



LORNAY
ENVIRONMENTAL CONSULTING

Environmental Management Programme

Prepared for:

Prof. I. Siebert

Portion 57 of the Farm 633, Caledon RD

03 August 2026

Consultant:

Michelle Naylor | Env. Consultant | M.Sc., Pr. Sci. Nat., EAPSA
cell: 083 245 6556 | michelle@lornay.co.za | www.lornay.co.za
Unit 5/1 F, Hemel & Aarde Wine Village, Hermanus
Lornay Environmental Consulting Pty Ltd | Reg 2015/445417/07

DOCUMENT CONTROL SHEET

ISSUED BY: Lornay Environmental Consulting (Pty) Ltd
Michelle Naylor
PO Box 1990
Hermanus
7200
Tel: 028 316 1769
Fax: 086 585 2461
www.lornay.co.za

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DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (“EAP”)

Name of the EAP organisation:	LORNAY ENVIRONMENTAL CONSULTING		
Person who compiled this Report:	MICHELLE NAYLOR		
EAP Reg. No.:	2019/698		
Contact Person (if not author):	MICHELLE NAYLOR		
Postal address:	Unit 3A, Hemel and Aarde Wine Village, Hermanus		
Telephone:	028 316 1769	Postal Code:	7200
Cellular:	083 245 6556	Fax:	-
E-mail:	michelle@lornay.co.za		
EAP Qualifications:	Bachelor of Science (Hons); Master of Science (Rhodes University), EAPASA., SACNASP., IAIASA., and APHP		
	SEE CV attached under Appendix A		

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1. INTRODUCTION

This Environmental Management Programme (EMPr) serves as a guideline document for the operational phase of the agricultural activities on Portion 57 of the Farm 633, Caledon RD.

This EMPr describes mitigation measures and is prescriptive, identifying specific individuals or organisations responsible for undertaking specific tasks during the agricultural activities, with the aim to ensure that potential impacts on the environment during operation are minimised and / or avoided. The EMPr is an open-ended document and may require updating from time to time and as the activities evolve on site. This EMPr has been compiled as part of the Section 24 G Application submitted to the Competent Authority and is legally binding.

2. POST COMMENCEMENT ACTIVITIES

The subject property is owned by Prof. I. Siebert, who purchased the property in 2020. No other agricultural activities take place on the property under his ownership.

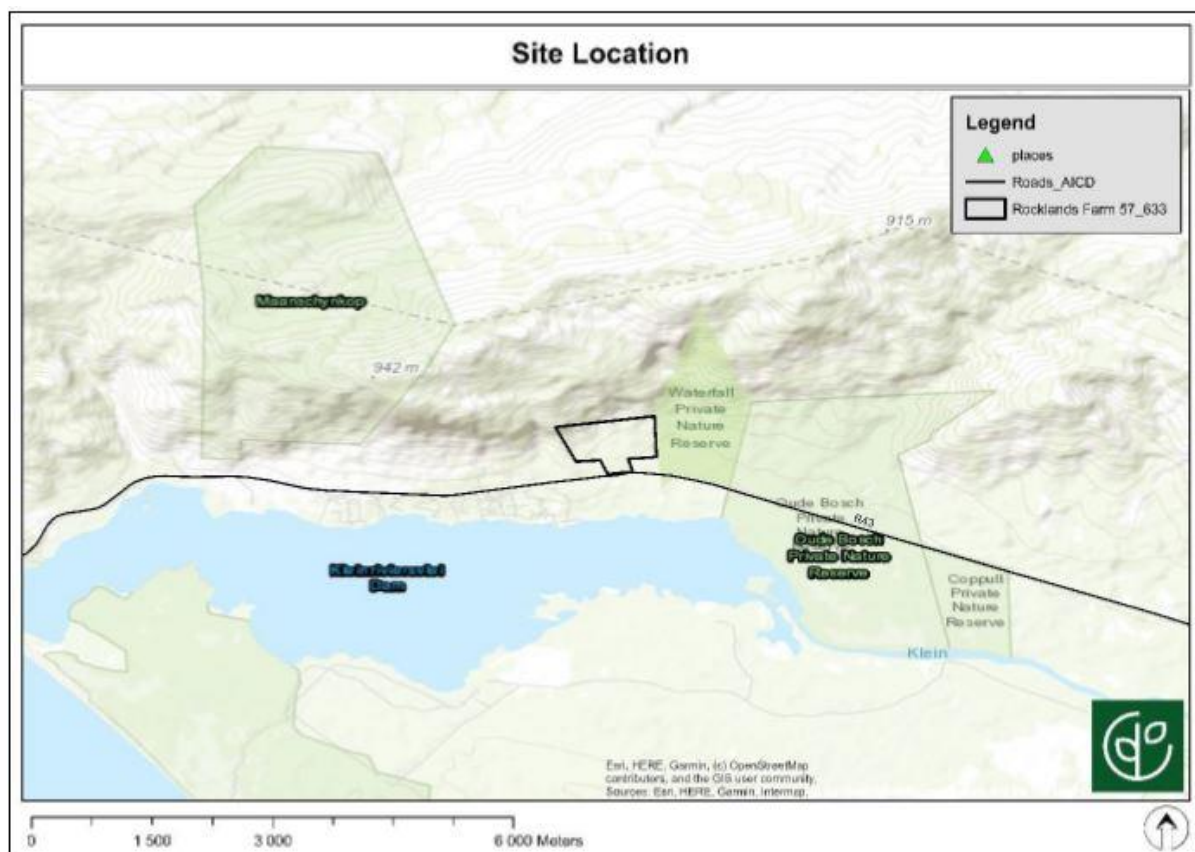


Figure 1. Location of the subject property

The operational activities involve maintenance of the 9 ha Macadamia nut grow and eventual harvesting of the nuts.

Impacted Area

Legend



Map Center: Lon: 19°22'9.4"E
Lat: 34°24'4.4"S

Scale: 1:9,028

Date created: 2024/02/05



3. KEY TERMS AND ABBREVIATIONS

24G	Section 24G for the correction of wrongful activities
CARA	Conservation of Agricultural Resources Act (Act No. 43 of 1983)
DEA&DP	Department of Environmental Affairs and Development Planning (Western Cape)
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act (Act No. 73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEM:BA	National Environmental Management Biodiversity Act (Act No. 10 of 2004)
NEM:WA	National Environmental Management Waste Act (Act No. 59 of 2008)
PPE	Personal Protective Equipment
SDS	Safety Data Sheets
SHE	Safety Health and Environmental

Competent authority - The Department of Environmental Affairs and Development Planning (DEA&DP)

Developer / Applicant – Prof. I. Siebert.

Environmental Control Officer (ECO) - a suitably qualified person to be appointed by the Developer / Applicant, to oversee the implementation of the EMPr and environmental authorisation through the operational phase and into decommissioning (if applicable)

Environmental Management Programme (EMPr) - this document, approved by the competent authority, to control the implementation of the works on the site in such a way as to ensure that they do not result in undue or reasonably adverse impacts on the environment

General waste - Waste that does not pose an immediate hazard or threat to health or to the environment, and includes domestic waste, building and demolition waste, business waste and inert waste

Hazardous waste - Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment. Infectious mortalities are also considered hazardous

Project manager - Overall responsible and accountable person for the site during the construction, operation and decommissioning of the facility.

Project Management team - The responsibility of the EMPr implementation resides with this team. This team includes a Project Manager and appointed contractors and consultants.

