems are in place.

The Principal Agent or Project Manager will act as the incident lead during the construction phase and must ensure contractor compliance with emergency procedures.

The Contractor and Safety Officer will be responsible for immediate site control, first response, cordoning off affected areas, containment, evacuation, communication with site personnel and implementation of corrective action during construction.

The ECO will provide environmental guidance, verify incident response measures, advise on authority notification requirements, assess the need for rehabilitation or specialist input, and verify close out.

The Operations or Facility Manager will act as the incident lead during the operational phase and will be responsible for maintaining emergency equipment, training staff, managing visitor safety, maintaining operational registers and coordinating community or stakeholder communication where required.

The emergency communication tree must be completed and displayed at the site office, site entrance, operations office, staff area and any other appropriate location.

Site emergency number or radio channel: _____

ECO: _____ Cell: _____

Safety Officer: _____ Cell: _____

Facility Manager: _____ Cell: _____

Proponent Representative: _____ Cell: _____

Fire and Rescue: 112 / _____

Ambulance: 10177 / _____

SAPS: 10111 / _____

Poison Helpline: _____

State Veterinarian / Animal Health Contact: _____

Kouga Municipality Emergency Contact: _____

Muster Point A, Site camp or construction assembly area: _____

Muster Point B, Parking or access control area: _____

Muster Point C, upper safe area away from river edge or drainage features: _____

Primary evacuation route: _____

Secondary evacuation route: _____

Emergency contact details, site rules, biosecurity controls and evacuation procedures must be displayed at the site entrance, site office, staff area and any designated operational reception or management area.

10.4. EMERGENCY EQUIPMENT & SUPPLIES

The following minimum emergency equipment must be available on-site during construction and, where relevant, during operation:

- Spill kits for hydrocarbons and chemicals, including absorbent pads, booms, granules, waste bags, drain covers and temporary containment materials.
- Fire equipment, including serviced fire extinguishers, fire beaters, sand buckets, fire hose where available, and fire blankets where appropriate.
- First aid kit suitable for the size and nature of the workforce and operational use.
- Burn dressings, eyewash and basic emergency medical supplies.
- Containment materials, including sand, geotextile, silt socks, straw bales, temporary berm material, barrier tape, traffic cones and signage.
- Temporary lighting and communication equipment, including headlamps, torches, two-way radios, charged phones or other suitable communication devices.
- Personal protective equipment, including nitrile gloves, chemical goggles, disposable coveralls, masks or respirators where required, reflective vests and gumboots.
- Biosecurity supplies, including disinfectant, footbaths, spray equipment, vehicle disinfection arrangements, boot cleaning equipment and access logs where required.

- Snake or wildlife contact details and emergency response instructions. Bee related emergency information where beekeeping infrastructure is present, including contact details for a responsible beekeeper or suitably trained person.

Emergency equipment must be checked weekly during construction and monthly during operation, unless a more frequent inspection is required by the Environmental Authorisation, health and safety plan, fire management plan, supplier specification or site condition. Records of checks and servicing must be kept in the environmental site file.

10.5. STANDARD OPERATING PROCEDURES (SOPS)

The following general response principles apply to all emergency incidents:

- Stop work or stop the activity.
- Make the area safe.
- Protect people first.
- Contain the source of the incident.
- Prevent spread to soil, stormwater, drainage features, creek margins, riparian areas, groundwater and the Kromme River system.
- Notify the relevant responsible person.
- Implement clean up, rehabilitation or corrective action.
- Dispose of contaminated material lawfully.
- Record the incident.
- Investigate the cause.
- Update procedures to prevent recurrence.

Golden rules: Stop work; Make safe; Contain at source; Notify; Clean up;

Dispose lawfully; Record & investigate.

10.6. HYDROCARBON / FUEL / CHEMICAL SPILL

In the event of a hydrocarbon, fuel, oil or chemical spill, the following procedure must be followed:

- Stop the source of the spill by closing the valve, uprighting the container, isolating machinery or stopping the activity.
- Cordon off the area using barrier tape, cones or other suitable controls.
- Keep personnel, visitors, livestock, vehicles and machinery away from the affected area.
- Contain the spill using booms, absorbent socks, sand berms or spill kit materials.
- Cover or block any nearby stormwater inlet, drainage feature, flow path or exposed soil area at risk.
- Do not wash the spill with water.
- Prevent the spill from moving toward creek margins, drainage features, riparian areas, agricultural water sources or the Kromme River system.
- Recover spilled material using absorbents and remove contaminated soil where necessary.
- Place contaminated material in sealed containers or bags for disposal at an approved facility.
- Notify the Safety Officer, ECO and Project Manager immediately during construction, or the Facility Manager and ECO during operation.
- Retain disposal records and photographic evidence.
- Rehabilitate the affected area to the satisfaction of the ECO.

Responsibility: Contractor and Safety Officer during construction, Facility Manager during operation, with ECO oversight.

Timeframe: Immediate containment, full clean-up within 24 hours where practicable, same day reporting to the ECO.

10.7. SEWAGE / ABLUTION SPILL OR FAILURE

In the event of a sewage, wastewater treatment or ablution failure, the following procedure must be followed:

- Cease use of the affected facility or system immediately.
- Cordon off the affected area.
- Contain the spill using sand berms, absorbent material, temporary bunding or drain covers.
- Prevent any discharge to soil, stormwater, drainage features, creek margins, riparian areas, groundwater or the Kromme River system.
- Arrange immediate pump out, servicing or repair by a suitably qualified service provider.
- Disinfect affected surfaces where appropriate.
- Remove contaminated soils where required by the ECO.
- Retain pump out, servicing and disposal records.
- Report the incident to the ECO and Project Manager during construction, or the Facility Manager and ECO during operation.

Responsibility: Contractor during construction, Facility Manager during operation, with ECO oversight.

Timeframe: Immediate containment and same day pump out or repair where practicable.

10.8. FIRE (BRUSH / STRUCTURE / EQUIPMENT)

Raise alarm, evacuate to Muster Points; call Fire & In the event of fire, the following procedure must be followed:

- Raise the alarm immediately.
- Evacuate personnel, visitors and affected persons to the designated muster point.
- Contact Fire and Rescue and other emergency services as required.
- Only trained personnel may attempt initial fire suppression if it is safe to do so.
- Remove or isolate flammable materials if this can be done safely.
- Isolate power, gas, fuel or battery systems where safe and appropriate.
- Protect drainage features, creek margins and riparian areas from contaminated firefighting runoff where practicable.
- Account for all personnel and visitors.
- Provide first aid where required.
- Notify the ECO once the immediate safety risk is addressed.Assess and manage debris, ash, contaminated water, damaged batteries or other fire residues under ECO guidance.

Responsibility: Safety Officer during construction, Facility Manager during operation, trained staff and emergency services.

Timeframe: Alarm and evacuation immediate, incident record within 24 hours.

10.9. SEVERE WEATHER / STORMWATER OVERFLOW / EROSION

Pre-empt on alerts: secure stockpiles; cover soils; In the event of severe weather, heavy rainfall, stormwater overflow, flooding or erosion, the following procedure must be followed:

- Monitor weather alerts and prepare in advance where heavy rainfall is forecast.
- Secure loose materials, cover stockpiles and stabilise exposed soils.
- Inspect silt fences, berms, sediment traps, swales, drainage controls and temporary stormwater measures.
- Ensure that runoff remains diffuse and does not concentrate toward drainage features, creek margins, riparian vegetation or the Kromme River system.
- Stop high risk earthworks during heavy rainfall where necessary.
- Inspect the site after rainfall events.
- Repair erosion, rutting, sediment movement, damaged controls or stormwater failures immediately.
- Remove deposited sediment from control structures and dispose of it appropriately.
- Photograph damage and corrective action.
- Report significant erosion, sedimentation or stormwater failure to the ECO.

Responsibility: Contractor during construction, Facility Manager during operation, with ECO oversight.

Timeframe: Pre storm inspection within 24 hours of a significant rainfall warning where practicable, post storm inspection within 24 hours after the event where safe to do so.

10.10. MEDICAL EMERGENCY

Call ambulance; first-aid/AED; clear access; direct In the event of a medical emergency, the following procedure must be followed:

- Stop work in the immediate area.
- Call emergency medical services.
- Provide first aid by a trained first aider where available.
- Clear access for emergency vehicles.
- Direct responders from the site gate or access point.
- Record the incident.
- Notify the Proponent, Project Manager, Safety Officer and ECO as applicable.

Responsibility: Safety Officer, trained first aiders and Facility Manager.

Timeframe: Immediate response and same day record.

10.11. TRAFFIC / VEHICLE INCIDENT (ON SITE & ACCESS)

Make area safe; cones/barriers; stop fluid leaks In the event of a traffic or vehicle incident on site or along the approved access route, the following procedure must be followed:

- Make the area safe.
- Use cones, signage or barriers to control traffic.
- Attend to injured persons and call emergency services where required.

- Stop and contain fluid leaks using the spill response procedure.
- Prevent contaminated runoff from entering soil, drainage features, agricultural water sources, creek margins, riparian areas or the Kromme River system.
- Record the incident and notify the ECO where environmental risk is present.
- Repair environmental damage, erosion or rutting caused by the incident.

Responsibility: Safety Officer during construction, Facility Manager during operation, with ECO involvement where environmental impacts occur.

Timeframe: Immediate response, remedial action within 48 hours where practicable.

10.12. WILDLIFE, SNAKE, BEE OR LIVESTOCK ENCOUNTER

Cease work; cordon; do not manage fauna; contact Bee or Livestock Encounter

In the event of a wildlife, snake, bee or livestock encounter, the following procedure must be followed:

- Cease work in the immediate area.
- Move personnel away calmly.
- Do not harm, capture, feed, disturb or attempt to handle fauna unless undertaken by a suitably qualified or authorised person.
- Cordon off the area if required.
- Contact the ECO, landowner representative, beekeeper, livestock owner or trained handler as applicable.
- Allow fauna or livestock to move away safely where possible.
- Record the incident or sighting where relevant.
- Brief personnel before work recommences.

Responsibility: Safety Officer, Contractor, ECO, Facility Manager and responsible landowner or specialist support where required.

Timeframe: Immediate response and same day recording where necessary.

10.13. BIOSECURITY INCIDENT OR COMMUNICABLE ANIMAL DISEASE RISK

Activate event plan: stewards, barriers, PA for calm Biosecurity Incident or Communicable Animal Disease Risk

Where a biosecurity incident, suspected contamination or communicable animal disease risk arises, including Foot and Mouth Disease, the following procedure must be followed:

- Stop or restrict access through affected livestock areas.
- Notify the landowner, affected farmer, Facility Manager, Proponent representative and ECO.
- Follow instructions issued by the Department of Agriculture, Land Reform and Rural Development, State Veterinarian, local farmer organisation, landowner or affected farmer.
- Implement vehicle, equipment, footwear and personnel disinfection procedures.
- Isolate potentially contaminated vehicles, equipment or footwear where instructed.
- Maintain visitor, contractor and delivery access records.
- Restrict access to essential personnel only.

- Suspend non-essential deliveries or construction activities where required.
- Prevent construction personnel from entering livestock areas unless specifically authorised.
- Record the incident and corrective actions.

Responsibility: Proponent, Contractor, Facility Manager, ECO, landowner and relevant agricultural authorities.

Timeframe: Immediate response, with ongoing restrictions for the duration of the biosecurity risk or official control period.

10.14. Protected Species Impact or Unauthorised Vegetation Disturbance

In the event of unauthorised disturbance to protected trees, protected plants, protected fauna, species of conservation concern, remaining indigenous vegetation or vegetation outside the approved footprint, the following procedure must be followed:

- Stop work immediately in the affected area.
- Cordon off the area.
- Notify the ECO and Project Manager.
- Record the location, extent and nature of the impact.
- Appoint a specialist where required to assess the impact and recommend corrective action.
- Notify the relevant authority where legally required.
- Implement rehabilitation, replacement planting, permit rectification or other corrective measures as instructed.
- Prevent recurrence through additional demarcation, training or method statement revision.

Responsibility: Contractor, ECO, Project Manager and Proponent.

