



IMPORTANT: Kindly ensure that this checklist is completed and attached to the NEMA SECTION 24G Application.

Please indicate by ticking the following below to serve as confirmation that the required information has been included in the application.

No.	Application Requirements	Please tick for confirmation	
1.	Requirements of Preliminary Advertisement (pre-application public participation requirements including register of all I&APs), in accordance with Annexure A, Section D of the Section 24G Fine Regulations. (Note: Failure to meet the Regulation 8 will result in rejection of the application)		
2.	Application form has been completed and attached, which includes among others:		
	2.1. A list of all listed activities and/or waste management activities that was triggered when the development activity was commenced with.	✓	
	2.2. A list of all similarly listed activities in terms of the current EIA regulations (if applicable).	✓	
	2.3. A description of the receiving environment before commences of the activity(ies).	✓	
	2.4. A description of the receiving environment after commences of the activity(ies).	✓	
	2.5. All appendices and annexures:		
	2.5.1. Locality map	✓	
	2.5.2. Site plans or/and Layout plan	✓	
	2.5.3. Building plans (if applicable)	N/A	
	2.5.4. Colour photographs	✓	
	2.5.5. Biodiversity overlay map	✓	
	2.5.6. Permit(s) / license(s) from any other organ of state including service letters from the municipality	N/A	
	2.5.7. Public participation information: including a copy of the register of interested and affected parties, the comments and responses report, proof of notices, advertisements, Land owner consent and any other public participation information	✓	
	2.5.8. Environmental Management Programme	✓	
	2.5.9. Certified copy of Identity Document of Applicant	Will be included in Final	
	2.5.10. Certified copy of the title deed (or title deeds in the case of linear activities)	Will be included in Final	
	2.6. Signed declaration forms.	✓	
3.	Are any specialist assessments required: e.g. Botanical, Hydro-geological, soil, socio-economic?	Y	N
	3.1. If yes, has the specialist assessment report been attached to the application?	✓	
4.	An assessment of the impacts of the activity or activities in terms of the following categories:	✓	
	• Socio-economic	✓	
	• Biodiversity	✓	
	• Sense of place &/or Heritage/ Cultural	✓	
	• Any pollution or environmental degradation which has been, is being, is being or may be caused	✓	
5.	A methodology of how the investigation into the impacts associated with the unlawful activity was undertaken.	✓	
6.	Completed and attached representations of Annexure A, Section A (Directives) in terms of the S24G Fine Regulations: Information/ Representation submitted in terms of any Directives the Minister/ decision maker may issue in	✓	

	terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) s24G(1)(b)(i)-(viii).	
7.	Completed and attached representations in terms of Annexure A, Section B (Deferral) of the S24G Fine Regulations.	✓
8.	Completed and attached representations in terms of Annexure A, Section C, Part 1 (Fine Quantum based on the assessment as specified above (4).	✓
	Confirmation that Annexure A, Section C, Part 1 has been completed by an environmental assessment practitioner (EAP)	✓
9.	Compliance history of the applicant:	
	9.1. Completed Annexure A, Section C, Part 2 and 3; namely:	
	9.1.1. Whether or not administrative enforcement notices, including pre -notices where appropriate, have previously been issued to the applicant in respect of a contravention of section 24F(1) of the NEMA and/or section 20(b) of the National Environmental Management: Waste Act (Act 59 of 2008) (NEM: WA).	✓
	9.1.2. Whether or not the applicant has previously been convicted in respect of a contravention of section 24F(1) of the Act and /or section 20(b) of the NEM: WA;	✓
	9.1.3. Whether or not the applicant has previously submitted a section 24G application in respect of an activity or activities which commenced prior to the activity or activities that are the subject of the current application; and	✓
	9.1.4. Whether the applicant is a firm or a natural person. (see Section 24G Fine Regulations for definition of "firm")	✓
	9.2. Provided information or whether or not any of the directors of the applicant firm are, or were, at the relevant time, directors of a firm to whom the above (9.1.1. - 9.1.3.) applies;	✓
	9.3. Advise on whether an applicant who is a natural person is, or was, at the relevant time a director of a firm to whom the above (9.1.1.- 9.1.3.) may apply.	✓
10.	Consultation with relevant State departments in terms of section 24O(2) & 24O(3) of the NEMA.	✓
	10.1 Proof of Consultation with relevant State departments, including, <i>inter alia</i> , notices, adverts etc.	✓
	10.2 Copies of comments and responses included in the application.	✓
	10.2 Comments and Response report attached to the application.	✓
11.	Public Participation Process undertaken in terms of Chapter 6 of the Environmental Impact Assessment Regulations, 2014 ("EIA Regulations, 2014") (GN No. R.326 of 7 April 2017) (if conducted/undertaken)	✓