Safety, Health and Environmental Officer (SHE Representative) - A representative from each contractor, appointed as a Safety Health and Environmental Officer, assisting the construction manager on Safety, Health and Environmental aspects of the project on the construction site.

Site Manager – the employee of the applicant responsible for the day-to-day control of all activities and operation on site, if applicable. In this instance the site manager is the erf owner.

4. ENVIRONMENTAL CONTROL ON SITE

4.1. Approach

The Table below illustrates the various approaches to be undertaken to manage potential scenarios as a result of the operation of the activity on site:

Table 1: Impact management

Avoidance	Avoiding activities that could result in adverse impacts and/or resources or areas considered sensitive.
Prevention	Preventing the occurrence of negative environmental impacts and/or preventing such an occurrence having negative impacts.
Preservation	Preventing any future actions that might adversely affect an environmental resource.
Minimisation	Limiting or reducing the degree, extent, magnitude or duration of adverse impacts through scaling down, relocating, redesigning and/or realigning elements of the project.
Mitigation	Measures taken to minimise adverse impacts on the environment.
Enhancement	Magnifying and/or improving the positive effects or benefits of a project.
Rehabilitation	Repairing affected resources, such as natural habitats or water resources.
Restoration	Restoring affected resources to an earlier (possibly more stable and productive) state, typically, 'background' or 'pristine' condition. These resources may include soils and biodiversity
Compensation	Compensating for lost resources, and where possible, the creation, enhancement or protection of the same type of resource at another suitable and acceptable location.

4.2. Organisational Structure and Responsibilities

The farm and subsequent operations are managed by the landowner.

Environmental Control Officer

The agricultural activities are already established and active. However, an Environmental Control Officer (ECO) may be required by the Competent Authority to conduct environmental audits, at a stipulated frequency, to determine the compliance with the conditions of the retrospective Environmental Authorisation and this document. This person can be in house.

5. ENVIRONMENTAL AWARENESS PLAN

It is important to ensure that any contractors and employees, new owners, managers or operators associated with the operation of the proposed activity receive the appropriate level of training and awareness to ensure

that continual environmental due diligence and conservation is applied at all levels of operation. Employees, contractors and sub-contractors as well as the operator, must be made aware of their responsibilities in terms of relevant legislation, guidelines, as well as this EMPr and EA.

5.1. Aim of the Environmental Awareness Plan

- Promote environmental education and conservation on site
- Inform employees and any new contractors on the applicable environmental procedures and plans
- Communicate mitigation and management measures which are to be implemented

5.2. Environmental Awareness Training and content

- All personnel should undergo induction, which as a minimum should include Safety, Health and Environmental awareness
- All attendees should sign an acknowledgement register upon receiving and understanding the induction
- Staff should be trained on the implementation of emergency procedures where applicable
- Definitions as used in this EMPr should be provided
- How and why environmental protection is necessary, should be explained
- Management measures required to prevent environmental impacts should be outlined
- Awareness should be made of emergency and spills response procedures

In this particular scenario, a general brief regarding general environmental principles such as reduce, reuse and recycle, as well as protection of flora and fauna, is beneficial. Identification of the required mitigation and management measures should also be communicated. Employees must be aware of areas to be farmed and areas which must not be disturbed. Attention should be applied to possible fringe effects and impacts and caution must be applied to the edges of farmed areas, to prevent slow sprawl into new areas.

Environmental awareness should be implemented immediately and repeated at regular intervals and as required.

6. LEGISLATIVE REQUIREMENTS

A Section 24G process was applicable in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and the Environmental Impact Assessment (EIA) regulations (2014) (as amended). Appendix 4 of the NEMA EIA Regulations (GN. R982) sets out the minimum requirements for the drafting of an Environmental Management Programme (EMPr). This EMPr has been created in fulfilment of these prescribed requirements for the construction phase of the activity. The implementation of this EMPr will be a condition of approval of the Environmental Authorisation (EA). Failure by the applicant, to comply with this EMPr, will therefore constitute an offence, and the applicant and / or the appointed contractors can be held liable for penalties and / or legal action. It is therefore important that a copy of this EMPr be issued to each contractor, preferably at the appointment stage, in order to allow for the costs of implementing the EMPr, to be included in cost proposals. This will also ensure that the contractor is aware of his responsibilities prior to appointment and commencement. Each appointed contractor involved in the project, as well as the project manager (as applicable), will be required to sign for and thereby acknowledge contents of, the approved EMPr and therefore abide by the specifications of the document and any amendments thereto.

Other applicable legislation

The Constitution of The Republic of South Africa (Act 108 of 1996)

The Constitution of the Republic of South Africa states that everyone has a right to a non-threatening environment and that reasonable measures are applied to protect the environment. This includes preventing pollution and promoting conservation and environmentally sustainable development, while promoting justifiable social and economic development.

National Environmental Management Act (Act 107 of 1998)

The National Environmental Management Act (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorisation from the relevant competent authorities. NEMA is a National Act, which is enforced by the Department of Environmental Affairs (DEA). These powers are delegated in the Western Cape to the Department of Environmental Affairs and Development Planning (DEA&DP).

National Environmental Management: Biodiversity Act (Act 10 of 2004)

Chapter 4 of the National Environmental Management: Biodiversity Act, 2004 (NEMBA) deals with threatened and protected ecosystems and species. The need to protect listed ecosystems is addressed (Section 54). Section 73 deals with Duty of Care relating to invasive species, while Section 76(2) calls for development of invasive species monitoring, control and eradication plans by all organs of state in all spheres of government, as part of environmental management plans required in terms of Section 11 of NEMA.

National Environmental Management: Waste Act (Act No. 59 of 2008)

The National Environmental Management: Waste Act (NEM:WA) provides for specific waste management measures (disposal and storage) and the remediation of contaminated land.

National Environmental Management: Air Quality Act (Act No. 39 of 2004)

Section 32 provides provision for the control of dust, section 34 provides provision for the control of noise and section 35 provides provision for the control of offensive odours, all which may be experienced during the construction or operation of an applicable development.

Environment Conservation Act (Act No. 73 of 1989)

The Environment Conservation Act (ECA), provides provision for the prevention of littering by employees and subcontractors during construction and the maintenance phases of development.

Occupational Health and Safety Act (Act No. 85 of 1993)

Section 8 outlines the general duties of employers to their employees and section 9 outlines the general duties of employers and self-employed persons, to persons other than their employees.

Hazardous Substances Act (Act No. 5 of 1973)

This Act provides for the definition, classification, use, operation, modification, disposal or dumping of hazardous substances.

7. POST COMMENCEMENT IMPACTS AND MITIGATIONS

7.1. Activity specific impacts and mitigations

The following activity specific impacts have been identified for the post commencement phase of the proposed development:

7.1.1. Terrestrial Biodiversity Impact Assessment

Direct impacts are those that would occur as a direct result of the clearing of the vegetation to accommodate the agricultural development.

→ **Loss of Elim Ferricrete and Agulhas Limestone Fynbos**

The assessment reveals that the agricultural development, in its current state without mitigation, has had an impact significance of medium negative. The proposed mitigations will not fundamentally alter the described impact significance; instead, they are intended to enhance the habitat condition of the surrounding areas and mitigate potential indirect impacts that may arise as a result of the land use.