Timeframe: Immediate cessation of work, ECO inspection as soon as practicable, corrective action within the timeframe specified by the ECO or relevant authority.

10.15. Heritage, Archaeological or Palaeontological Chance Finds

If any archaeological, palaeontological, historical, burial, cultural or heritage resources are discovered during construction or maintenance activities, the following procedure must be followed:

- Stop work immediately in the affected area.
- Cordon off and protect the find.
- Do not remove, disturb or collect any material.
- Notify the ECO and Project Manager.
- Notify the relevant heritage authority where required.
- Work may only recommence once the find has been assessed and written instruction has been provided by the ECO or relevant authority.

Responsibility: Contractor, ECO and Project Manager.

Timeframe: Immediate cessation of work and notification on the same day.

10.16. Security, Unauthorised Access or Visitor Control Incident

In the event of unauthorised access, security breach, visitor control issue or access conflict, the following procedure must be followed:

- Make the area safe and avoid confrontation where possible.
- Notify the Facility Manager, Contractor or security personnel.
- Restrict access to approved roads, parking areas, walkways and designated operational areas.
- Prevent entry into no-go areas, creek margins, riparian areas, agricultural livestock areas, construction areas or jetty areas unless authorised.
- Contact SAPS or private security where required.
- Record the incident and corrective actions.

Responsibility: Facility Manager during operation, Contractor during construction, security personnel where appointed.

Timeframe: Immediate response and same day recording.

10.17. Electrical, Solar, Battery or Lighting Failure

In the event of electrical, solar, battery or lighting failure, the following procedure must be followed:

- Isolate the affected system where safe to do so.
- Keep personnel and visitors away from the affected area.
- Use backup lighting where required for safe egress.
- Contact a competent electrician or qualified service provider.
- Do not allow unqualified personnel to repair electrical, solar or battery systems.
- Record the incident and repair.
- Where fire, leakage, contamination or battery damage occurs, implement relevant fire or spill response procedures.

Responsibility: Contractor during construction, Facility Manager during operation, licensed electrician or qualified service provider.

Timeframe: Immediate isolation and repair as soon as practicable.

10.18. Boat Storage, Jetty or River Access Incident

In the event of an incident associated with boat storage, jetty infrastructure, launching, mooring, river access or estuarine edge activities, the following procedure must be followed:

- Stop the activity immediately.
- Make the area safe.
- Prevent fuel, oil, litter, debris, sediment or damaged materials from entering the Kromme River system.
- Notify the Facility Manager, ECO and Proponent representative.
- Confirm whether the activity is authorised in terms of the applicable Kouga Municipality permission, lease agreement, ICMA related approval, Environmental Authorisation or other permit.
- Cordon off unsafe jetty or river edge areas.

- Repair, remove or stabilise damaged infrastructure only once required approvals and safety measures are confirmed.
- Record the incident and corrective actions.

Responsibility: Facility Manager, Proponent, ECO and authorised service provider.

Timeframe: Immediate response, corrective action within the timeframe specified by the ECO, municipality or relevant authority.

10.19. PREVENTION AND PREPAREDNESS MEASURES

The following prevention and preparedness measures must be implemented on an ongoing basis:

- Maintain good housekeeping within all construction and operational areas.
- Store fuels, oils, chemicals and hazardous substances in labelled containers within bunded or controlled areas.
- Undertake refuelling only in designated areas using drip trays and spill kits.
- Maintain waste storage areas in a clean, secure and animal resistant condition.
- Keep stockpiles covered or stabilised where necessary.
- Maintain erosion, sediment and stormwater controls.
- Maintain fire equipment and emergency access.
- Keep access routes, gates and turning areas clear for emergency response.
- Maintain no-go area signage and demarcation.
- Maintain biosecurity controls where required.
- Ensure that visitors, contractors and service providers are inducted where necessary.
- Keep emergency contacts visible and updated.
- Avoid night works unless specifically authorised and controlled.
- Direct lighting downward and away from sensitive riparian areas and neighbouring properties.

10.20. ENVIRONMENTAL MONITORING AND REPORTING

Incidents must be categorised as near miss, minor, significant or major.

The Safety Officer or Facility Manager must notify the ECO immediately of any significant or major incident, including pollution, unauthorised vegetation disturbance, damage to no-go areas, wastewater failure, fire, biosecurity breach, protected species impact, heritage chance find or any incident affecting drainage features, creek margins, riparian areas or the Kromme River system.

The ECO must advise whether notification to DEDEAT, the Department of Water and Sanitation, Kouga Municipality, the Department responsible for environmental affairs, forestry or fisheries, the State Veterinarian, the heritage authority or any other relevant authority is required.

The following registers must be maintained:

- Incident register.
- Complaints register.
- Spill register.
- Emergency equipment inspection records.
- Biosecurity access register where required.

- Waste disposal records.
- Photographic records.
- Corrective action register.

All incidents must be investigated to determine the cause and to identify corrective and preventative actions. The ECO must verify close-out of significant environmental incidents. The Emergency Risk Register must be updated following any significant or major incident.

10.21. Public Safety and Stakeholder Engagement

Emergency contact details, site rules, complaints procedures, access controls and biosecurity requirements must be displayed at the site entrance and other appropriate site locations.

Neighbouring landowners, affected farmers or relevant stakeholders must be informed of activities that may affect access, livestock movement, biosecurity controls, traffic, noise or shared infrastructure where necessary.

Complaints must be responded to within a reasonable period, preferably within 48 hours, and all actions and outcomes must be recorded in the complaints register.

10.22. Training and Drill Exercises

All personnel must receive emergency response training as part of the environmental induction. The training must address spill response, fire response, first aid, evacuation, stormwater incident response, biosecurity protocols, protected species procedures, heritage chance finds and reporting requirements.

Toolbox talks must be undertaken for high risk activities, including refuelling, chemical handling, vegetation clearing, earthworks, work near drainage features, work near the Kromme River, jetty related activities, wastewater infrastructure installation and access through active livestock farming areas.

Emergency drills must be undertaken at appropriate intervals during construction and operation. At a minimum, evacuation and spill response procedures should be tested during the construction phase. During operation, fire, evacuation and spill response procedures should be reviewed periodically and after any significant incident.

Attendance registers and drill records must be kept in the environmental site file.

10.23. Review and Updates

The Emergency and Contingency Plan must be reviewed annually during operation, and during construction after any major incident, significant near miss, material design change, regulatory update, access change, biosecurity alert or ECO audit recommendation.

The ECO must table recommended improvements in the next audit report. The Proponent must approve any material revisions, and the updated version must be circulated to the Project Manager, Contractor, Facility Manager and other relevant parties.

The Emergency and Contingency Plan must remain a live management tool that is responsive to actual site conditions, operational requirements and environmental risks associated with Farm 838.

10.24. EMERGENCY PREPAREDNESS IMPLEMENTATION TABLE

The following implementation table must be read together with the Farm 838 Emergency and Contingency Plan, the Environmental Authorisation, the approved EMPr, the DBAR and any applicable permits, approvals, municipal permissions, lease agreements, ICMA requirements, protected species permits and biosecurity instructions. The table provides a practical framework for emergency readiness, prevention, response and reporting during the construction and operational phases of the proposed residential, tourism accommodation and agricultural lifestyle development on Farm 838.

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Emergency equipment readiness	Maintain emergency equipment appropriate to the Farm 838 construction and operational context, including spill kits, fire extinguishers, fire beaters, first aid kits, emergency lighting, communication devices, PPE, traffic cones, barrier tape, temporary containment materials and biosecurity supplies where required. Undertake weekly visual inspections during construction, monthly checks during operation and statutory servicing in accordance with applicable standards and supplier requirements. File all checklists in the environmental site file.	Contractor / Safety Officer during construction; Facility Manager during operation; ECO to verify during audits	Weekly during construction; monthly during operation; statutory servicing as required
Emergency communication and contact details	Complete and display the emergency communication tree at the site entrance, site office, staff area and operational management area. Include contact details for the ECO, Safety Officer, Facility Manager, Proponent representative, Fire and Rescue, ambulance, SAPS, Kouga Municipality, State Veterinarian or relevant animal health contact, and any specialist service providers required for spills, wastewater, bees, snakes or hazardous materials.	Contractor / Safety Officer; Facility Manager; ECO to verify	Once off before commencement; update whenever contact details change; verify monthly
Spill prevention and response	Refuelling, fuel storage and chemical handling must occur only within designated controlled areas, using drip trays, bunding or secondary containment. Spill kits must be available at refuelling, chemical storage, parking, workshop or maintenance areas. Spill response procedures must be displayed and personnel trained. Contaminated material must be removed to an approved facility and disposal records retained. Spill response drills must be undertaken at appropriate intervals.	Contractor / Safety Officer during construction; Facility Manager during operation; ECO oversight	Weekly checks; spill drill during construction and at least bi-annually during operation; per incident
Sewage, wastewater treatment and ablution management	Temporary ablution facilities and permanent wastewater treatment systems must be located, operated and maintained to prevent	Contractor during construction; Facility Manager /	Weekly during construction; monthly during

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	contamination of soil, groundwater, drainage features, creek margins, riparian areas and the Kromme River system. Any overflow, leak treatment failure or untreated effluent discharge must trigger immediate cessation o use, containment, pump-out or repair by a suitably qualified service provider, and ECO inspection. Disposal and servicing slips must be retained.	wastewater service provider during operation; ECO oversight	operation; immediately after any incident
Fire preparedness and fire response	Maintain accessible and serviced fire equipment at the site camp, storage areas, hc work areas, greenhouse or agricultural support areas, accommodation nodes and operational buildings where applicable. Hot works must be controlled through a permit or approval process and flammable materials must be kept away from hot work areas. Staff must be trained in fire response, evacuation and protection of riparian and drainage areas from contaminated firefighting runoff where practicable.	Contractor / Safety Officer during construction; Facility Manager during operation; trained staff; ECO to verify	Weekly checks during construction; monthly checks during operation; before hot works; per incident
Storm readiness, heavy rainfall and erosion response	Before forecast heavy rainfall, secure stockpiles, cover exposed soils where necessary, inspect silt fences, berms, sediment traps, swales, drainage controls and temporary stormwater measures. During and after rainfall events, ensure runoff remains diffuse and does not concentrate toward drainage features, creek margins, riparian vegetation or the Kromme River. Repair erosion, rutting, sediment movement and damaged controls immediately.	Contractor during construction; Facility Manager during operation; ECO oversight	Pre-storm where warnings are issued; post-storm within 24 hours where safe; weekly during construction
Creek, drainage feature and riparian protection	Maintain all demarcated no-go areas, creek margins, riparian areas, drainage features and sensitive vegetation areas. No storage, stockpiling, parking, refuelling, waste disposal informal access, washing, concrete mixing or construction activity may occur in these areas unless specifically authorised. Temporary berms, silt socks or other controls must be installed where required to prevent runoff, sediment or pollutants from entering sensitive areas.	Contractor; Facility Manager during operation; ECO to verify	Continuous; weekly ECO or site walk-downs during construction; monthly during operation
Kromme River edge, boat storage and jetty related incident readiness	Any boat storage, launching, mooring, jetty access, jetty maintenance or river edge activity must be managed in accordance with the applicable Environmental Authorisation	Proponent; Facility Manager; Contractor where works are	Before any authorised jetty or river edge activity; per use or