Section 24G Application Form for the consequences of unlawful commencement of listed activity/ies in terms of the:

- **National Environmental Management Act, 1998 (Act No. 107 of 1998), ("NEMA");**
- **National Environmental Management: Waste Act, 2008 (Act 59 of 2008) ("NEM: WA")**

April 2018

Form Number S24GAF/04/2018

Kindly note that:

1. This application must be submitted where a person has commenced with a listed or specified activity without an environmental authorisation in contravention of section 24F(1) of NEMA (i.e. where the person commenced with an activity listed or specified in terms of section 24(2) (a) or (b) of NEMA - the activities contained in the EIA Listing Notices) or has commenced, undertaken or conducted a waste management activity without a waste management licence in terms of section 20 (b) of the NEM:WA.
2. This **Application Form** must be completed for all section 24G applications, by an independent Environmental Assessment Practitioner ("EAP").
3. This Application Form is current as of 01 April 2018. It is the responsibility of the Applicant/EAP to ascertain whether subsequent versions of the Application Form have been published or produced by the competent authority. Note that this Application Form replaces all the previous versions. This updated Application Form must be used for all new applications submitted from 01 April 2018.
4. **The contents of this Application Form includes the following:**
 - PART 1 -**
 - Section A: Background Information**
 - Section B: Activity Information**
 - Section C: Description of Receiving Environment**
 - Section D: Need and Desirability**
 - Section E: Alternatives**
 - Section F: Impact Assessment, Management, Mitigation and Monitoring Measures**
 - Section G: Assessment Methodologies and Criteria, Gaps in Knowledge, underlying Assumptions and Uncertainties**
 - Section H: Recommendations of the EAP**
 - Section I: Representations - Response to an Incident or Emergency Situation**
 - Section J: Public Participation Process**
 - PART 2 -**
 - ANNEXURE A of Fine Regulations**
 - Section A: Directives**
 - Section B: Deferral of the Application**
 - Section C: Quantum of the section 24G fine**
 - Section D: Preliminary advertisement**
 - PART 3 -**
 - Appendices and Declarations**
 - PART 4 -**
 - ANNEXURE B: Waste Management Activity Supporting Information (if relevant)**
5. An independent EAP must be appointed to complete the required sections (in terms of NEMA and its Regulations) of the Application Form on behalf of the applicant; the declaration of independence must be completed by the independent EAP and submitted with this Application Form. If a specialist report is required, the specialist will also be required to complete the declaration of independence.
6. Two hard copies (including the original) and one electronic copy (CD/DVD/Flash drive) of this application form must be submitted.

7. The required information must be typed within the spaces provided. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. The space provided extend as each space is filled with typing. **A legible font type and size must be used when completing the form.** A digital copy of the Application Form is available on the Department's website <https://www.westerncape.gov.za/eadp/>
8. The use of "not applicable" in the Application Form must be done with circumspection.
- 9. No faxed or e-mailed application forms will be accepted.**
10. Unless protected by law, all information contained in and attached to this application will become public information on receipt by the competent authority. Please note that, unless exemption has been granted in terms of the National Exemption Regulations published under GN R994 in GG 38303 of 8 December 2014, any Interested and Affected Party should be provided with the information contained in and attached to this Application Form as well as any subsequent information submitted.
11. This Application Form must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department.