→ **Loss of two SCC that likely occurred within the impacted area**

Considering that the site has already been cleared to accommodate agricultural development, it is unclear whether any SCC would have occurred on-site, especially given the site's history of disturbances in the form of invasive alien plants. However, two confirmed SCCs were observed within the surrounding intact habitats and are therefore likely to be found within the impacted area. The observed species were *Serruria rubricaulis* (Vulnerable, A4c) and *Leucospermum prostratum* (Near Threatened, B1b(iii)+2b(iii)).

→ **Impact on Ecosystem Structure and Functionality**

The impact on ecosystem structure and functionality is assessed as medium negative before the implementation of the proposed mitigation measures. It is expected that, through effective rehabilitation and protection of the surrounding habitats, the local ecosystem's structure and functionality will be significantly improved, resulting in a very low negative impact significance. An important consideration in this context is that the landowner is allowing natural vegetation to grow between the rows of the planted trees. These rows act as a corridor enhancing connectivity between the surrounding natural habitats

Mitigation Measures recommended by the Botanical specialist:

Since the impact has already occurred, mitigating the impact during the development phase is not possible. Therefore, we recommend mitigation measures that will reduce the impact of agricultural development on the surrounding environment:

- Restore and rehabilitate surrounding affected habitats by replanting native vegetation and removing invasive alien species.
- Implement effective stormwater management systems to reduce runoff and prevent pollution.
- Implement erosion control measures, such as stabilizing slopes, to prevent soil erosion and sedimentation in nearby freshwater bodies.
- Ensure proper disposal of waste and hazardous materials, including recycling and safe chemical disposal to prevent environmental contamination.
- Establish a regular monitoring and reporting system to track changes in habitat conditions and any potential negative impacts. This can help with a timely response and adjustment of mitigation measures.
- Regenerative and sustainable farming practises must be implemented and strictly monitored to prevent any secondary effects and cumulative impacts on the surrounding intact habitats.

- Consider setting aside adjacent areas as protected area or conservation easements to offset any habitat loss due to the project.
- Implement habitat restoration programs to promote the recovery of the habitat surrounding the impacted area, particularly for SCC. This may include removing invasive species, planting native vegetation, and ensuring a suitable environment for these species.
- Create buffer zones around sensitive habitats to minimize the direct impacts of development activities on these areas. Restrict access to critical habitats.
- Establish ongoing monitoring programs to track the recovery and population trends of SCC. Implement adaptive management strategies to adjust mitigation efforts as needed.
- Continue and enhance efforts to control and manage invasive alien plant species in the areas surrounding the impacted area. This will help restore native vegetation and ecosystem functionality.
- Strengthen protection of intact and undisturbed areas within the landscape to ensure the maintenance of biodiversity and ecosystem functionality.

7.1.2. Aquatic Biodiversity Assessment

Direct construction and operational phase impacts were/are limited to the two seep wetlands. However, as the orchard is located in the catchment area, and within proximity to the two streams, indirect impacts may have occurred as a result of the development. The potential impacts to the two seep wetlands and the two streams include the following:

- Wetland habitat disturbance within the two seep wetlands as a result of vegetation clearing, ploughing / tilling, and planting of the macadamia nut trees and ongoing maintenance thereof.
- Alteration of flow within onsite watercourses due to ploughing / tilling for constructing berms for macadamia nut trees to be planted in.
- Increased sediment input within onsite watercourses, due to vegetation clearing and ploughing / tilling.
- Water quality impairment due to potential spillage of hydrocarbons/contaminants due to the use of the access roads / machinery in proximity to the onsite watercourses.

Mitigation measures recommended by the Freshwater Specialist:

- Although technically the impact has already occurred, the agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize.
- AIS are currently being removed by the landowner and should continue to be removed from the onsite watercourses.
- It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible.
- Dumping and littering in the orchard should be strictly prohibited.
- AIS, which might colonize disturbed areas and outcompete natural wetland vegetation, should be monitored for, and removed, during the ongoing management of the orchard.
- Although technically the impact has already occurred, the agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize.
- AIS should be continuously removed from the onsite watercourses.
- Effective stormwater management should be implemented, which ensures that peak stormwater flows are adequately managed or dissipated, before they enter downslope Seep Wetland 1.
- It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible, thereby allowing indigenous wetland vegetation to recolonize and reducing the impact of altered flow both within the wetland and within the streams.
- Effective stormwater management should be implemented, which ensures that sediment laden stormwater flow from the orchard, particularly during storm events, does not enter downslope Seep

Wetland 1. A regular monitoring system should be set up by the farm manager which ensures that if sedimentation does occur downslope, remediation measures are implemented.

- Erosion, although currently not present in the wetland and minimal in the catchment, should be monitored for and addressed immediately, especially after rainfall events. Implement erosion control measures if / where required. Examples of erosion control measures may include:
 - Covering steep/unstable/erosion prone areas with geotextiles.
 - Covering areas prone to erosion with brush packing, straw bales, mulch.
 - Stabilizing cleared/disturbed areas susceptible to erosion with sandbags.
 - Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.
- It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible.
- Erosion in the streams (minimal at present) and in the orchard / catchment area should be monitored for and addressed immediately, especially after rainfall events.
- Implement erosion control measures if/where required. Examples of erosion control measures may include:
 - Covering steep/unstable/erosion prone areas with geotextiles.
 - Covering areas prone to erosion with brush packing, straw bales, mulch.
 - Stabilizing cleared/disturbed areas susceptible to erosion with sandbags.
 - Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.
- All onsite watercourses should be routinely checked for dumping / littering, which should be strictly prohibited in onsite watercourses.
- Ensure that regenerative and sustainable farming practises are utilized within the farm, without the use of herbicides and pesticides.
- The agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize.
- AIS are currently being removed by the landowner and should continue to be removed from the onsite watercourses.
- Ensure that regenerative and sustainable farming practises are utilized within the farm, without the use of herbicides and pesticides.
- Wetland vegetation should be encouraged to recolonize where possible.
- It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible, and that any maintenance required for the trees is conducted during irrigation to limit the amount of trampling within the wetland area.
- AIS should be monitored for and removed during ongoing management of the orchard.
- Erosion (if applicable) in the streams should be monitored and addressed immediately, especially after rainfall events.
- Implement erosion control measures where required. Examples of erosion control measures may include:
 - Covering steep/unstable/erosion prone areas with geotextiles.
 - Covering areas prone to erosion with brush packing, straw bales, mulch.
 - Stabilizing cleared/disturbed areas susceptible to erosion with sandbags.
 - Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor

sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.