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	conditions, Kouga Municipality permissions, lease or consent arrangements, ICMA related approvals and any other required permits. Emergency controls must prevent fuel, oil, debris, litter, sediment or damaged materials from entering the Kromme River system. Unsafe jetty or river edge areas must be cordoned off immediately after any incident.	undertaken; ECO oversight	maintenance event; per incident
Medical readiness	Ensure that first aiders are appointed or available in accordance with health and safety requirements. First aid kits must be complete and accessible. Emergency access routes must remain clear for emergency services. During operation, emergency procedures mus be available to staff and visitors and response equipment must be checked regularly.	Contractor / Safety Officer during construction; Facility Manager during operation	Monthly; before high-risk activities; per incident
Traffic and access incident readiness	Maintain designated access routes, speed controls, parking areas, turning areas and gate controls. Vehicle movement must remain on approved routes and must not create informal tracks or damage agricultural access roads, livestock areas, drainage features or no-go areas. Any vehicle incident involving fuel, oil, chemical leakage or environmental damage must be managed using the spill and corrective action procedures.	Contractor / Safety Officer; Facility Manager; ECO where environmental damage occurs	Continuous; weekly during construction; monthly during operation; per incident
Biosecurity readiness and communicable animal disease precautions	Implement biosecurity controls due to access through active cattle and dairy farming areas. Maintain access logs where required, control gates, restrict access to essential personnel, disinfect vehicles, equipment, footwear and clothing where required, and comply with instructions issued by the landowner, affected farmers, State Veterinarian, Department of Agriculture, Land Reform and Rural Development or local farmer organisations. Access must be restricted, suspended or rerouted during confirmed or suspected disease risk periods where required.	Proponent; Contractor; Facility Manager; affected farmers; State Veterinarian or animal health authority where applicable; ECO to verify records	Ongoing; during any biosecurity alert or outbreak; per access restriction
Wildlife, snake, bee and livestock encounters	Personnel must not harm, capture, feed, disturb or attempt to handle fauna, snakes, bees or livestock unless authorised and suitably trained. Work must cease in the immediate area, the area must be cordoned where necessary, and the ECO, Facility Manager, beekeeper, livestock owner or trained handler must be contacted.	Contractor / Safety Officer; Facility Manager; ECO; beekeeper or trained handler where required	Per encounter; awareness during induction and toolbox talks

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	Beekeeping areas must be managed to avoid unnecessary conflict with personnel and visitors.		
Protected species and vegetation disturbance response	If protected trees, protected plants, species of conservation concern or protected fauna are encountered or accidentally disturbed, work must stop in the affected area and the ECO must be notified. No pruning, removal, collection, translocation or disturbance may occur without the necessary permit or approval. Corrective action may include specialist inspection, additional demarcation, rehabilitation, permit rectification or authority notification.	Contractor; ECO; Proponent; specialist where required	Before clearing; ongoing during construction; per incident
Heritage and palaeontological chance finds	If archaeological, palaeontological, burial, historical or cultural material is uncovered, work must stop immediately in the affected area. The find must be protected and the ECO and Project Manager notified. The relevant heritage authority must be contacted where required, and work may only recommence once clearance or instruction has been provided.	Contractor; ECO; Project Manager; relevant heritage specialist or authority where required	Per chance find; awareness during induction
Public safety, access control and stakeholder communication	Maintain site access controls, visitor registers, site rules, restricted area signage, emergency contact details and complaints procedures. Adjacent farmers, landowners or affected stakeholders must be informed where activities may affect access, livestock movement, biosecurity controls, traffic, noise, river edge use or shared infrastructure. Complaints must be recorded and responded to timeously.	Contractor during construction; Facility Manager during operation; Proponent; ECO to verify records	Ongoing; complaints response preferably within 48 hours
Training and emergency drills	Provide induction to all personnel before work starts and repeat training for new personnel, subcontractors, suppliers and delivery drivers. Toolbox talks must address spill response, fire response, biosecurity, storm readiness, protected species, heritage chance finds, wastewater incidents, work near drainage features and jetty or river edge risks. Evacuation, spill response and fire response drills must be undertaken at appropriate intervals.	Contractor / Safety Officer; Facility Manager; ECO to verify	Induction before access; toolbox talks as required; drills during construction and periodically during operation
Incident reporting, investigation and corrective action	All incidents, near misses, spills, complaints, biosecurity breaches, wastewater failures, stormwater failures, fire incidents, protected	Contractor / Safety Officer during	Per incident; monthly review during

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	species impacts, unauthorised vegetation disturbance, heritage chance finds and river edge incidents must be recorded. Root cause analysis and corrective actions must be implemented. The ECO must verify close-out and the Emergency Risk Register must be updated after significant incidents.	construction; Facility Manager during operation; ECO to verify; Proponent where authority reporting is required	construction; quarterly review during operation
Emergency risk register review	Maintain a live Emergency Risk Register for Farm 838 and update it after incidents, audits design changes, access changes, biosecurity alerts, significant rainfall events, operational changes or authority instructions. The register must remain consistent with the EMPr, DBAR Environmental Authorisation and applicable permits.	ECO during construction; Facility Manager during operation; Proponent oversight	Monthly during construction; quarterly during operation; after significant incidents or changes

11. Stormwater Management Plan

11.1. Purpose and Objectives

The purpose of this Stormwater Management Plan is to provide site specific stormwater management measures for the proposed development on Farm 838. The development is located within a rural agricultural setting adjacent to the Kromme River and within a sensitive coastal, estuarine and riparian environment. Stormwater must therefore be managed in a manner that prevents erosion, sedimentation, polluted runoff, uncontrolled discharge, concentration of flows and impacts on creek margins, drainage features, riparian vegetation, groundwater and the Kromme River system.

The objectives of this Stormwater Management Plan are to:

- Manage stormwater as close to source as possible.
- Maintain existing natural drainage patterns as far as reasonably practicable.
- Avoid concentration of runoff toward creek margins, drainage features, riparian areas or the Kromme River.
- Prevent erosion, scouring and sediment movement from disturbed construction areas, access roads, parking areas, building platforms, walkways, agricultural infrastructure and greenhouse areas.
- Prevent contaminated stormwater from entering soil, groundwater, drainage lines, riparian areas or the Kromme River system.
- Promote infiltration, attenuation and diffuse release of clean stormwater.
- Ensure that stormwater measures are appropriate to the low intensity residential, tourism and agricultural lifestyle character of the development.
- Ensure that stormwater infrastructure is maintained during both construction and operation.
- Support climate resilience by designing for increased rainfall variability and storm intensity.

11.2. Site Context

Farm 838 has been subject to historical disturbance, partial transformation and agricultural use. The proposed development has been designed to utilise previously disturbed areas as far as reasonably practicable. Notwithstanding this, the site remains environmentally sensitive due to its proximity to the Kromme River, the presence of creek and riparian margins, drainage features, mapped biodiversity sensitivities and limited remaining indigenous vegetation.

Stormwater management must therefore be integrated into the final layout, detailed engineering design, construction methodology and operational maintenance regime. The management approach must avoid direct discharge of concentrated runoff into riparian areas, drainage features or the Kromme River system.

11.3. STORMWATER MANAGEMENT PRINCIPLES

The stormwater management approach for Farm 838 must be based on the following principles:

- Stormwater must be managed at source through roof water harvesting, infiltration, attenuation, dispersion and erosion control.
- Clean stormwater must be separated from potentially contaminated runoff.
- Runoff from roofs should be directed to rainwater harvesting tanks wherever practicable.
- Overflow from rainwater tanks must be directed to stable, vegetated or engineered dispersion areas.
- Stormwater from roads, parking areas and hardstanding areas must be slowed, filtered and dispersed before it enters any natural drainage feature.
- No stormwater may be discharged directly into creek margins, riparian vegetation, drainage features or the Kromme River without appropriate attenuation, energy dissipation and sediment control.
- Existing drainage paths must not be blocked, diverted or concentrated in a manner that increases erosion or downstream impacts.
- Exposed soils must be stabilised as soon as practically possible.
- Stormwater controls must be installed before or at the same time as earthworks and construction activities.
- Stormwater infrastructure must be inspected and maintained throughout construction and operation.

11.4. PLANNING AND DESIGN REQUIREMENTS

The final layout and engineering design must incorporate a stormwater management system suitable for the proposed development components, including the main residential dwelling, guest accommodation units, elevated walkways, timber decks, swimming pool area, agricultural shed, greenhouses, boat storage area, parking areas, access roads, wastewater treatment areas, service infrastructure and landscaped or rehabilitated areas.

The design must:

- Identify existing drainage features, flow paths, low points, erosion areas and sensitive riparian margins.
- Locate buildings, roads, parking, storage areas and service infrastructure to avoid natural drainage features and sensitive riparian areas as far as reasonably practicable.
- Incorporate roof runoff capture through rainwater harvesting tanks.

- Provide controlled overflow from tanks to stable, vegetated or engineered discharge areas.
- Use permeable or semi-permeable surfaces where practical for parking, circulation and low traffic areas.
- Use swales, shallow vegetated drains, level spreaders, infiltration areas, stone pitching, check dams, silt traps, sediment fences or other suitable low impact drainage measures.
- Avoid hard engineered channels unless required for stability or safety.
- Include energy dissipation at any stormwater outlet.
- Prevent stormwater from flowing through fuel, chemical, waste, wastewater, compost, beekeeping support, greenhouse chemical storage or hazardous material areas.
- Ensure that greenhouse runoff, agricultural shed runoff and boat storage runoff are managed so that sediment, nutrients, fuels, oils, detergents or other pollutants do not enter natural systems.
- Ensure that the stormwater design can accommodate seasonal rainfall and more intense rainfall events associated with climate variability.

11.5. CONSTRUCTION PHASE STORMWATER CONTROLS

During construction, temporary stormwater and erosion control measures must be installed prior to vegetation clearing, earthworks, excavation, roadworks, trenching or stockpiling.

The Contractor must implement the following measures:

- Demarcate approved work areas, no-go areas, drainage features, creek margins and riparian areas before construction starts.
- Limit disturbance to approved building platforms, access routes, service corridors and laydown areas.
- Install silt fences, sediment traps, berms, sandbags, straw bales, silt socks or equivalent controls downslope of exposed soils and stockpiles.
- Place stockpiles outside drainage features, creek margins, riparian areas and stormwater flow paths.
- Cover or stabilise stockpiles during windy conditions or when rainfall is forecast.
- Prevent stormwater from flowing through cement batching, refuelling, chemical storage, waste storage, ablution or hazardous substance areas.
- Undertake cement mixing only in controlled areas where wash water can be contained.
- Use drip trays and bunded areas for fuel, oils and chemicals.
- Stabilise exposed soils within 14 days where works are completed or temporarily inactive.
- Suspend high risk earthworks during heavy rainfall where practicable.
- Inspect stormwater controls before and after rainfall events.
- Remove accumulated sediment from control measures and dispose of it appropriately.
- Repair damaged erosion controls immediately.
- Prevent vehicle rutting and erosion on access roads by maintaining surfaces and controlling traffic movement.
- Ensure that all temporary stormwater controls remain in place until disturbed areas are stabilised or rehabilitated.

11.6. OPERATIONAL PHASE STORMWATER CONTROLS

During operation, stormwater management must be maintained as part of the routine environmental management of Farm 838.

The Facility Manager or responsible maintenance team must:

- Maintain rainwater harvesting tanks, gutters, downpipes and overflow systems.
- Ensure that overflows are directed to stable and vegetated areas or approved stormwater structures.
- Inspect access roads, parking areas and circulation routes for erosion, rutting and sediment movement.
- Maintain swales, drains, silt traps, infiltration areas, level spreaders and erosion protection measures.
- Remove sediment, leaves, debris and blockages from stormwater structures.
- Ensure that wastewater treatment systems, chemical storage areas, waste areas, greenhouse areas, boat storage areas and maintenance areas do not discharge contaminated runoff.
- Repair erosion or scouring immediately.
- Maintain vegetation cover on disturbed and rehabilitated areas.
- Prevent the creation of informal tracks, parking areas or compacted surfaces that may alter runoff patterns.
- Ensure that any maintenance of jetty related or river edge infrastructure does not result in sediment or polluted runoff entering the Kromme River system.
- Inspect stormwater infrastructure after significant rainfall events and record any corrective action required.

11.7. POLLUTION PREVENTION

Stormwater must be protected from contamination at all times. The following measures must be implemented:

- Fuels, oils, chemicals, detergents, pesticides, herbicides, fertilisers, paints, solvents and hazardous substances must be stored in designated controlled areas.
- Chemical and hazardous storage areas must be bunded or otherwise contained.
- Waste storage areas must be covered or sealed to prevent leachate or polluted runoff.
- Greenhouse and agricultural support areas must be managed to prevent nutrient enriched runoff.
- Boat storage and maintenance areas must be managed to prevent fuel, oil, detergent or paint residues from entering stormwater pathways.
- Washing of equipment, vehicles, boats, tools or containers must only occur in designated areas where wastewater can be contained and managed.
- No contaminated stormwater, wash water, wastewater, cement water, fuel, oil, chemical or polluted runoff may be discharged into soil, drainage features, creek margins, riparian areas or the Kromme River system.