PROCESS TO BE FOLLOWED:

- a) **Prior to submission of an Application Form**, the applicant is required to undertake a pre-application public participation process in terms of Regulation 8 of the Regulations relating to the procedure to be followed and criteria to be considered when determining an appropriate fine in terms of section 24G published in the Government Gazette on 20 July 2017, Gazette No 40994, No. R. 698 ("Section 24G Fine Regulations").
- b) Together with the submission of a section 24G Application Form, the form **must include Proof of compliance with Regulation 8** of the Section 24G Fine Regulations, including, but not limited to, proof of the pre-application advertisement in a local newspaper and register of I&APs.
- c) The Department will acknowledge receipt of the application (within 14 days) and provide the Applicant / EAP with the relevant application reference number to be used in all future correspondence and the application public participation processes.
- d) Upon receipt of the application, the MEC/Competent Authority may direct the applicant in terms of section 24G(1) (i-viii) of the NEMA.
- e) In terms of the provisions of section 24G of NEMA, the applicant must pay an administrative fine up to a maximum of R5 million before the MEC/Competent Authority decides on the application.
- f) The applicant **must within 14 days** of receipt of the determination of the quantum of the fine, ensure that all registered interested and affected parties are notified of the determination of the quantum of the fine, including the reasons and provided with access to the determination.
- g) The administrative fine **must be paid within the time period stipulated** in the determination. Failure to pay the fine within the specified period, will result in the lapse of the application and any partial amounts paid in will not be refunded.
- h) **Proof of payment of the fine must be submitted to the Department.** Upon payment of the administrative fine, the MEC/Competent Authority may-
 - refuse to issue an environmental authorisation; or
 - issue an environmental authorisation to such person to continue, conduct or undertake the activity subject to such conditions as may be deemed necessary, which environmental authorisation shall only take effect from the date on which it has been issued; or
 - direct the applicant to provide further information or take further steps prior to making a decision provided for above;
 - together with the above decision the MEC/Competent Authority may direct a person to rehabilitate the environment within such time and subject to such conditions as may deem necessary or take any other steps necessary under the circumstances.

PLEASE NOTE THE FOLLOWING:

1. Failure to comply with a directive may result in the institution of appropriate legal action as is deemed necessary and as provided for in the legislation.
2. The submission of an application or the granting of an environmental authorisation shall in no way derogate from—

- (a) the environmental management inspector's or the South African Police Services' authority to investigate any transgression in terms of NEMA or any specific environmental management Act;
- (b) the National Prosecuting Authority's legal authority to institute any criminal prosecution.
3. If, at any stage after the submission of an application it comes to the attention of the Minister, Minister for mineral resources or MEC that the applicant is under criminal investigation for the contravention of or failure to comply with section 24F(1) or section 20(b) of the *National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)*, the Minister, Minister for mineral resources or MEC may defer a decision to issue an environmental authorisation until such time that the investigation is concluded and—
- (a) the National Prosecuting Authority has decided not to institute prosecution in respect of such contravention or failure;
- (b) the applicant concerned is acquitted or found not guilty after prosecution in respect of such contravention or failure has been instituted; or
- (c) the applicant concerned has been convicted by a court of law of an offence in respect of such contravention or failure and the applicant has in respect of the conviction exhausted all the recognised legal proceedings pertaining to appeal or review.
4. A person is guilty of an offence if that person:
- Prior to submission of a section 24G application:
 - o fails, in terms of Regulation 8(1), to place a preliminary advertisement in a local newspaper in circulation in the area in which the activity was, or activities were, commenced and on the applicant's website, if any or
 - o fails, in terms of Regulation 8(2), to comply with the advertisement requirements set out in Annexure A, section D or
 - o fails, in terms of Regulation 8(3), to open and maintain a register of interested and affected parties)); or
 - o fails, in terms of Regulation 8(4), to attach to the application form the register of interested and affected parties, which must be included in the report, or form part of the information submitted in terms of section 24G(1) of NEMA.
 - Provides incorrect, false or misleading information in any form, including in any document submitted to a competent authority in terms of the Section 24G Fine Regulations or omits information that may have an influence on the outcome of a recommendation of the fine committee or determination of the competent authority.
5. A person convicted of an offence in terms of these Regulations is liable to a fine not exceeding R5 million or to imprisonment for a period not exceeding 5 years, and in the case of a second or subsequent conviction to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, and in both instances to both such fine and such imprisonment.
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DEPARTMENTAL DETAILS