- Ensure that regenerative and sustainable farming practises are utilized within the farm, without the use of herbicides and pesticides.
- The agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize.
- AIS are currently being removed by the landowner and should continue to be removed from the onsite watercourses.
- Effective stormwater management should be implemented, which ensures that peak stormwater flows from the orchard are adequately managed or dissipated, before they flow into downslope Seep Wetland 1.
- It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible, thereby allowing indigenous wetland vegetation to recolonize and reducing the impact of altered flow both within the wetland and within the streams.
- Effective stormwater management should be implemented, which ensures that peak stormwater flows are adequately managed or dissipated, before they flow into downslope Seep Wetland 1.
- AIS should be monitored for and removed during ongoing management of the orchard. Erosion in the streams and orchard should be monitored and addressed immediately, especially after rainfall events. Implement erosion control measures where/if required.
- Examples of erosion control measures may include:
 - Covering steep/unstable/erosion prone areas with geotextiles.
 - Covering areas prone to erosion with brush packing, straw bales, mulch.
 - Stabilizing cleared/disturbed areas susceptible to erosion with sandbags.
 - Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.
- The agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize. AIS are currently being removed by the landowner and should continue to be removed from the onsite watercourses.
- Effective stormwater management should be implemented, which ensures that sediment laden stormwater flow from the orchard, particularly during storm events, does not enter downslope Seep Wetland 1. A regular monitoring system should be set up by the farm manager which ensures that if sedimentation occurs downslope, remediation measures are implemented.
- Erosion (if applicable) in the wetland and catchment should be monitored and addressed immediately, especially after rainfall events. Implement erosion control measures where required. Examples of erosion control measures may include:
 - Covering steep/unstable/erosion prone areas with geotextiles.
 - Covering areas prone to erosion with brush packing, straw bales, mulch.
 - Stabilizing cleared/disturbed areas susceptible to erosion with sandbags.
 - Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.
- It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible. Erosion in the streams and in the orchard / catchment area should be monitored and addressed immediately, especially after rainfall events. Implement erosion control measures where required. Examples of erosion control measures may include:

- Covering steep/unstable/erosion prone areas with geotextiles.
 - Covering areas prone to erosion with brush packing, straw bales, mulch.
 - Stabilizing cleared/disturbed areas susceptible to erosion with sandbags.
 - Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy
- All farming machinery and vehicles used must be regularly serviced, fuel must be stored more than 15 m away from any wetland in a bunded area. All onsite watercourses should be routinely checked for dumping / littering, which should be strictly prohibited in onsite watercourses. Ensure that regenerative and sustainable farming practises are utilized within the farm, without the use of herbicides and pesticides.

Table 2. Activity specific impacts and mitigations

IMPACT	DESCRIPTION	MITIGATION	MONITORING	RESPONSIBILITY
Loss of Threatened Ecosystems	Removal and / or disturbance of CR endangered and En vegetation	→ Since the impact has already occurred, mitigating the impact during the development phase is not possible. Therefore, we recommend: ○ Restore and rehabilitate surrounding affected habitats by replanting native vegetation and removing invasive alien species. ○ Implement effective stormwater management systems to reduce runoff and prevent pollution. ○ Implement erosion control measures, such as stabilizing slopes, to prevent soil erosion and sedimentation in nearby freshwater bodies. ○ Ensure proper disposal of waste and hazardous materials, including recycling and safe chemical disposal to prevent environmental contamination. ○ Establish a regular monitoring and reporting system to track changes in habitat conditions and any potential negative impacts. This can help with a timely response and adjustment of mitigation measures. ○ Regenerative and sustainable farming practises must be implemented and strictly monitored to prevent any secondary effects and cumulative impacts on the surrounding intact habitats. ○ Consider setting aside adjacent areas as protected area or conservation easements to offset any habitat loss due to the project.	→ Responsible site manager / foreman is to check areas on a regular basis for adhoc clearing of indigenous areas or sprawl into indigenous areas.	Responsible manager / appointed person
Loss of two SCC that likely	Considering that the site has already been cleared to accommodate	→ Implement habitat restoration programs to promote the recovery of the habitat surrounding the impacted area,	→ Long-term monitoring and adaptive management are	Owner/Applicant

occurred within the impacted area	agricultural development, it is unclear whether any SCC would have occurred on-site, especially given the site's history of disturbances in the form of invasive alien plants. However, two confirmed SCCs were observed within the surrounding intact habitats and are therefore likely to be found within the impacted area.	particularly for SCC. This may include removing invasive species, planting native vegetation, and ensuring a suitable environment for these species. → Create buffer zones around sensitive habitats to minimize the direct impacts of development activities on these areas. Restrict access to critical habitats. → Establish ongoing monitoring programs to track the recovery and population trends of SCC. Implement adaptive management strategies to adjust mitigation efforts as needed.	crucial to ensuring the health and resilience of the surrounding environment.	
Loss of Ecosystem Structure and Functionality	The impact on ecosystem structure and functionality is assessed as medium negative before the implementation of the proposed mitigation measures. It is expected that, through effective rehabilitation and protection of the surrounding habitats, the local ecosystem's structure and functionality will be significantly improved, resulting in a very low negative impact significance. An important consideration in this context is that the landowner is allowing natural vegetation to grow between the rows of the planted trees. These rows act as a corridor enhancing connectivity between the surrounding natural habitats.	→ Continue and enhance efforts to control and manage invasive alien plant species in the areas surrounding the impacted area. This will help restore native vegetation and ecosystem functionality. → Strengthen protection of intact and undisturbed areas within the landscape to ensure the maintenance of biodiversity and ecosystem functionality.	→ Long-term monitoring and adaptive management are crucial to ensuring the health and resilience of the surrounding environment.	Owner/Applicant
Wetland Habitat Disturbance in Seep Wetland 1	Approximately 1.4 Ha of the 8.5 Ha Seep wetland 1 underwent disturbance due to the clearing of native wetland vegetation and subsequent ploughing and tilling to create the macadamia nut orchard. However, despite the clearing, wetland vegetation has begun to	→ Although technically the impact has already occurred, the agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize.	→ AIS, which might colonize disturbed areas and outcompete natural wetland vegetation, should be monitored for, and removed, during the ongoing management of the orchard.	Owner / applicant

	naturally recolonize, growing between the rows of macadamia nut trees. The landowner consistently clears AIS from the onsite watercourses, and surrounding catchment.	→ AIS are currently being removed by the landowner and should continue to be removed from the onsite watercourses. TIMEFRAME: Actions to be implemented immediately		
Wetland Habitat Disturbance in Seep Wetland 2 (see page below dams)	Seep Wetland 2 underwent disturbance due to the clearing of native wetland vegetation and subsequent tilling to create the macadamia nut orchard. However, despite the clearing, some wetland vegetation has begun to naturally regenerate, growing between the rows of trees. Additionally, there was unlikely to be a pristine, diverse indigenous community of wetland vegetation associated with the artificial Seep Wetland 2 prior to onsite agricultural activities, which reduces the significance of this impact.	→ It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible. → Dumping and littering in the orchard should be strictly prohibited. → AIS, which might colonize disturbed areas and outcompete natural wetland vegetation, should be monitored for, and removed, during the ongoing management of the orchard.	→ Monitor natural wetland vegetation.	Owner/Applicant/
Altered flow regime in Seep Wetland 1	Site clearance and ploughing/tilling has led to alteration of the flow regime for the onsite seep wetland 1. The ploughing/tilling within the wetland, and within its catchment, likely resulted in diversion and concentration of flow due to the created berms, while the clearance of indigenous wetland / terrestrial vegetation and slight soil compaction likely increased flow downstream.	→ Although technically the impact has already occurred, the agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize. AIS should be continuously removed from the onsite watercourses. → Effective stormwater management should be implemented, which ensures that peak stormwater flows are adequately managed or dissipated, before they enter downslope Seep Wetland 1.	→ As required.	→ Owner/Applicant
Altered flow regime of Seep Wetland 2 and ephemeral streams	Site clearance and ploughing/tilling has led to alteration of the flow regime for the onsite seep wetland 2. The ploughing/tilling within the wetland, within its catchment and within the	→ It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible, thereby allowing indigenous wetland vegetation to recolonize and reducing the impact of	→ As required.	→ Owner/Applicant