11.8. EROSION AND SEDIMENT CONTROL

Erosion and sediment control must form part of all construction and operational stormwater management. The following measures must apply:

- Maintain vegetation cover wherever possible.
- Retain existing indigenous vegetation and riparian vegetation outside approved footprints.
- Avoid steep, unstable or erosion prone areas where possible.

- Use mulch, brush packing, geotextile, stone pitching, revegetation or other approved stabilisation methods on exposed soils.
- Reinstate disturbed surfaces as soon as practicable.
- Protect road edges, culverts, drains and outfalls from scouring.
- Use energy dissipaters at stormwater outlets.
- Prevent sediment from leaving the construction area or entering natural drainage features.
- Rehabilitate eroded areas immediately after they are identified.

11.9. MONITORING AND MAINTENANCE

Stormwater monitoring must be undertaken during both construction and operation.

During construction, the Contractor must inspect stormwater controls weekly and before and after significant rainfall events. The ECO must inspect the effectiveness of stormwater controls during routine site inspections and must issue corrective instructions where required.

During operation, the Facility Manager must inspect stormwater infrastructure at least quarterly and after significant rainfall events. Any erosion, sedimentation, blockage, structural damage, polluted runoff or failure of stormwater controls must be recorded and corrected.

Monitoring must include:

- Condition of gutters, downpipes and rainwater tank overflows.
- Condition of access roads, parking areas and gravel surfaces.
- Evidence of erosion, scouring or sediment movement.
- Condition of swales, drains, infiltration areas and sediment traps.
- Evidence of stormwater concentration toward creek margins, riparian areas or drainage features.
- Evidence of polluted runoff from waste, fuel, chemical, greenhouse, boat storage, wastewater or maintenance areas.
- Effectiveness of rehabilitation and vegetation cover.
- Corrective actions implemented and close-out evidence.

11.10. EMERGENCY STORMWATER RESPONSE

Where heavy rainfall, flooding, stormwater overflow, erosion or sedimentation occurs, the procedures in the Emergency and Contingency Plan must be implemented.

Immediate actions must include:

- Stop high risk activities where safe to do so.
- Secure loose materials and stockpiles.
- Install temporary berms, silt socks, sandbags or sediment controls.
- Prevent runoff from entering sensitive areas.
- Repair damaged controls.
- Remove sediment from drainage controls.
- Photograph damage and corrective action.
- Notify the ECO of any significant erosion, sediment release, watercourse impact or pollution event.

Responsibilities

The Applicant is responsible for ensuring that the final layout and engineering design incorporate appropriate stormwater management measures.

The Project Manager or Principal Agent is responsible for ensuring that stormwater requirements are included in construction specifications, contracts and method statements.

The Engineer is responsible for designing appropriate permanent stormwater measures and providing technical input where required.

The Contractor is responsible for implementing and maintaining temporary stormwater and erosion control measures during construction.

The ECO is responsible for monitoring compliance, issuing corrective instructions and verifying that stormwater controls are functioning effectively.

The Facility Manager is responsible for maintaining stormwater infrastructure during the operational phase.

11.11. Performance Requirements

The stormwater system will be considered effective where:

- Stormwater is managed without causing erosion, scouring or sedimentation.
- No contaminated runoff enters drainage features, creek margins, riparian areas or the Kromme River system.
- Roof runoff is harvested or discharged in a controlled and stable manner.
- Access roads, parking areas and hardstanding areas do not generate uncontrolled runoff.
- Disturbed areas are stabilised and rehabilitated.
- Stormwater controls are inspected, maintained and repaired where necessary.
- No unauthorised discharge or pollution event occurs.
- Corrective actions are implemented within the required timeframe.

11.12. Stormwater Management Plan Measures Table

The table below provides a summary of the stormwater management measures applicable to the planning, construction and operational phases of the proposed development on Farm 838. The measures are intended to ensure that stormwater is managed at source, that natural drainage patterns are maintained as far as reasonably practicable, and that erosion, sedimentation and polluted runoff do not impact creek margins, riparian areas, drainage features or the Kromme River system.

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Stormwater design and planning	Incorporate stormwater controls into the final layout and engineering design for the main dwelling, guest units, agricultural shed, greenhouses, boat	Applicant, Engineer, Project Manager	Once off during detailed design

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	storage, access roads, parking areas, walkways and services infrastructure.		
Protection of natural drainage	Identify and protect existing drainage features, creek margins, riparian areas and natural flow paths. Avoid blocking, diverting or concentrating natural runoff.	Engineer, ECO, Contractor	Design stage and ongoing during construction
Use of disturbed areas	Locate stormwater infrastructure, access routes and hardstanding areas within transformed or previously disturbed areas as far as reasonably practicable.	Applicant, Engineer, Contractor, ECO	Once off and ongoing
Roof runoff management	Direct roof runoff to rainwater harvesting tanks wherever practicable. Tank overflows must be discharged to stable, vegetated or engineered dispersion areas.	Engineer, Contractor, Facility Manager	Design stage, construction and operational checks
Runoff from hard surfaces	Manage runoff from roads, parking areas, decks, walkways, storage areas and hardstanding surfaces through swales, infiltration areas, level spreaders, sediment traps or other low impact drainage measures.	Engineer, Contractor	During construction and operation
Prevention of concentrated flows	Avoid direct discharge of concentrated stormwater into creek margins, riparian vegetation, drainage features or the Kromme River system. Use energy dissipation where discharge points are required.	Engineer, Contractor, ECO	Ongoing
Construction phase erosion control	Install temporary silt fences, berms, sandbags, silt socks, sediment traps or equivalent controls before vegetation clearing, earthworks, excavation or stockpiling.	Contractor, ECO	Before disturbance and weekly thereafter
Stockpile management	Place stockpiles outside drainage lines, creek margins, riparian areas and stormwater flow paths. Cover or stabilise stockpiles during rainfall or windy conditions.	Contractor	Ongoing and before rainfall
Exposed soil stabilisation	Stabilise exposed soils as soon as practicable using mulch, vegetation, geotextile, stone pitching or other approved measures.	Contractor, ECO	Ongoing
Rainfall event management	Inspect stormwater controls before and after significant rainfall events.	Contractor, ECO	Pre and post rainfall

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	Repair damaged erosion controls and remove accumulated sediment.		
Access road management	Maintain gravel roads, parking areas and circulation routes to prevent rutting, erosion, sediment movement and uncontrolled runoff.	Contractor, Facility Manager	Weekly during construction, quarterly during operation and after rainfall
Pollution prevention	Prevent stormwater from flowing through fuel, chemical, cement, waste, wastewater, greenhouse, boat storage or hazardous substance areas.	Contractor, Facility Manager, ECO	Ongoing
Cement and wash water control	Cement mixing and wash water must be contained within controlled areas. No cement contaminated water may enter soil, drainage features, creek margins, riparian areas or the Kromme River system.	Contractor	Ongoing
Greenhouse and agricultural runoff	Manage runoff from greenhouse and agricultural support areas to prevent sediment, nutrients, fertilisers, pesticides, herbicides or other pollutants entering natural systems.	Facility Manager, Maintenance Team	Monthly and after rainfall
Boat storage and jetty related runoff	Manage boat storage, maintenance and river edge areas to prevent fuel, oil, detergents, paint residues, sediment or debris entering stormwater pathways or the Kromme River system.	Facility Manager, ECO	Ongoing and after maintenance activities
Operational stormwater maintenance	Maintain gutters, downpipes, rainwater tanks, tank overflows, swales, drains, infiltration areas, sediment traps and erosion protection measures.	Facility Manager, Maintenance Team	Quarterly and after significant rainfall
Rehabilitation and vegetation cover	Rehabilitate disturbed areas with suitable locally indigenous vegetation and maintain vegetation cover to reduce erosion and sediment movement.	Contractor, Facility Manager, ECO	Ongoing until established
Emergency stormwater response	Implement temporary berms, sandbags, silt socks or other controls where heavy rainfall, erosion, flooding or stormwater failure occurs. Notify the ECO of significant erosion or sediment release.	Contractor, Facility Manager, ECO	As required
Monitoring and reporting	Record inspections, rainfall related damage, erosion, sedimentation,	Contractor, Facility Manager, ECO	Weekly during construction,

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	repairs, maintenance and corrective actions in the environmental site file.		quarterly during operation
Performance requirement	Stormwater controls must ensure that no contaminated runoff, sediment laden water or concentrated flows enter drainage features, creek margins, riparian areas or the Kromme River system.	Applicant, Contractor, Facility Manager, ECO	Ongoing

12. Operational Management Plan

12.1. Purpose and Objectives

The purpose of the Operational Management Plan is to provide site specific management measures for the operational phase of the proposed development on Farm 838. The development will comprise a low intensity residential, tourism accommodation and agricultural lifestyle facility located adjacent to the Kromme River and within a sensitive coastal, estuarine and riparian environment. Operational activities must therefore be managed to ensure that the use of the site does not result in erosion, pollution, vegetation disturbance, biosecurity risk, uncontrolled access, disturbance to livestock or fauna, or degradation of creek margins, drainage features, riparian vegetation or the Kromme River system.

The objectives of the Operational Management Plan are to:

- Ensure that the development is operated in accordance with the Environmental Authorisation, EMPr, approved layout, specialist recommendations, municipal permissions, lease agreements, ICMA related approvals and all applicable permits.
- Ensure that operational activities remain limited to the approved residential, tourism, agricultural and supporting infrastructure footprints.
- Protect remaining indigenous vegetation, creek margins, drainage features, riparian vegetation and rehabilitated areas from disturbance.
- Ensure that wastewater treatment systems, rainwater harvesting systems, renewable energy infrastructure, stormwater controls, access roads, parking areas, greenhouses, beekeeping areas, boat storage and jetty related infrastructure are properly managed and maintained.
- Prevent pollution of soil, groundwater, surface water, drainage features and the Kromme River system.
- Maintain biosecurity controls due to access through active cattle and dairy farming areas.
- Ensure responsible visitor, staff, contractor and service provider access control.
- Maintain rehabilitation, alien vegetation control and ecological management measures.
- Provide a system for monitoring, reporting, corrective action and adaptive management during the operational phase.

12.2. Operational Context

The operational phase will include the day to day use and maintenance of the main residential dwelling, guest accommodation units, elevated walkways, decks, swimming pool, agricultural shed and storage infrastructure, greenhouses, beekeeping infrastructure, boat storage facility, jetty related infrastructure,

internal access roads, parking areas, security fencing, wastewater treatment systems, rainwater harvesting systems, renewable energy systems and stormwater infrastructure.

Farm 838 is located in a rural agricultural context and access to the broader area occurs through active cattle and dairy farming areas. Operational management must therefore include access control, visitor management and biosecurity precautions, particularly during periods of confirmed or suspected Foot and Mouth Disease or other communicable animal disease risk.

The site is also adjacent to the Kromme River and includes creek margins, drainage features, riparian vegetation and limited remaining indigenous vegetation. These features must be treated as sensitive environmental areas and must be protected from operational encroachment, informal access, waste disposal, polluted runoff, erosion and unauthorised maintenance activities.

12.3. General Operational Controls

All operational activities must remain within the approved and demarcated operational areas. No expansion of use areas, informal parking areas, additional access tracks, new river access points, additional structures, vegetation clearing or infrastructure extensions may occur unless assessed and approved in terms of the Environmental Authorisation, EMPr and any other applicable legal requirements.

The Facility Manager must ensure that all staff, visitors, contractors, maintenance personnel and service providers are informed of the environmental controls applicable to the site. This must include awareness of no-go areas, access restrictions, biosecurity requirements, waste management, wastewater management, stormwater controls, fire prevention, fauna protection and emergency response procedures.