Department of Environmental Affairs
and Development Planning,
Directorate: Environmental Governance
Attention: Sub-directorate: Rectification
Private Bag X9086
Cape Town, 8000

Registry Office
1st Floor Utilitas Building
1 Dorp Street, Cape Town

Queries should be directed to the Sub-
directorate: Rectification at:
Tel: (021) 483-5827 Fax: (021) 483-4033

DEPARTMENTAL REFERENCE NUMBER(S) (for official use)

File Reference number (S24G)	
Administrative Fine Reference	

DEPARTMENTAL REFERENCE NUMBER(S) (to be completed by the EAP)

File Reference number (Enforcement), if applicable	14/1/1/E3/4/10/3/L1168/21
File reference number (EIA), if applicable:	
File reference number (Waste), if applicable:	
File reference number (Other (specify)):	

View the Department's website on <http://www.westerncape.gov.za/eadp> for the latest version of the documents

PART 1**PROJECT TITLE**

Rectification of Unlawful Commencement of clearance of indigenous vegetation and the development of dam within a non-perennial watercourse on Portion 17 of the farm Redford 232, Palmiet Drift Rd, The Crag, Bitou, Western Cape.

RELEVANT REGION IN WHICH THE ACTIVITY COMMENCED

Cross out the appropriate box "☒" in which region the unlawful activity/ies has commenced.

REGION 1 City of Cape Town and West Coast District	REGION 2 Cape Winelands District and Overberg District	REGION 3 Central Karoo District and Eden District
		X

SECTION A: BACKGROUND INFORMATION**1. APPLICANT PROFILE INDEX**

Cross out the appropriate box "☒".

1.1	The applicant is a Natural Person (individual)					
1.2	The applicant is a Firm (i.e. any body incorporated by, or established in terms of, any law as well as any partnership, trust, parastatal or organ of state)					X
1.2.1	If a firm, please tick the relevant box below:					
	Body Corporate	Partnership	Trust	Parastatal	Organ of State	
	Directors of a Company X	Members of a Board		PTY LIMITED		

Applicant's details (duplicate this section where	
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there is more than one applicant)			
Applicant Name:	Denina Jaqueline Bernard		
RSA Identity Number/ Passport Number of Applicant, if natural person:	7101260093083		
Name of Firm (if applicable):	BALDERJA (PTY)LTD		
Firm Registration Number:	2020/642346/07		
Contact Person at the Firm:	Denina Jaqueline Bernard		
List of all (as applicable at the relevant time):	Please insert the names and RSA ID numbers of the relevant persons below – (In the list below, delete the firms that are not applicable to this application)		
<ul style="list-style-type: none"> ● Directors of a company; or ● Members of the board; or ● Executive committee or other managing body of a corporate body or parastatal; or ● Members of close corporation; or ● Partners of a partnership; or ● Trustees of a trust 	Name:	Denina Jaqueline Bernard	Name: Jacobus Bernard
	RSA ID No.	7101260093083	RSA ID No. 7007255034082
	Name:		
	RSA ID No.		
	Name:		
RSA ID No.			
Postal address:	PO Box 72328		
	Lynnwood Ridge Pretoria	Postal code:	0040
Telephone:	082 781 3155	Cell:	082 781 3155
E-mail:	deninabernard@me.com	Fax:	()
Project Consultant	Ecosense		
Contact person:	Mark Sasman		
Postal address:	21 Fraser Street		
	Hunters Home Knysna	Postal code:	6570
Telephone:	082 855 1720	Cell:	082 855 1720
E-mail:	mark@ecosense.co.za	Fax:	086 6175560
Name of the Environmental Assessment Practitioner ("EAP") responsible for the application:	Janet Ebersohn		
Company name (if any):	Eco Route		
Postal address:	PO Box 1252		
	Sedgefield	Postal code:	6573
Telephone:	082 5577122	Cell:	082 55
E-mail:	janet@ecoroute.co.za	Fax:	086 402 9562
EAP Qualifications	Bsc.Hon Environmental Management		
EAP Registrations/Associations	EAPASA Reg No. 2019/1286		
Name of the Landowner:	BALDERJA (PTY)LTD		
Name of the contact person for the land owner (if other):	Denina Jaqueline Bernard		
Postal address:	PO Box 72328		
	Lynnwood Ridge Pretoria	Postal code:	0040
Telephone:	082 781 3155	Cell:	082 781 3155
E-mail:	deninabernard@me.com	Fax:	()
Person in control of land:	BALDERJA (PTY)LTD		
Contact person:	Denina Jaqueline Bernard		
Postal address:	PO Box 72328		
	Lynnwood Ridge Pretoria	Postal code:	0040