	catchment of the streams, likely resulted in diversion and concentration of flow due to the created berms, while the clearance of indigenous wetland / terrestrial vegetation and slight soil compaction likely increased flow downstream. The hydrology of the wetland is completely artificial which decreases the significance of the impact. Direct impacts to the flow of the streams did not appear significant and are related to catchment land use transformation.	altered flow both within the wetland and within the streams.		
Increased sediment input into Seep Wetland 1	Soil disturbance during clearing and ploughing/tilling would have made loose soil available for transport in runoff. Vegetation clearing will increase runoff volumes and velocities allowing for larger grain sizes to be transported into the onsite wetland and the downslope seep wetland area.	→ Effective stormwater management should be implemented, which ensures that sediment laden stormwater flow from the orchard, particularly during storm events, does not enter downslope Seep Wetland 1. A regular monitoring system should be set up by the farm manager which ensures that if sedimentation does occur downslope, remediation measures are implemented. → Erosion, although currently not present in the wetland and minimal in the catchment, should be monitored for and addressed immediately, especially after rainfall events. Implement erosion control measures if / where required. Examples of erosion control measures may include: ○ Covering steep/unstable/erosion prone areas with geotextiles. ○ Covering areas prone to erosion with brush packing, straw bales, mulch. ○ Stabilizing cleared/disturbed areas susceptible to erosion with sandbags ○ Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff.	→ As required.	→ Owner/Applicant

		Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.		
Increased sediment input into seep wetland 2 and streams	Soil disturbance during clearing and earth works would have made loose soil available for transport in runoff. Vegetation clearing will increase runoff volumes and velocities allowing for larger grain sizes to be transported into the watercourses	→ It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible. → Erosion in the streams (minimal at present) and in the orchard / catchment area should be monitored for and addressed immediately, especially after rainfall events. Implement erosion control measures if/where required. Examples of erosion control measures may include: ○ Covering steep/unstable/erosion prone areas with geotextiles. ○ Covering areas prone to erosion with brush packing, straw bales, mulch. ○ Stabilizing cleared/disturbed areas susceptible to erosion with sandbags. ○ Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.	→ As required.	→ Owner/Applicant
Water quality impairment of onsite watercourses Description	Accidentally spilled chemicals, or petrochemicals from construction vehicles or machinery may have found their way into the onsite watercourses. Dumping and littering may have occurred during construction.	→ All onsite watercourses should be routinely checked for dumping / littering, which should be strictly prohibited in onsite watercourses. → Ensure that regenerative and sustainable farming practises are utilized within the farm, without the use of herbicides and pesticides.	→ As required.	→ Owner/Applicant
Wetland Habitat Disturbance in Seep Wetland 2	Wetland vegetation has begun to naturally regenerate, growing between the rows of trees in the orchard. Despite	→ Wetland vegetation should be encouraged to recolonize where possible.	→ As required.	→ Owner/Applicant

	this there will likely be slight habitat disturbance due to the ongoing maintenance / irrigating of the orchard (3 farm workers) approximately one person walking a row, 3 times a week. The harvest will be once a year and involve the same 3 workers. However, as the trees grow, it is likely that they will shade vegetation beneath them, and therefore over time, the wetland vegetation may die. However, there was unlikely to be a pristine, diverse indigenous community of wetland vegetation associated with the artificial Seep Wetland 2 prior to onsite agricultural activities, which reduces the significance of this impact.	→ It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible, and that any maintenance required for the trees is conducted during irrigation to limit the amount of trampling within the wetland area. AIS should be monitored for and removed during ongoing management of the orchard. → Erosion (if applicable) in the streams should be monitored and addressed immediately, especially after rainfall events. Implement erosion control measures where required. Examples of erosion control measures may include: ○ Covering steep/unstable/erosion prone areas with geotextiles. ○ Covering areas prone to erosion with brush packing, straw bales, mulch. ○ Stabilizing cleared/disturbed areas susceptible to erosion with sandbags. ○ Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand. → Ensure that regenerative and sustainable farming practises are utilized within the farm, without the use of herbicides and pesticides.		
Altered flow regime of seep wetland 1	Site clearance and ploughing/tilling has led to alteration of the flow regime for the onsite seep wetland 1. The ploughing/tilling within the wetland, and within its catchment, likely resulted in diversion and concentration of flow due to the created berms, while the	→ The agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize. → AIS are currently being removed by the landowner and should continue to be removed from the onsite watercourses.	→ As required	→ Owner/Applicant

	clearance of indigenous wetland / terrestrial vegetation and slight soil compaction likely increased flow downstream. Additionally, the areas on top of the berms may likely dry out and therefore flow may be completely altered in these areas.	→ Effective stormwater management should be implemented, which ensures that peak stormwater flows from the orchard are adequately managed or dissipated, before they flow into downslope Seep Wetland 1.		
Altered flow regime of Seep Wetland 2 and Streams	Site clearance and ploughing/tilling has led to alteration of the flow regime for the onsite seep wetland 2. The ploughing/tilling within the wetland, within its catchment and within the catchment of the streams, likely resulted in diversion and concentration of flow due to the created berms, while the clearance of indigenous wetland / terrestrial vegetation and slight soil compaction likely increased flow downstream. Irrigation of the trees may increase runoff and give rise to potential erosion. The hydrology of the wetland is completely artificial which decreases the significance of the impact. Direct impacts to the flow of the streams did not appear significant and are related to catchment land use transformation.	→ It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible, thereby allowing indigenous wetland vegetation to recolonize and reducing the impact of altered flow both within the wetland and within the streams. → Effective stormwater management should be implemented, which ensures that peak stormwater flows are adequately managed or dissipated, before they flow into downslope Seep Wetland 1. → AIS should be monitored for and removed during ongoing management of the orchard. Erosion in the streams and orchard should be monitored and addressed immediately, especially after rainfall events. → Implement erosion control measures where/if required. Examples of erosion control measures may include:. ○ Covering steep/unstable/erosion prone areas with geotextiles. ○ Covering areas prone to erosion with brush packing, straw bales, mulch. ○ Stabilizing cleared/disturbed areas susceptible to erosion with sandbags. ○ Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy	→ As required	→ Owner/Applicant

		rainfall event and any sediment that has accumulated must be removed by hand.		
Increased sediment input into Seep Wetland 1	Soil disturbance during any maintenance work may result in loose soil available for transport in runoff. Sediment laden stormwater runoff from the ploughed catchment will likely lead to sedimentation downstream watercourses (Seep Wetland 1) during the rainy season.	→ The agricultural area coinciding with wetland 1, specifically the southeastern corner of the orchard, should remain fallow thereby allowing the indigenous wetland vegetation to further recolonize. → AIS are currently being removed by the landowner and should continue to be removed from the onsite watercourses. → Effective stormwater management should be implemented, which ensures that sediment laden stormwater flow from the orchard, particularly during storm events, does not enter downslope Seep Wetland 1. A regular monitoring system should be set up by the farm manager which ensures that if sedimentation occurs downslope, remediation measures are implemented. → Erosion (if applicable) in the wetland and catchment should be monitored and addressed immediately, especially after rainfall events. Implement erosion control measures where required. Examples of erosion control measures may include: ○ Covering steep/unstable/erosion prone areas with geotextiles. ○ Covering areas prone to erosion with brush packing, straw bales, mulch. ○ Stabilizing cleared/disturbed areas susceptible to erosion with sandbags. ○ Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.	→ As required.	→ Owner/Applicant