Operational activities must be managed in accordance with the following principles:

- Use approved access routes, parking areas and walkways only.
- Avoid disturbance to creek margins, riparian areas, drainage features and remaining indigenous vegetation.
- Prevent pollution from wastewater, waste, fuels, oils, chemicals, detergents, fertilisers, pesticides, herbicides, boat storage or maintenance activities.
- Maintain all environmental infrastructure in good working order.
- Implement regular inspections and corrective action where required.
- Retain and rehabilitate vegetation cover to reduce erosion and sediment movement.
- Maintain site records, incident reports, complaints, maintenance records and audit records.

12.4. Wastewater and Water Management

All wastewater treatment systems must be operated, maintained and serviced in accordance with the approved design, manufacturer specifications, permit conditions and any requirements of the Environmental Authorisation. No untreated or partially treated effluent may be discharged to soil, groundwater, drainage features, creek margins, riparian areas or the Kromme River system.

Treated effluent may only be reused for appropriate non-potable purposes, such as toilet flushing or controlled irrigation, where this is permitted and where the treated effluent quality is suitable for the

intended use. Reuse must not result in nuisance conditions, ponding, runoff, nutrient enrichment, seepage, odour, groundwater contamination or discharge to any watercourse.

Rainwater harvesting infrastructure must be maintained to ensure efficient capture, storage and use of roof runoff. Gutters, downpipes, tanks, pumps and overflow structures must be inspected regularly and repaired where required. Tank overflows must be directed to stable, vegetated or engineered dispersion areas.

Water use must be managed through water efficient fittings, leak detection, responsible irrigation and operational controls to reduce unnecessary demand and wastage.

12.5. Stormwater, Erosion and Sediment Control

Operational stormwater systems must be maintained to ensure that runoff is managed at source, dispersed safely and prevented from causing erosion or sedimentation. Swales, drains, infiltration areas, level spreaders, sediment traps, road edges, parking areas and tank overflows must be inspected and maintained.

The Facility Manager must ensure that no stormwater is directed through waste storage areas, fuel or chemical storage areas, greenhouse chemical areas, wastewater systems, boat storage areas or maintenance areas. Contaminated runoff must not enter soil, drainage features, creek margins, riparian areas or the Kromme River system.

Erosion must be repaired as soon as it is identified. Exposed soils must be stabilised using suitable measures such as mulch, revegetation, stone pitching, geotextile, brush packing or other approved methods.

12.6. Biodiversity, Rehabilitation and Alien Vegetation Control

Remaining indigenous vegetation outside approved operational footprints must be retained and protected. Creek margins, riparian vegetation, drainage features, rehabilitated areas and any areas identified as sensitive by the ECO or specialists must be treated as no-go areas unless access is required for approved maintenance, rehabilitation, monitoring or emergency response.

Alien invasive vegetation must be controlled through an ongoing alien vegetation management programme. Priority areas must include disturbed areas, road verges, drainage features, creek margins, riparian areas, service corridors and areas around buildings or operational infrastructure. Alien clearing must be undertaken in a manner that prevents erosion and avoids damage to indigenous vegetation.

Rehabilitation areas must be monitored until vegetation cover is established and erosion risk is reduced. Failed rehabilitation must be corrected through replanting, reseeding, stabilisation or additional erosion control.

12.7. Agricultural, Greenhouse and Beekeeping Management

Agricultural support activities, greenhouse operations and beekeeping infrastructure must be managed to prevent pollution, nuisance, erosion, unauthorised vegetation disturbance and conflict with surrounding land uses.

Fertilisers, compost, pesticides, herbicides, cleaning products and other agricultural inputs must be stored in designated controlled areas. These substances must not be stored or handled in a manner that allows runoff, seepage or spillage into soil, drainage features, creek margins, riparian areas or the Kromme River system.

Greenhouse runoff must be managed to prevent nutrient enriched water or chemical residues from entering natural systems. Waste from greenhouse and agricultural activities must be collected, stored and disposed of appropriately.

Beekeeping infrastructure must be managed by competent persons and must be located and operated to reduce risk to staff, visitors, neighbouring livestock and sensitive environmental areas. Bee related incidents must be recorded and managed in accordance with the Emergency and Contingency Plan.

12.8. BOAT STORAGE, JETTY AND RIVER EDGE MANAGEMENT

Any boat storage, jetty, launching, mooring, access, maintenance or river edge activity must only occur in accordance with the approved Environmental Authorisation, Kouga Municipality permissions, lease agreements, ICMA related approvals and any other applicable permits or consents.

No repair, upgrade, expansion, replacement or new works may be undertaken to jetty related infrastructure unless the required approvals have been confirmed. Fuel, oil, detergents, paint, solvents, litter, sediment or debris must not be allowed to enter the Kromme River system.

Boat storage and maintenance areas must be managed as controlled areas. Washing, refuelling, repair or maintenance activities must only take place where runoff can be contained and pollution can be prevented.

No construction, repair, upgrade, use, occupation or operation of any jetty, boat storage, mooring, launching, river access or estuarine edge infrastructure may commence until the legal status of the structure and associated access has been confirmed. Where required, written Kouga Municipality consent, lease agreement, occupation agreement, landowner consent, ICMA related approval, Environmental Authorisation condition, water use related confirmation and any other applicable permit or authorisation must be obtained and placed in the environmental site file before the relevant activity commences.

12.9. ACCESS, TRAFFIC AND BIOSECURITY MANAGEMENT

Vehicle movement must be restricted to approved access roads, parking areas and circulation routes. Informal tracks, unauthorised parking areas and uncontrolled river access routes are prohibited.

Speed limits must be enforced to reduce dust, erosion, fauna impacts, livestock disturbance and safety risks. Roads must be maintained to prevent rutting, sediment movement and stormwater concentration.

Due to access through active cattle and dairy farming areas, biosecurity protocols must be implemented where required. These may include access registers, gate control, vehicle and equipment disinfection, footwear disinfection, restricted access to livestock areas, separation from livestock, visitor control and compliance with instructions issued by affected farmers, the State Veterinarian, the Department of Agriculture, Land Reform and Rural Development or local farmer organisations.

During confirmed or suspected Foot and Mouth Disease or other communicable animal disease risk periods, non-essential access may be restricted or suspended.

12.10. Waste, Pollution and Hazardous Substance Management

All solid waste must be stored in secure containers and removed to an approved disposal or recycling facility. No waste may be dumped, buried, burnt or allowed to disperse across the site.

Hazardous substances, including fuels, oils, chemicals, batteries, paints, solvents, cleaning products, pesticides and herbicides, must be stored in labelled containers within controlled and bunded areas where required. Spill kits must be available and staff must be trained in spill response.

Any spill, pollution incident, wastewater failure, chemical release or contaminated runoff must be managed in accordance with the Emergency and Contingency Plan and reported to the ECO or responsible environmental representative.

12.11. Fire, Safety and Emergency Preparedness

Operational fire prevention measures must be maintained, including fire extinguishers, fire beaters, emergency access, safe storage of flammable substances, electrical safety checks and awareness of veld fire risk.

Staff must be trained in emergency procedures, including fire response, evacuation, spill response, medical emergencies, biosecurity incidents, wildlife or bee encounters, and stormwater or flood response.

The Emergency and Contingency Plan must remain available to staff and must be updated after any significant incident, audit finding, operational change or regulatory instruction.

12.12. Monitoring, Reporting and Corrective Action

The Facility Manager must maintain operational records, including wastewater servicing records, stormwater inspections, waste disposal records, alien clearing records, rehabilitation monitoring, complaints, incidents, biosecurity access records where required, maintenance records and corrective action records.

Operational inspections must be undertaken at appropriate intervals and after significant rainfall, pollution incidents, complaints or maintenance activities near sensitive areas. Where the Environmental Authorisation requires audits, these must be undertaken by a suitably qualified ECO or independent auditor.

Corrective action must be implemented where monitoring identifies non-compliance, environmental risk, erosion, pollution, infrastructure failure, unauthorised access, biosecurity concern or degradation of sensitive areas.

12.13. Performance Requirements

The operational phase will be considered environmentally acceptable where:

- All operational activities remain within approved footprints and designated use areas.
- Creek margins, riparian vegetation, drainage features, remaining indigenous vegetation and rehabilitated areas are protected.
- No untreated effluent, contaminated runoff, sediment laden water, waste, fuel, oil, chemicals or pollutants enter the Kromme River system.
- Wastewater treatment systems operate effectively and are maintained.
- Stormwater systems prevent erosion, sedimentation and concentrated runoff.
- Rainwater harvesting and water efficiency measures are maintained.
- Alien vegetation is controlled and rehabilitation areas are maintained.
- Agricultural, greenhouse, beekeeping, boat storage and jetty related activities are managed without causing environmental harm.
- Biosecurity protocols are implemented when required.
- Complaints, incidents and non-compliance are recorded, investigated and closed out.
- Environmental performance is reviewed and improved through adaptive management.

12.14. OPERATION MANAGEMENT PLAN SUMMARY TABLE

The table below provides a summary of the operational management measures applicable to Farm 838. The measures are intended to ensure that the residential, tourism, agricultural, river edge and supporting infrastructure components are operated in a manner that protects the Kromme River system, creek margins, riparian areas, drainage features, remaining indigenous vegetation, surrounding agricultural land uses and the broader environmental setting of the site.

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
General operational compliance	Operate the development in accordance with the Environmental Authorisation, EMPr, approved layout, permits, ICMA related approvals, municipal permissions and specialist recommendations.	Applicant, Facility Manager	Ongoing
Approved operational footprint	Restrict all operational activities to approved buildings, walkways, access roads, parking areas, agricultural areas, boat storage areas and service infrastructure.	Facility Manager, Staff	Ongoing
No-go areas	Maintain creek margins, riparian vegetation, drainage features, sensitive vegetation areas and rehabilitated areas as no-go areas except for approved maintenance or monitoring.	Facility Manager, ECO	Ongoing, inspected monthly
Visitor and staff awareness	Inform staff, guests, contractors and service providers of access controls, no-go areas, waste rules, biosecurity requirements and emergency procedures.	Facility Manager	On appointment, arrival or as required
Wastewater treatment systems	Operate, inspect and maintain decentralised wastewater systems in accordance with design specifications and permit requirements. Prevent untreated effluent discharge.	Facility Manager, Maintenance Contractor	Monthly and as required
Treated effluent reuse	Reuse treated effluent only for approved non-potable purposes where quality is suitable and	Facility Manager	Ongoing

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
	where no runoff, ponding, seepage or pollution occurs.		
Rainwater harvesting	Maintain gutters, downpipes, storage tanks, pumps and overflow systems. Direct overflows to stable vegetated or engineered dispersion areas.	Facility Manager, Maintenance Team	Monthly and after rainfall
Water efficiency	Use low flow fittings, monitor water use, repair leaks and avoid unnecessary water wastage.	Facility Manager, Maintenance Team	Monthly
Stormwater systems	Maintain swales, drains, infiltration areas, sediment traps, level spreaders, road edges and erosion controls to prevent erosion and sedimentation.	Facility Manager, Maintenance Team	Quarterly and after significant rainfall
Access roads and parking	Maintain internal gravel roads, parking areas and circulation routes to prevent rutting, erosion, dust and uncontrolled runoff.	Facility Manager, Maintenance Team	Monthly and after rainfall
Traffic control	Restrict vehicles to designated access routes and parking areas. Enforce speed limits to reduce dust, fauna impacts, livestock disturbance and safety risks.	Facility Manager, Staff	Ongoing
Biosecurity access control	Implement access registers, gate control, vehicle and equipment hygiene, footwear disinfection and livestock separation where required.	Applicant, Facility Manager, Staff	As required and during disease risk periods
Foot and Mouth Disease precautions	Comply with instructions issued by affected farmers, the State Veterinarian, DALRRD or farmer organisations. Restrict or suspend non-essential access where required.	Applicant, Facility Manager	During confirmed or suspected risk periods
Solid waste management	Store waste in secure containers and remove to approved disposal or recycling facilities. Prohibit dumping, burning or burial of waste.	Facility Manager, Staff	Ongoing, checked weekly
Hazardous substances	Store fuels, oils, chemicals, batteries, pesticides, herbicides, paints and solvents in labelled and controlled areas with spill response materials available.	Facility Manager, Maintenance Team	Monthly
Greenhouse operations	Manage greenhouse runoff, fertilisers, chemicals and waste to prevent nutrient enrichment, polluted runoff or contamination of natural systems.	Facility Manager, Agricultural Staff	Monthly and after rainfall
Agricultural shed and storage	Maintain agricultural storage areas to prevent spills, waste accumulation, pest issues, contaminated runoff and unauthorised expansion.	Facility Manager, Agricultural Staff	Monthly
Beekeeping infrastructure	Manage beekeeping areas through competent persons and locate activities to reduce risk to visitors, staff, livestock and sensitive environmental areas.	Facility Manager, Beekeeper	Monthly and as required

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Boat storage areas	Manage boat storage and maintenance areas to prevent fuel, oil, detergents, paint residues, sediment or debris entering stormwater pathways or the Kromme River system.	Facility Manager, Maintenance Team	Ongoing and after use
Jetty and river edge use	Operate and maintain jetty related infrastructure only in accordance with Kouga Municipality permissions, lease agreements, ICMA related approvals and EA conditions.	Applicant, Facility Manager	Ongoing, reviewed annually
Jetty repairs or upgrades	No repair, upgrade, replacement, expansion or new river edge works may occur without confirming all required approvals and permits.	Applicant, Facility Manager, ECO	As required
Alien vegetation control	Implement ongoing alien invasive plant control, prioritising disturbed areas, roadsides, creek margins, drainage features and riparian areas.	Facility Manager, Maintenance Team, ECO	Quarterly or as required
Rehabilitation maintenance	Monitor and maintain rehabilitated areas until vegetation cover is established and erosion risk is reduced. Replant or stabilise failed areas.	Facility Manager, ECO	Quarterly
Indigenous vegetation protection	Retain and protect all indigenous vegetation outside approved footprints. No pruning, removal or disturbance may occur without approval and permits where required.	Facility Manager, ECO	Ongoing
Fauna and livestock protection	Prohibit feeding, trapping, harming or disturbing fauna, livestock, bees or wildlife. Report incidents immediately.	Facility Manager, Staff, Guests	Ongoing
Fire management	Maintain fire extinguishers, fire beaters, safe storage of flammable materials, emergency access and fire prevention awareness.	Facility Manager, Maintenance Team	Monthly and seasonally
Noise and nuisance control	Manage operational noise, visitor behaviour, generators, maintenance activities and deliveries to avoid nuisance impacts.	Facility Manager	Ongoing
Lighting control	Direct external lighting downward and away from riparian areas, neighbouring properties and sensitive habitats. Avoid unnecessary night lighting.	Facility Manager, Maintenance Team	Monthly
Emergency preparedness	Maintain emergency contacts, first aid, spill kits, fire equipment, evacuation routes and incident response procedures.	Facility Manager	Monthly
Incident and complaints register	Record complaints, environmental incidents, biosecurity concerns, spills, erosion, wastewater failures and corrective actions.	Facility Manager, ECO	Per incident, reviewed quarterly
Environmental audits	Undertake operational environmental audits where required by the Environmental Authorisation or where recommended by the ECO.	Applicant, ECO or Independent Auditor	Annually or as required

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Adaptive management	Update procedures where monitoring, complaints, incidents or audits identify recurring risks or ineffective mitigation.	Applicant, Facility Manager, ECO	Ongoing

13. Alien and Invasive Management Plan

13.1. Purpose and Objectives

The purpose of this Alien and Invasive Species Management Plan is to provide site specific measures for the identification, control, removal, monitoring and follow up management of alien and invasive plant species on Farm 838.

Farm 838 is located within a rural agricultural landscape adjacent to the Kromme River and within a sensitive coastal, estuarine and riparian environmental setting. The site has been subject to historical disturbance, partial transformation and agricultural use, and disturbed areas are vulnerable to the establishment and spread of alien invasive vegetation. Creek margins, riparian areas, drainage features, access routes, construction footprints, service corridors, greenhouse areas, disturbed soils and rehabilitated areas require particular attention.

The objectives of this plan are to:

- Prevent the introduction and spread of alien invasive plant species during construction and operation.
- Control existing alien invasive species within and around the approved development footprint.
- Prioritise alien clearing within creek margins, drainage features, riparian areas, disturbed areas, access routes and rehabilitated areas.
- Ensure that alien clearing does not cause erosion, sedimentation or unnecessary disturbance to indigenous vegetation.
- Support the rehabilitation of disturbed areas with suitable locally indigenous vegetation.
- Ensure compliance with applicable alien invasive species legislation, including the National Environmental Management: Biodiversity Act and the Alien and Invasive Species Regulations.
- Establish ongoing monitoring and follow up control during the construction and operational phases.

13.2. Site Context

Farm 838 includes transformed and historically disturbed areas, agricultural land use areas, existing access routes, creek margins, drainage features and limited remaining natural vegetation. Site verification has indicated that much of the property is transformed or historically disturbed, with remaining natural vegetation mainly associated with creek and riparian margins.

Alien invasive and weedy species are likely to occur within disturbed areas, along access routes, around historic cleared areas, along drainage features and in riparian or semi-riparian areas where disturbance has created opportunities for colonisation. These areas must be actively monitored and managed to prevent alien invasive species from spreading into remaining indigenous vegetation or affecting rehabilitation success.

13.3. LEGISLATIVE CONTEXT

Alien and invasive species management must be undertaken in accordance with applicable environmental legislation, including:

- The National Environmental Management Act, Act 107 of 1998.
- The National Environmental Management: Biodiversity Act, Act 10 of 2004.
- The Alien and Invasive Species Regulations and associated listed species notices.
- The Conservation of Agricultural Resources Act, Act 43 of 1983, where applicable.
- The National Water Act, Act 36 of 1998, where alien clearing occurs within or near watercourses or riparian areas.
- The conditions of the Environmental Authorisation and approved EMPr.

The landowner, applicant and operational management team are responsible for ensuring that listed alien invasive species are controlled in accordance with legal requirements. Where herbicide use is proposed, only registered products may be used, and application must be undertaken by competent persons in accordance with label instructions, safety requirements and environmental restrictions.

13.4. ALIEN INVASIVE SPECIES MANAGEMENT PRINCIPLES

Alien invasive species control on Farm 838 must be based on the following principles:

- Avoid unnecessary disturbance that creates opportunities for alien plant establishment.
- Prioritise early detection and rapid response to new alien plant growth.
- Prioritise clearing in sensitive areas, including creek margins, drainage features, riparian areas and rehabilitated areas.
- Prioritise clearing within and around construction footprints before construction commences.
- Remove alien invasive species in a phased and controlled manner to prevent erosion and destabilisation of soils.
- Retain indigenous vegetation wherever possible.
- Avoid damage to indigenous plants during alien clearing.
- Avoid the use of herbicides within or near watercourses unless specifically approved and environmentally appropriate.
- Do not leave alien plant material in drainage features, creek margins or areas where it may be washed into the Kromme River system.
- Dispose of alien plant material in a manner that prevents regrowth, seed spread or reinfestation.
- Implement follow up clearing because once off clearing is not sufficient.
- Integrate alien clearing with rehabilitation and revegetation of disturbed areas.

13.5. PRE-CONSTRUCTION REQUIREMENTS

Before construction commences, the ECO or suitably competent person must undertake a walk-through of the approved development footprint, site camp, access routes, laydown areas, service corridors, drainage features and areas requiring rehabilitation to identify alien invasive species requiring control.

The pre-construction alien invasive species control actions must include:

- Identify and map alien invasive species within the construction footprint and immediately adjacent areas.

- Identify priority clearing areas, including access routes, site camp areas, service corridors, drainage features, creek margins and rehabilitated areas.
- Confirm whether any alien clearing may affect protected species, indigenous vegetation or riparian areas.
- Remove or control alien invasive plants within the construction footprint before earthworks where practicable.
- Ensure that alien plant material is removed from site or disposed of appropriately.
- Ensure that cleared areas are stabilised where necessary to prevent erosion.
- Ensure that all staff are inducted on the prohibition of introducing alien plant material, dumping garden waste or disturbing vegetation outside approved areas.

13.6. CONSTRUCTION PHASE REQUIREMENTS

During construction, alien invasive species management must focus on preventing spread, controlling disturbed areas and maintaining cleared areas.

The Contractor must:

- Avoid unnecessary vegetation disturbance and soil exposure.
- Clean equipment and machinery where there is a risk of introducing alien seeds or plant material.
- Prevent the import of soil, fill, mulch or landscaping material contaminated with alien invasive seeds or propagules.
- Control alien regrowth within construction areas, access routes, stockpiles, site camp and laydown areas.
- Ensure that topsoil stockpiles are monitored for alien growth.
- Remove alien seedlings before they establish or set seed.
- Avoid stockpiling alien plant material in drainage features, creek margins, riparian areas or stormwater flow paths.
- Ensure that alien plant waste is safely removed, chipped, composted only where appropriate, or disposed of in a manner that prevents regrowth and seed dispersal.
- Stabilise disturbed soils as soon as practicable to reduce alien recolonisation.
- Use locally indigenous plant species for rehabilitation.
- Ensure that no invasive ornamental species are used in landscaping.

13.7. OPERATIONAL PHASE REQUIREMENTS

During the operational phase, alien invasive species management must form part of routine property maintenance and environmental management.

The Facility Manager must ensure that:

- Alien invasive species inspections are undertaken at least quarterly during the first two years of operation and at least biannually thereafter, or more frequently where regrowth is observed.
- Priority areas include creek margins, riparian areas, drainage features, road verges, parking areas, disturbed areas, service corridors, greenhouse areas, agricultural storage areas, jetty or river access areas and rehabilitated areas.
- Follow up clearing is undertaken before alien plants flower, seed or spread.
- Cleared areas are monitored for erosion and stabilised where necessary.

- Rehabilitation areas are maintained until indigenous vegetation is established.
- Garden and landscaping activities do not introduce invasive ornamental species.
- Green waste is not dumped in natural areas, creek margins, drainage features or riparian areas.
- Records are kept of alien clearing dates, areas cleared, methods used, follow up requirements and disposal methods.

13.8. CLEARING METHODS

Alien invasive species control methods must be appropriate to the species, size, density, location and environmental sensitivity of the area.

Acceptable control methods may include:

- Hand pulling of seedlings and small plants, ensuring that roots are removed where necessary.
- Cutting, lopping or pruning of larger plants.
- Cut stump treatment where appropriate and legally compliant.
- Ring barking or frilling only where appropriate for specific woody species and where standing dead material will not create safety or fire risks.
- Mechanical removal only in already disturbed areas and where it will not cause erosion or damage to indigenous vegetation.
- Chemical control only where necessary, using registered herbicides applied by competent persons and in accordance with label instructions and environmental restrictions.
- Follow up control to treat coppicing, seedlings and regrowth.

No herbicide may be applied in a manner that may contaminate soil, groundwater, stormwater, drainage features, creek margins, riparian areas or the Kromme River system. Herbicide use within or near watercourses must be avoided unless specifically assessed, justified and undertaken using appropriate products and methods under competent supervision.

13.9. DISPOSAL OF ALIEN PLANT MATERIAL

Alien plant material must be handled and disposed of in a manner that prevents seed spread, regrowth or downstream contamination.

The following requirements apply:

- Seed bearing material must be removed carefully and contained where necessary.
- Alien plant material must not be dumped in creek margins, drainage features, riparian areas, natural vegetation, stormwater pathways or near the Kromme River.
- Material capable of resprouting must not be left in contact with moist soil where it may regrow.
- Plant material may be chipped where appropriate, provided that it will not spread viable seed or propagules.
- Burning of alien plant material is prohibited unless specifically authorised and undertaken in accordance with fire safety requirements.
- Disposal records must be kept where alien material is removed from site.

13.10. REHABILITATION FOLLOWING ALIEN CLEARING

Alien clearing must be integrated with rehabilitation where clearing results in exposed soil, loss of cover or erosion risk.