Increased sediment input into seep wetland 2 and streams	Soil disturbance during any maintenance work may result in loose soil available for transport in runoff. Sediment laden stormwater runoff from the ploughed catchment will likely lead to sedimentation downstream watercourses during the rainy season.	→ It is recommended that the portion of the orchard coinciding with the Seep Wetland 2 remains fallow as far as possible. → Erosion in the streams and in the orchard / catchment area should be monitored and addressed immediately, especially after rainfall events. Implement erosion control measures where required. Examples of erosion control measures may include: ○ Covering steep/unstable/erosion prone areas with geotextiles. ○ Covering areas prone to erosion with brush packing, straw bales, mulch. ○ Stabilizing cleared/disturbed areas susceptible to erosion with sandbags. ○ Constructing silt fences / traps in areas prone to erosion, to retain sediment-laden runoff. Silt fences must be adequately maintained. Furthermore, the farm manager must monitor sediment fences / traps after every heavy rainfall event and any sediment that has accumulated must be removed by hand.	→ As required	→ Owner/Applicant
Water quality impairment of the onsite watercourses	Accidentally spilled chemicals, or petrochemicals from farming vehicles or machinery (if applicable) may find their way into the onsite watercourses. Dumping or littering may occur in the onsite watercourses. The potential intensity of the impact is limited by the scale of the development.	→ All farming machinery and vehicles used must be regularly serviced, fuel must be stored more than 15 m away from any wetland in a bunded area. → All onsite watercourses should be routinely checked for dumping / littering, which should be strictly prohibited in onsite watercourses. → Ensure that regenerative and sustainable farming practises are utilized within the farm, without the use of herbicides and pesticides.	→ As required.	→ Owner/Applicant

7.2. General post commencement phase impacts and requirements

7.2.1. Health and Safety

Responsibility – Owner / operator

Correct Personal Protective Equipment (PPE) must be worn at all times by the personnel on site. Personnel must be trained on the use of PPE. Each contractor should employ their own Safety Officer to monitor the safety conditions during the operations. Suitable warning and information signage should be erected. The handling of hazardous materials should only be done by trained personnel. Safety Data Sheets (SDSs) must be readily available for all hazardous substances on site and employees should be aware of the risks associated with any hazardous materials used. All provisions of the Occupational Health and Safety Act (Act No. 85 of 1993) must be complied with. In the event of an emergency relating to a hazardous substance, procedure details in the SDSs should be immediately implemented.

7.2.2. Fire risk management

Responsibility - Owner / operator

A Fire Officer should be identified, who shall be responsible for ensuring immediate and appropriate actions in the event of a fire and shall ensure that employees are aware of the procedure to be followed. The Fire Officer shall ensure that there is basic fire-fighting equipment available on site at all times. Any fires should be reported to the fire officer immediately. Smoking is not permitted on site.

7.2.3. Fuels and hazardous materials

Responsibility - Owner / operator

Fuels and flammable materials are to be suitably stored, inside the contractor's camp or as appropriate. Impervious materials are to be used in these storage areas to prevent contamination of the ground in the event of spillages or leaks. Quantities of fuels and hazardous materials stored on site should be appropriate to the requirement for these substances on site.

Bulk fuel depots, if required, should be placed within bunded areas to prevent soil contamination in the event of leaks or spills. Bunded areas are to have a holding capacity equal to 110% of the largest fuel container. The relevant Health and Safety requirements for the hazardous materials and fuels should be kept on site in the event of an emergency.

7.2.4. Emergencies protocol

Responsibility - Owner / operator

Fire: The fire officer should be notified of any fires. Employees should be aware of the procedure to be followed in the event of a fire.

Hydrocarbon (fuel & oil) leaks and spillages: Employees should be aware of the procedure to be followed for dealing with spills and leaks, which shall include notifying the project manager / contractor. All vehicles leaking fuel or other liquids should immediately be removed to the maintenance area and repaired. In the event of a hydrocarbon spillage, the soil must be excavated and treated and adequately disposed. The necessary materials and equipment for dealing with spills and leaks are present on site at all times. The clean-up of sewerage spills and any damage caused by the spill or leak shall be for the applicant's account. The applicant shall ensure that the Health and Safety officer is available for the duration of the construction period.

Raw Sewerage spills (from emptying of sewage tank / package plant if required): Employees are to be aware of the procedure to be followed for dealing with spills and leaks. All the necessary materials and equipment for

dealing with spills and leaks are present on site at all times. The clean-up of sewerage spills and any damage caused by the spill or leak shall be for the Applicant's account or contractor collecting the raw sewage.

7.2.5. Equipment maintenance

Responsibility - Owner / operator

All mechanical equipment and work vehicles which are present on site, are to be stored, serviced and refuelled only at designated areas. Within these areas drip trays and other impervious materials, for example plastic or metal sheeting, must be used to prevent contamination of the ground in any way.

7.2.6. Erosion Control

Responsibility - Owner / operator

Action should be taken to prevent erosion of soils on site. Should any erosion be detected on site, the cause of such erosion should be identified, and appropriate remedial action must be immediately implemented.

7.2.7. Architecture / Design

Responsibility - Owner / operator

Dwellings and infrastructure to comply with bylaws. Owners should aim to ensure buildings are in line with architectural norms for the area and do not have a negative contribution to the area as a whole. No expansions should be permitted without the required approvals.

7.2.8. Water Use

Responsibility – Owner / operator

The following water saving principles are recommended for the site and can be implemented over time or as and when current infrastructure requires replacing:

- Rainwater storage tanks can be installed to collect runoff rainwater. Rainwater tanks should be installed in such a way as to prevent visual or landscape intrusion
- Shower and wash basin taps should be fitted with flow reduction devices, aerators and motion sensors to maximise water conservation and reduce wastage
- All internal and external taps on site should be regularly inspected and maintained to prevent water wastage through drips and leaks
- All new toilets should be fitted with a dual flush system, reduced flow should be implemented on existing infrastructure if dual flush is not possible
- Grey water from showers, baths, basins and washing machines, should be collected or redirected for reuse (gardening, outside washing etc.)
- Endemic and indigenous plants should be used for gardens and landscaping to minimize water demand i.e. water wise landscaping
- Should irrigation be required, these should be on timed systems and active at low evaporation hours (early morning, late evening)
- Drains should be fitted with grease traps which remove oils and solids from waste water, to improve the quality of the effluent waste water for reuse
- Dry brushing and / or sweeping should be used in preference to water cleaning, where possible (cleaning pathways, machinery etc.)
- Alien invasive vegetation should be removed from the property to promote healthy and functioning rivers, ground water and wetlands, where applicable
- Efficient water use habits should be encouraged across the property

- Sewerage systems should be regularly monitored and maintained to prevent leaks and pollution of groundwater

7.2.9. Electricity

The following electrical saving principles are recommended:

- Regular light bulbs to be replaced with energy saving bulbs in all structures
- The use of solar power should be maximised as far as possible
- Energy saving geysers should be installed
- Solar water heaters should be installed
- Proper insulation should be used on all new structures and renovations, in order to reduce the need for heating and cooling of dwellings
- Programmed lighting should be implemented to prevent lights being left on unnecessarily

7.2.10. Sewerage

Effluent from the package plants should be tested on a regular basis to ensure that it meets the Department of Water and Sanitation (DWS) standards.

7.2.11. General waste and refuse

General waste is transferred to the municipal waste site as required. Waste minimisation strategies should be implemented through avoidance, reduction, reuse, recycling, recovery, treatment or responsible disposal. On site bins should be animal and weatherproof. Refuse areas should be secure and screened to avoid visual impacts. Refuse areas should provide for waste sorting (tins, glass, paper etc.). No waste should be stored or disposed of on site.

7.2.12. Site maintenance and repairs

Renovations and maintenance should be conducted in line with a maintenance schedule to ensure that renovations are done effectively with reduced wastage. When using paints, cleaners and other solvents for maintenance, preference should be made for environmentally friendly products, water-based paints and avoidance of harsh chemicals. No building materials or products used during renovations should be disposed of on site.

7.2.13. Alien vegetation management

Alien vegetation management and clearing must take place as currently and as per the site specific alien vegetation management plan. Follow up clearing must take place on a regular basis.

7.2.14. Internal roads and footpaths

No new roads are permitted without the necessary approvals.

7.2.15. Fauna

All wild fauna on site must be protected. No feeding of wild animals should be allowed, and edible refuse should be appropriately disposed of. No poisons or traps should be used as far as possible. Professional help, such as Cape Nature, should be sort for 'problem' animals.

8. CONDITIONS OF AUTHORISATION

The Environmental Authorisation (EA), once issued, will be included here and will be mandatory for all contractors, sub-contractors, agents, consultants, and construction personnel working on the property.

In light of the unauthorized activity associated with the establishment of the nut grove on Portion 57 of the Farm Rocklands No. 633, the following conditions of authorization shall apply to the property:

- No further clearance of indigenous vegetation must take place on the natural /undisturbed areas on the property without Environmental Authorisation.
- Wetland vegetation should be allowed to recolonize in areas that have been cleared.
- Waste Use License Application is recommended by the Freshwater specialist.
- Alien Vegetation Clearance should continue to be removed from the onsite watercourses.

9. NON-COMPLIANCE

The Environmental Authorisation (EA) stipulates that, *“Non-compliance with a condition of this Environmental Authorisation and the EMPr may render the holder liable to criminal prosecution.”* It is therefore important that the conditions are adhered to as outlined in the EA and EMPr. A Penalties scheme can be used during construction for transgressions. A retrospective Environmental Authorisation will be applicable to this case.

Transgressions relate to actions by the contractor whereby damage or harm is inflicted upon the environment or any feature thereof and where any of the conditions or specifications of the EMPr and EA have been infringed upon. In the instance of environmental damage, the damage is to be repaired and rehabilitated using appropriate measures, as far as possible and as directed by appropriate specialists, if required. These remedial actions are for the account of the contractor or other guilty party as identified by the Project Manager, applicant or ECO. Where non-repairable damage is inflicted upon the environment or non-compliance with any of the EMPr / EA obligations is registered, the Contractor may face a monetary penalty to an amount specified by the Project manager / ECO. The Project manager / ECO reserves the right to implement a first offence warning.

If excessive infringement with regard to any of the specifications is registered, the applicant / project manager, reserves the right to terminate the contractor's contract.

10. MONITORING

The monitoring of works on site is necessary to demonstrate compliance with the specifications of the EMPr and EA and to allow for problems or issues of non-compliance to be identified and remedial actions implemented.

Monitoring should include visual checks by the operator / management on a daily basis or at a frequency considered appropriate. The implementation of regular monitoring will ensure that environmental impacts can be detected early and remedial action implemented.

11. ENVIRONMENTAL AUDITS

The purpose of auditing is to determine and monitor compliance with the EMPr and EA and measure its effectiveness in mitigating environmental impacts. In terms of Regulation 34 of the NEMA EIA Regulations, 2014, the holder of the EA must conduct environmental audits in order to determine compliance with the conditions of the EA and EMPr. Environmental Audit Reports should be submitted to the Competent Authority as stipulated in the EA. The audit reports should be prepared by an independent person. The audit report should also provide recommendations regarding the need to amend the EMPr.

The objective of the environmental audit report is to:

- Report on the level of compliance with the conditions of the EA and the EMPr
- Report on the extent to which the avoidance, management and mitigation measures outlined in the EMP, achieve the objectives and outcomes of the EMPr
- Identify and assess any new impacts and risks as a result of the activity
- Evaluate the effectiveness of the EMPr
- Identify shortcomings in the EMPr
- Identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr

An environmental audit report should contain the following:

- Details and expertise of the independent person who prepared the environmental audit report
- A declaration that the auditor is independent
- An indication of the scope of, and the purpose for which, the environmental audit report was prepared
- A description of the methodology adopted in preparing the environmental audit report
- An indication of the ability of the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity as well as to ensure compliance with the provisions of environmental authorisation and EMPr.
- A description of any assumptions made, and any uncertainties or gaps in knowledge
- A description of any consultation process that was undertaken during the course of carrying out the environmental audit report, if required
- A summary and copies of any comments that were received during any consultation process
- Any other information requested by the competent authority.

Environmental audits are not likely to be undertaken for the current operational activities due to the nature of the activity.

12. CONCLUSION

An EMPr has been developed as part of the 24G process to ensure that mitigation and management measures are enforced during the post commencement phase of the activity, and that the conditions of the EA are upheld. The EMPr should guide all phases of the project to minimize possible negative impacts and assign responsibility for environmental controls. The EMPr provides a tool to recognise the needs of the environment and is intended to be utilised in conjunction with the Environmental Authorisation.

13. DECLARATION OF ACCEPTANCE

I, _____ (name), representing
_____ (company name), have read and
understood the above Environmental Management Programme and hereby acknowledge its contents and
requirements as a framework for my company's environmental performance during the applicable
development.

Signed: _____ Date: _____

APPENDIX A : EAP CV

CURRICULUM VITAE
for
MICHELLE NAYLOR

PERSONAL

Postal address:

Vermont
Hermanus
7201

Residential address:

1 Levine Close, Sundew Villas
Sandbaai
Hermanus
7201

Contact details:

cell: 083 245 6556
Email: michelle@lornay.co.za

Date of birth:

19 July 1985

Nationality:

South African

Languages:

English, Afrikaans

State of health:

Excellent

CAREER RECORD

December 2007

- Arcus Gibb, East London, Student intern
- Completion of Compliance Audit for client including site visit, writing of report and compilation

May 2010 to February 2016

PHS Consulting, Hermanus, Environmental Consultant

- Sole Management and completion of Basic Assessments from Application to Environmental Authorization, including quoting, financial management throughout the project, client liaison, liaison with competent authorities, site visits, report writing, appointment of specialists, mapping and all aspects of public participation

- Sole Management and completion of Environmental Impact Assessments from Application to Environmental Authorisation including project management (Specialist team appointments, report reviews etc.), site visits, report writing, all aspects of public participation and mapping
- Management, preparation and co-ordination of public participation for all Basic Assessments and Environmental Impact Assessments including consultation with authorities, organs of state and general public as well as the compilation of a summary document once complete. Organising and attendance of public meetings when required
- Liaising with client and preparation of quotes, sourcing of new work
- Site visits
- Liaising with and management of specialist team including drafting Terms of Reference and appointment upon client satisfaction
- Environmental Control Office (ECO) including site induction, site inspections and site meetings
- Drafting of Environmental Management Plans (EMP) for Construction and Operation
- Alien Management Plans for the alien clearing required as part of Environmental Authorisation
- Estuarine Management Plans for Construction and Operation of a resort along the Uilkraals Estuary
- Requesting and managing Stewardship Applications if applicable to development proposal
- Completion of Environmental Authorisation conditions
- Completion of Notice's of Intent to Develop (NID) to Heritage Western Cape
- Printing, binding and preparation to submit documents