Rehabilitation must include:

- Retention of existing indigenous vegetation wherever possible.
- Stabilisation of exposed soils using mulch, brush packing, geotextile, stone pitching, reseeding or planting where required.
- Use of suitable locally indigenous species.
- Avoidance of invasive ornamental or non-local landscaping species.
- Follow up watering and maintenance where necessary for establishment.
- Monitoring for alien regrowth and erosion.
- Repair of failed rehabilitation areas.

13.11. MONITORING AND REPORTING

Alien invasive species monitoring must be undertaken throughout construction and operation.

Monitoring must include:

- Areas cleared.
- Species or growth forms removed where identifiable.
- Method of removal.
- Disposal method.
- Evidence of regrowth.
- Follow up requirements.
- Erosion or soil disturbance caused by clearing.
- Rehabilitation success.
- Corrective action required.

During construction, the ECO must monitor alien invasive species control during routine inspections. During operation, the Facility Manager must maintain an alien clearing register and make it available for inspection during audits.

13.12. RESPONSIBILITIES

The Applicant is responsible for ensuring that alien invasive species management is implemented on Farm 838.

The Contractor is responsible for alien control within construction areas, site camp areas, access routes, stockpiles, laydown areas and disturbed construction footprints.

The ECO is responsible for monitoring compliance during construction and issuing corrective instructions where required.

The Facility Manager is responsible for implementing alien control during the operational phase.

Specialist input must be obtained where alien clearing occurs in sensitive areas or where species identification, protected species avoidance or rehabilitation advice is required.

13.13. PERFORMANCE REQUIREMENTS

The Alien and Invasive Species Management Plan will be considered effective where:

- Alien invasive plants are controlled within development footprints, access routes, disturbed areas, creek margins, riparian areas and rehabilitated areas.
- Alien clearing does not cause unnecessary damage to indigenous vegetation.
- Cleared areas do not become erosion risks.
- Follow up clearing is undertaken timeously.
- No invasive ornamental species are introduced through landscaping.
- Alien plant waste is disposed of appropriately.
- Rehabilitation areas establish suitable vegetation cover.
- Records of alien control and follow up actions are maintained.
- Alien invasive species do not spread as a result of construction or operational activities.

13.14. ALIEN AND INVASIVE MANAGEMENT PLAN SUMMARY TABLE

The table below provides a summary of the alien and invasive species management measures applicable to Farm 838. The measures are intended to prevent the introduction, establishment and spread of alien invasive vegetation, particularly within disturbed areas, access routes, creek margins, drainage features, riparian areas and rehabilitated areas associated with the proposed development.

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Pre-construction alien survey	Undertake a walk-through of the approved footprint, access routes, site camp, laydown areas, service corridors, drainage features and rehabilitation areas to identify alien invasive species.	ECO, Specialist where required	Once off before construction
Mapping and prioritisation	Identify and prioritise alien clearing areas, including creek margins, riparian areas, drainage features, disturbed areas, road verges and construction footprints.	ECO, Contractor	Once off, updated as required
Protection of indigenous vegetation	Ensure alien clearing avoids damage to indigenous vegetation, protected species and sensitive riparian areas.	Contractor, ECO	Ongoing
Construction footprint clearing	Remove or control alien invasive species within construction areas before or during site establishment where practicable.	Contractor	Before and during construction
Prevention of spread	Prevent introduction of alien seeds or plant material through contaminated soil, fill, mulch, machinery, vehicles or landscaping material.	Contractor, Facility Manager	Ongoing

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
Topsoil and stockpile monitoring	Monitor topsoil and material stockpiles for alien plant growth and remove seedlings before they establish or set seed.	Contractor, ECO	Weekly during construction
Disturbed area control	Control alien regrowth within disturbed areas, access routes, site camp, laydown areas, service corridors and rehabilitated areas.	Contractor, Facility Manager	Monthly during construction and operation
Creek and riparian areas	Prioritise alien control along creek margins, drainage features and riparian areas, using methods that prevent erosion and avoid contamination.	Facility Manager, ECO, Specialist where required	Quarterly or as required
Herbicide use	Use herbicides only where necessary, using registered products applied by competent persons. Avoid herbicide use near watercourses unless specifically approved and environmentally appropriate.	Contractor, Facility Manager, ECO	As required
Mechanical clearing	Use mechanical clearing only in disturbed areas and where it will not cause erosion, sedimentation or damage to indigenous vegetation.	Contractor, Facility Manager	As required
Disposal of alien material	Remove, chip or dispose of alien plant material in a manner that prevents seed spread, regrowth or movement into drainage features or the Kromme River system.	Contractor, Facility Manager	During each clearing event
Seed bearing material	Handle seed bearing material carefully and remove or contain it to prevent further spread.	Contractor, Facility Manager	During each clearing event
No dumping of green waste	Prohibit dumping of garden waste or alien plant material in natural areas, creek margins, drainage features, riparian areas or stormwater pathways.	Facility Manager, Staff	Ongoing
Rehabilitation after clearing	Stabilise exposed soils and rehabilitate cleared areas with suitable locally indigenous species where required.	Contractor, Facility Manager, ECO	After clearing and until established
Landscaping	Use only suitable locally indigenous species in landscaping and avoid invasive ornamental species.	Applicant, Landscape Contractor, Facility Manager	Design stage and ongoing
Follow up control	Undertake follow up clearing to remove regrowth, coppicing and seedlings before flowering or seeding.	Facility Manager, Maintenance Team	Quarterly for first two years, then

Activity or Issue	Management Action	Responsibility	Monitoring Frequency
			biannually or as required
Monitoring records	Maintain records of alien clearing dates, locations, methods, disposal, follow up needs and rehabilitation outcomes.	Contractor, Facility Manager, ECO	Ongoing
Operational inspections	Inspect disturbed areas, access routes, greenhouse areas, agricultural storage areas, jetty access areas, creek margins and rehabilitation areas for alien regrowth.	Facility Manager	Quarterly
Corrective action	Implement corrective action where alien regrowth, erosion, poor disposal or failed rehabilitation is identified.	Contractor, Facility Manager, ECO	As required
Performance requirement	Alien invasive species must not spread as a result of construction or operation, and disturbed areas must be stabilised and rehabilitated to reduce reinvasion risk.	Applicant, Contractor, Facility Manager, ECO	Ongoing

14. Closure Planning

14.1. Closure Objectives

Closure planning for the Farm 838 development applies primarily to the construction phase close-out, rehabilitation of temporarily disturbed areas, removal of temporary construction infrastructure and the handover of completed environmental controls to the operational management team. Closure must be undertaken in a manner that ensures the site is left in a stable, safe and environmentally acceptable condition, with ongoing operational responsibilities clearly assigned.

The objectives of closure planning are to:

- Return all temporarily disturbed construction areas, including site camp areas, laydown areas, temporary access areas, stockpile areas, service trenches and disturbed soil surfaces, to a stable, safe and rehabilitated condition.
- Ensure that disturbed areas are rehabilitated using suitable locally indigenous vegetation or appropriate stabilisation measures.
- Remove all temporary works, construction materials, waste, hazardous substances, redundant signage, temporary fencing and pollution sources from the site.
- Decontaminate any fuel, chemical, cement, waste or ablution areas and ensure that contaminated material is disposed of lawfully.

- Stabilise soils, reinstate natural drainage patterns and prevent erosion, sedimentation or concentrated runoff toward creek margins, drainage features, riparian areas or the Kromme River system.
- Ensure that wastewater, stormwater, rainwater harvesting, access, parking, solar energy, greenhouse, agricultural, boat storage and jetty related infrastructure are handed over in a functional and compliant condition.
- Ensure that all required records, certificates, as-built information, permits, approvals, servicing records and environmental close-out documentation are retained in the site environmental file.
- Establish measurable rehabilitation, erosion control, alien vegetation and pollution prevention performance criteria.
- Provide for after-care, monitoring and adaptive management until closure and rehabilitation targets are met.

14.2. ROLES AND RESPONSIBILITIES

The Applicant, Proud Heritage Properties (Pty) Ltd, is responsible for overall accountability for closure, rehabilitation and after-care, including ensuring that sufficient resources are available for the completion of closure works and environmental close-out.

The Project Manager or Principal Agent is responsible for ensuring that closure requirements are included in construction contracts, practical completion inspections, snag lists and handover procedures.

The Contractor is responsible for executing closure works, removing temporary infrastructure, rehabilitating disturbed areas, providing disposal certificates, submitting as-built information where required, preparing a Closure Method Statement and maintaining closure works during the defects or establishment period.

The ECO is responsible for reviewing and approving closure method statements, verifying no-go areas and rehabilitation areas, inspecting closure works, conducting close-out audits, issuing non-conformance notices where required and recommending environmental sign-off once closure requirements have been met.

The Engineer is responsible for confirming the completion and functionality of engineered stormwater, wastewater, access, drainage and service infrastructure where applicable.

The Facility Manager is responsible for receiving handover of operational infrastructure and implementing post-construction maintenance, monitoring, reporting, alien vegetation control, stormwater maintenance, wastewater system management and rehabilitation after-care.

14.3. PRE-CLOSURE REQUIREMENTS BEFORE PRACTICAL COMPLETION

Before practical completion, the Contractor must prepare and submit a Closure Method Statement to the ECO, Project Manager and Engineer where required. The Closure Method Statement must address the following:

- Demobilisation sequence and timing.
- Site camp decommissioning.
- Removal of temporary access, laydown and stockpile areas not required for operation.

- Inventory of hazardous substances, fuels, oils, chemicals, cement products, batteries and wastes.
- Removal and lawful disposal plan for general waste, recyclable waste, hazardous waste, contaminated material and construction debris.
- Topsoil handling, soil preparation, soil amelioration and revegetation measures.
- Rehabilitation species list using suitable locally indigenous vegetation where required.
- Erosion control layout and methods, including mulch, brush packing, geotextile, silt fences, stone pitching, level spreaders or other appropriate stabilisation measures.
- Stormwater as-built information and operational maintenance schedule.
- Wastewater system installation records, servicing requirements and operational maintenance schedule.
- Confirmation that no-go areas, creek margins, riparian areas, drainage features, remaining indigenous vegetation and rehabilitated areas have not been encroached upon, or that any encroachment has been corrected.
- Biosecurity clean-out and demobilisation requirements for vehicles, equipment and personnel where access through active livestock and dairy farming areas remains relevant.
- Protected species close-out requirements where any search and rescue, pruning, relocation, permit or avoidance measure was required.
- Jetty, boat storage and river edge infrastructure close-out requirements, including confirmation that all works undertaken are consistent with applicable approvals, municipal permissions, lease agreements, ICMA related requirements and Environmental Authorisation conditions.

A pre-closure photographic record must be prepared using comparable viewpoints to the baseline photographic record. This must include the development footprints, access routes, site camp, laydown areas, stormwater measures, wastewater areas, disturbed soils, rehabilitation areas, creek margins, riparian areas, drainage features, boat storage areas and any jetty related infrastructure.

Adjacent landowners, affected farmers or relevant stakeholders must be notified of demobilisation arrangements where closure activities may affect access, gates, livestock movement, biosecurity arrangements, traffic or shared farm roads.

14.4. SITE CAMP DECOMMISSIONING, WASTE AND CONTAMINATION

All temporary structures, storage areas, stockpiles, construction materials, temporary fencing, non-essential signage, redundant services, waste containers and surplus materials must be removed from the site once construction is complete.

Waste must be separated, stored and removed to appropriately authorised facilities. Disposal slips, weighbridge records and hazardous waste manifests must be retained in the environmental site file.

Fuel, oil, chemical, cement and hazardous substance areas must be decommissioned carefully. Bunded pallets, drip trays, storage containers and contaminated absorbents must be removed. Any stained or contaminated soil must be lifted, contained and disposed of at a licensed facility. The ECO must inspect former fuel, chemical and hazardous storage areas to confirm that no visible staining, odour or contamination remains.

Portable ablution facilities must be pumped out by an approved service provider before removal. Proof of pump-out and lawful disposal must be retained. No sewage, wastewater or wash water may be discharged to soil, drainage features, creek margins, riparian areas or the Kromme River system.