Reason for leaving – pursue own business venture

February 2016 to current

Lornay Environmental Consulting, Hermanus, Director, owner and EAP

- General business and financial management
- Marketing
- Sole Management and completion of Basic Assessments from Application to Environmental Authorization, including quoting, financial management throughout the project, client liaison, site visits, report writing, appointment of specialists, mapping and all aspects of public participation
- Sole Management and completion of Environmental Impact Assessments from Application to Environmental Authorisation including project management (Specialist team appointments, report reviews etc.), site visits, report writing, all aspects of public participation and mapping

- Management, preparation and co-ordination of public participation for all Basic Assessments and Environmental Impact Assessments including consultation with authorities, organs of state and general public as well as the compilation of a summary document once complete. Organising and attendance of public meetings when required
- Liaising with client and preparation of quotes, sourcing of new work
- Site visits
- Liaising with and management of specialist team including drafting Terms of Reference and appointment upon client satisfaction
- Environmental Control Office (ECO) including site induction, site inspections and site meetings
- Environmental audits
- Drafting of Environmental Management Plans (EMP) for Construction and Operation
- Conservation Management Plans including Alien and Fire Management Plans
- Requesting and managing Stewardship Applications if applicable to development proposal
- Completion of Environmental Authorisation conditions
- Completion of Notice's of Intent to Develop (NID) to Heritage Western Cape
- Clarification of the applicability of NEMA

EDUCATION

Jan 2010	Completed Master of Science Degree (Ichthyology and Fisheries Science) at Rhodes University, Grahamstown. Thesis topic: <i>"Spatio-Temporal Dynamics of Ichthyoplankton in the Kowie Estuary, South Africa"</i>
Mar 2008	Obtained Bachelor of Science (Honours) (Environmental Science) at Rhodes University, Grahamstown. Dissertation topic: <i>"Assessment of the water quality of the East Kleinemonde Estuary: Implications for complex systems monitoring"</i>
Apr 2007	Obtained Bachelor of Science (Environmental Science and Zoology) at Rhodes University, Grahamstown
Apr 2007	Placed on Dean's List for 2006 in recognition of academic achievement in the Faculty of Science, Rhodes University
Dec 2003	Matriculated at Hudson Park High School, East London with Merit

SHORT COURSES / SEMINARS

Sept 2019	NEMA EIA training / Screening Tool (DEA)
Feb 2018	Water Use Licence Applications Refresher course
June 2017	NEMA EIA 2014 Training (DEA&DP)
May 2017	Water Use Licence Applications – Section 21c&i (Department of Water and Sanitation and Dr Wietsche Roets)
Feb 2015	IWRM, the NWA, Water Use Authorisations and Water Use Licence Applications – Procedures, Guidelines and Pitfalls (Carin Bosman)
July 2010	NEMA EIA Regulations Workshop (DEA&DP)
Mar 2010	Estuary Management short course in Stellenbosch (CSIR and NMMU)
Oct 2009	Annual Department of Ichthyology and Fisheries Science Postgraduate Seminars (Presentation of thesis findings)
Oct 2008	Annual Department of Ichthyology and Fisheries Science Postgraduate Seminars (Presentation of thesis findings)
Dec 2007	Rhodes University Department of Environmental Science and Coastal & Environmental Services (CES) short course, certificate of competence “ <i>Introduction to Environmental Impact Assessment Procedures</i> ” including EIA process and techniques; Environmental Management; Environmental Law; Social Impact Assessment; Public Participation; Resettlement; Environmental Management Plans and Strategic Environmental Assessment

REGISTRATIONS

Nov 2014	The Interim Certification Board for Environmental Assessment Practitioners of South Africa (EAPSA) certified Environmental Impact Assessment Practitioner (EAP)
Sept 2013	Registration with South African Council for Natural Scientific Professions (SACNASP): Professional Natural Scientist (Reg. No. 400327/13)

June 2011 Candidate Member of the Association of Professional Heritage Practitioners (APHP)

June 2010 Professional Member of the International Association for Impact Assessment (IAIA)

CORE COMPETENCIES & SKILLS

- Preparation and completion of Basic Assessment Reports, Scoping Reports and Environmental Impact Assessment Reports from initiation to Authorisation
- Management, preparation, coordination and completion of entire public participation process including, where required, public presentations, discussions with interested and affected parties, organs of state and authorities
- Completion and implementation of Construction and Post Commencement Environmental Management Plans (EMP)
- Drafting of Alien and Fire Management Plans
- Drafting of Conservation Management Plans for undeveloped areas on a site
- Mapping required for environmental assessments and public participation
- Estuarine specialist work including Management Plans
- Management of timeframes on projects
- Financial project management
- Site visits, including Environmental Control Officer and Environmental Auditing
- Preparation of Terms of Reference (ToR) for specialists, specialist appointment, report review
- Quoting and job sourcing
- Uploading of documents onto company website
- Heritage applications (NID)
- Interpretation of the applicability of the National Water Act and including Water Use Licence Applications (WULA) and General Authorisations
- Regular liaison with client, specialists, organs of state, municipalities etc. as required for a specific project

- Regular use and consultation with applicable Policies, Guidelines and Legislation
- Competent use of equipment and data collection in the field including WP2 plankton nets with flow meters, CTD's and YSI's, in field sample collections and preservation and preparation for phytoplankton and chlorophyll-*a* analysis
- Practical laboratory experience including dissections, microscopy, taxonomy (larval fish and phytoplankton)
- Management of field sampling team
- Excellent report writing skills
- Systems experience including Microsoft Office Word, PowerPoint, Excel, Outlook, Statistica 8 (Moderate), AutoCAD Drawing 2002 (Moderate), TatumGIS, Mapsource, SANBI BGIS, Google Earth Pro, PRIMER 5 (Moderate)
- Drivers license code B

POSITION CURRENTLY HELD

I am the director and owner of Lornay Environmental Consulting. I am the sole EAP currently and I am involved in impact assessments, water licence applications, management plans, heritage applications etc. I am responsible for day to day running of the business and office.

GENERAL

Jan 2010 Two research papers published in peer reviewed journals:

Kruger, M & Strydom N.A. 2011. Spatial and temporal variability in the larval fish assemblage of a warm temperate South African estuary, with notes on the effects of artificial channelling. *African Zoology* **45**(2): 195–212

Kruger, M & Strydom, N.A. 2011. Plankton dynamics associated with the convergence zone of a shear front on the permanently open Kowie Estuary, South Africa. *African Zoology* **46**(1): 47–59

- Sep 2008 Published short communication (popular articles) in two local newspapers regarding my work on local estuaries, including Talk of the Town (Port Alfred) and Eastern Cape Today
- 2008 Rhodes University Underwater Club committee member (Underwater hockey ladies representative) included organizing and coaching teams, and organizing sports tours, development and club events
- 2008/2009 Tutor / demonstrator for second year Ichthyology students at Rhodes University, included sourcing practical materials, demonstrating the practicals and grading students work
- 2008/2009 Led numerous sampling trips for collection of data for MSc. Included organizing sampling trips, management of sampling team, skippering of boat, collection and preservation of samples in the field and budget management
- May 2009 Obtained South African Maritime Safety Authority (SAMSA) certificate of competence skippers license (category R vessel)

M NAYLOR
SEPTEMBER 2023