All temporary waste storage areas must be cleaned, stabilised and rehabilitated where necessary.

14.5. EARTHWORKS, SOIL AND LANDFORM REINSTATEMENT

All temporarily disturbed areas not required for the final operational layout must be reinstated and stabilised. Disturbed soils must be de-compacted where appropriate, particularly within site camp areas, laydown areas, temporary parking areas, temporary access routes and stockpile areas.

De-compaction should be undertaken by ripping on contour where practicable and must avoid damage to retained trees, indigenous vegetation, service infrastructure, wastewater infrastructure, stormwater controls or root zones.

Conserved topsoil must be respread over disturbed areas not forming part of permanent hardstanding, access routes or built infrastructure. Where topsoil volumes are insufficient, soil amelioration may be undertaken using suitable composted organic matter or other approved soil improvement measures.

Reinstated landforms must tie into the surrounding surface levels and must not create unstable slopes, depressions, ponding, concentrated flow paths or erosion risk.

14.6. DRAINAGE, STORMWATER AND EROSION CONTROL

Closure works must ensure that natural micro-drainage patterns are reinstated as far as reasonably practicable and that stormwater does not concentrate toward creek margins, drainage features, riparian areas or the Kromme River system.

All temporary and permanent stormwater measures must be inspected before handover. This must include gutters, downpipes, rainwater tank overflows, swales, drains, level spreaders, sediment traps, silt fences, erosion control blankets, stone pitching, access road drainage, parking area drainage and energy dissipation measures.

Sediment traps, swales and drainage controls must be cleaned before handover. Damaged or unstable outlets must be repaired. Exposed soils must be stabilised using appropriate measures such as mulch, brush packing, geotextile, stone pitching, indigenous revegetation or other approved erosion control methods.

Stormwater and wastewater systems must remain separated and functional. No wastewater, contaminated runoff, cement water, fuel, oil or chemical residue may enter stormwater systems, drainage features, creek margins, riparian areas or the Kromme River system.

An operation and maintenance schedule for stormwater infrastructure must be handed over to the Facility Manager.

14.7. REVEGETATION, REHABILITATION AND LANDSCAPING

Revegetation and rehabilitation must use suitable locally indigenous species appropriate to the Farm 838 context and the specific rehabilitation area. No NEMBA listed alien invasive species or invasive ornamental species may be used in landscaping or rehabilitation.

Rehabilitation methods may include seeding, planting, mulching, brush packing, topsoil respreading, erosion blankets, geotextile stabilisation or other approved methods suited to the slope, soil type, exposure and erosion risk.

Revegetation must prioritise disturbed construction areas, road verges, exposed soil surfaces, temporary access tracks, stockpile areas, stormwater outlet areas, creek margin buffers where disturbed, riparian edges where affected, and areas around permanent infrastructure requiring landscape integration.

Establishment watering may be undertaken where necessary, particularly during dry periods, but must be managed to avoid runoff, erosion, water wastage or ponding. Watering must be reduced as vegetation establishes.

Landscaping around the residential dwelling, guest accommodation units, walkways, parking areas, agricultural shed, greenhouses and operational areas must be designed to stabilise soils, reduce erosion, support biodiversity where practicable and avoid the introduction of alien invasive plants.

14.8. TRAFFIC, ACCESS AND VISUAL CLOSE-OUT

Temporary access tracks not required for the final approved operational layout must be closed, de-compacted, stabilised and rehabilitated. No informal access routes, turning areas, parking areas or river access points may remain after construction unless they form part of the approved layout.

Permanent access roads and parking areas must be left in a stable condition with appropriate drainage controls to prevent erosion, rutting, dust generation and sediment movement.

Temporary signage, temporary lighting, construction hoarding and non-essential fencing must be removed unless required for safety, rehabilitation protection, no-go area demarcation, biosecurity control or operational management.

Permanent lighting must be directed downward and away from riparian areas, neighbouring properties, livestock areas and sensitive habitats as far as reasonably practicable.

14.9. BIOSECURITY CLOSE-OUT

Given that access to Farm 838 and the surrounding area occurs through active cattle and dairy farming areas, closure and demobilisation must ensure that biosecurity risks are managed.

Construction vehicles, equipment and materials leaving the site must comply with any biosecurity requirements applicable at the time of demobilisation. Where Foot and Mouth Disease or another communicable animal disease risk is confirmed, suspected or subject to official control measures, the Contractor must follow instructions issued by the landowner, affected farmers, State Veterinarian, Department of Agriculture, Land Reform and Rural Development, local farmer organisations or other relevant authority.

Any temporary biosecurity infrastructure, including access controls, disinfection areas, signage or barriers, must either be removed or formally handed over to the Facility Manager where continued operational use is required.

14.10. HERITAGE AND CHANCE FINDS DURING CLOSURE WORKS

If archaeological, palaeontological, historical, burial, cultural or heritage resources are discovered during final ground works, rehabilitation, trench closure, de-compaction or infrastructure removal, work must stop immediately in the affected area.

The area must be protected and the ECO must be notified. The relevant heritage authority must be contacted where required. Work may only resume once the find has been assessed and written instruction has been provided by the ECO or relevant authority.

14.11. PERFORMANCE CRITERIA AND COMPLETION TARGETS

Closure and rehabilitation will be considered successful where the following performance criteria are achieved:

- All temporary construction infrastructure, waste, surplus materials and pollutants have been removed from site.
- Disposal certificates, waste slips, pump-out records and hazardous waste manifests are available in the environmental site file.
- No visible hydrocarbon staining, chemical residue, cement contamination, waste accumulation or sewage contamination remains at former site camp, refuelling, chemical storage, ablution or laydown areas.
- Disturbed areas are stabilised and do not present an erosion or sedimentation risk.
- No rills deeper than 50 mm or active gullying are present in rehabilitated areas.
- Stormwater infrastructure is functional and no uncontrolled discharge, scouring or sediment plumes are observed after rainfall events.
- No contaminated runoff enters drainage features, creek margins, riparian areas or the Kromme River system.
- Rehabilitated areas show more than 60% vegetation cover after 3 months, more than 80% vegetation cover after 6 months and more than 85% vegetation cover after 12 months, unless an alternative target is approved by the ECO based on site conditions, seasonal constraints or the intended final land use.
- Alien invasive plant cover is less than 5% of any rehabilitated management unit after 12 months, and no Category 1a or 1b alien invasive plants are allowed to set seed.
- Protected no-go areas, creek margins, drainage features, riparian areas and remaining indigenous vegetation are intact or rehabilitated where disturbance occurred.
- Temporary access routes not forming part of the approved final layout have been closed, stabilised and rehabilitated.
- Operational infrastructure has been handed over with the required maintenance schedules and records.

Where any target is not met, remedial action must be implemented. This may include additional soil preparation, topsoil supplementation, reseeding, replanting, mulching, brush packing, erosion protection, alien clearing, watering, stormwater repair or extended monitoring.

14.12. MONITORING, AFTER-CARE AND REPORTING

A defects or establishment period of at least 12 months after practical completion must apply to rehabilitation, soft landscaping, alien vegetation control and erosion control areas, unless otherwise specified in the Environmental Authorisation or contract.

Inspection frequency must include:

- Months 0 to 3 after practical completion, monthly inspections by the Contractor and ECO.
- Months 4 to 12 after practical completion, quarterly inspections by the Facility Manager and ECO or as otherwise required by the Environmental Authorisation.
- Additional inspections after significant rainfall events, erosion events, pollution incidents, biosecurity concerns, complaints or failure of rehabilitation measures.

Records must include:

- Photographic monitoring from fixed photo points.
- Alien invasive species control log.
- Erosion and sediment control log.
- Stormwater maintenance log.
- Rehabilitation and watering records.
- Waste disposal and hazardous waste records.
- Corrective action register.
- Complaints and incident register.

Failure to meet closure or rehabilitation criteria must trigger corrective action within 20 working days, or sooner where there is risk of erosion, sedimentation, pollution or environmental harm. The ECO must verify close-out of non-conformances.

The ECO must compile a close-out audit report within 30 days of practical completion, unless otherwise specified by the Environmental Authorisation. The close-out audit report must include a photographic record, disposal proofs, stormwater and wastewater handover information, rehabilitation status, alien vegetation status, outstanding snags and recommendations for after-care. The report must be submitted to the Applicant, Project Manager, Principal Agent and DEDEAT where required.

14.13. HANDOVER AND TRAINING

A formal environmental handover must be undertaken between the Contractor, Project Manager, ECO and Facility Manager before construction close-out.

The handover must include:

- Approved operational footprint and no-go areas.
- Stormwater infrastructure and maintenance schedule.
- Wastewater treatment systems and servicing requirements.
- Rainwater harvesting systems and overflow management.
- Rehabilitation areas and after-care requirements.
- Alien invasive species control requirements.
- Access control and biosecurity requirements.
- Fire management and emergency response procedures.
- Jetty, boat storage and river edge management requirements.

- Protected species or permit related obligations.
- Complaints, incident and monitoring registers.

Operations staff must receive training on relevant environmental management requirements, including alien species identification, no-go area protection, spill response, wastewater system monitoring, stormwater maintenance, biosecurity procedures, fire prevention, heritage chance finds and complaints management.

14.14. FINANCIAL PROVISION AND RETENTION

The Applicant, Project Manager and Principal Agent must ensure that sufficient financial provision, provisional sums or contract retention is available to complete closure, rehabilitation, remedial works and after-care requirements.

It is recommended that a suitable retention or provisional allowance be maintained for rehabilitation, landscaping, erosion control and alien vegetation follow-up until the relevant performance criteria have been met.

The retention must not be fully released until the ECO has confirmed that closure works have been completed, disturbed areas have been stabilised, waste and contamination have been removed, and outstanding environmental snags have been addressed.

14.15. FINAL SIGN-OFF

The ECO may recommend final environmental sign-off once:

- All closure works are complete.
- All temporary infrastructure, waste, hazardous substances and surplus materials have been removed.
- Disturbed areas have been stabilised and rehabilitated.
- Stormwater and wastewater systems are functional and handed over.
- No-go areas, creek margins, riparian areas, drainage features and remaining indigenous vegetation have been protected or rehabilitated where affected.
- Alien vegetation follow-up requirements are recorded and assigned.
- Required disposal certificates, as-built information, permits, training records, audit reports and monitoring records are filed in the environmental site file.
- Performance criteria have been met or an agreed maintenance and after-care plan is in place.

Final sign-off does not remove the obligation of the Applicant or Facility Manager to continue implementing operational environmental management, alien vegetation control, stormwater maintenance, wastewater maintenance, biosecurity measures and any conditions of the Environmental Authorisation that remain applicable during operation.

This EMPr must be read together with the DBAR, approved site layout, specialist reports, Environmental Authorisation, permits, licences, municipal permissions, ICMA related approvals, protected species permits and any other statutory approvals applicable to the development. The EMPr is intended to remain a live environmental management document and must be updated where required to reflect final authorisation conditions, final layout refinements, approved method statements and site-specific compliance requirements before commencement.

APPENDIX A
HEALTH AND SAFETY SIGNAGE

Health and Safety Signage

Colour	Meaning	Information
Red	Prohibition	Dangerous behaviour; stop; shutdown; emergency cut-out devices; evacuate
Yellow	Warning	Be careful; take precautions; examine, e.g. caution: slipping hazard
Blue	Mandatory	Specific behaviour or action, e.g. wear protective equipment.
Green	First aid No danger information	Exits; escape routes; equipment and facilities Return to normal, first aid and information.

Prohibition signage

Not drinkable

No access for unauthorised persons

No access for pedestrians

Smoking and naked flames forbidden

No smoking

Not cutting trees

No alcohol permitted on-site

No littering

Warning Signage

General Caution

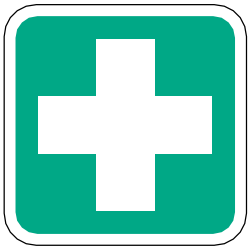
Mandatory signage

Safety helmet must be worn

Safety boots must be worn

Safety harness must be worn

No danger, first aid and site Information



First aid

Emergency telephone

APPENDIX B
FACILITY ILLUSTRATIONS