Telephone:	082 781 3155	Cell:	082 781 3155
E-mail:	deninabernard@me.com	Fax:	()

Please note:

In instances where there is more than one landowner, please attach a list of landowners with their contact details to the back of this form.

A certified copy of the applicant's (if natural person), alternatively a director's (as defined), Identity Document must be attached to the application.

A certified copy of the title deed of the property/s on which the unlawful listed activity/ies has commenced must be attached to the application.

Municipality in whose area of jurisdiction the activity falls:	Bitou Municipality		
Contact person, if known:	Anja Taljaard		
Postal address:	Private Bag x1002		
	Plettenberg Bay	Postal code:	6600
Telephone	044 501 3318	Cell:	072 229 66 40
E-mail:	ataljaard@plett.gov.za	Fax:	()

Please note:

In instances where there is more than one Municipality involved, please attach a list of Municipalities with their respective contact details to the form.

Property location(s):	Redford, The Craggs, Bitou Municipality, Western Cape
Farm/Erf name(s) & number(s) including portion(s)	Portion 17 of the Farm Redford 232
Property size(s) (m ²)	141400m ²
Development footprint size(s) (m ²)	±12000m ²
SG21 Digit code(s)	C03900000000023200017

Property boundary:

Point	Latitude (S)	Longitude (E)
1. Northern Boundary	33° 56 '65.11" South	23° 26 ' 45.53" East
2. Southern Boundary	33° 57 '05.38" South	23° 26 ' 43.23" East
3. Eastern Boundary	33° 57 '05.28" South	23° 26 ' 52.39" East
4. Western Boundary	33° 56 '56.59" South	23° 26 ' 35.97" East

The co-ordinates for the site boundary are:

Point	Latitude (S)	Longitude (E)
1. Northern Boundary	33° 56 '56.72" South	23° 26 ' 45.47" East
2. Southern Boundary	33° 57 '02.69" South	23° 26 ' 45.44" East
3. Eastern Boundary	33° 56 '59.99" South	23° 26 ' 47.04" East
4. Western Boundary	33° 56 '58.38" South	23° 26 ' 44.05" East

Please note:

Where numerous properties/sites are involved (e.g. linear activities), attach a list of property descriptions and street addresses to the consultation form.

Street address:	Palmiet Rd, Redford Rd, The Craggs, Bitou, Western Cape		
Magisterial District or Town:	Plettenberg Bay		
Closest City/Town:	Plettenberg Bay	Distance	±12.6 km

Zoning of Property:	Agriculture Zone I
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Please note:

In instances where there is more than one zoning applicable, please attach a list or map of the properties indicating their respective zoning to the Application Form.

Was the property rezoned after commencement of activities?		YES	NO
If yes, what was the previous zoning? N/A			
Is a rezoning application required?		YES	NO
Is a consent use application required?		YES	NO
Locality map:	<p>A locality map must be attached to the Application Form as an appendix. The scale of the locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following:</p> <ul style="list-style-type: none"> • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; • the prevailing wind direction; and • GPS co-ordinates (Indicate the position of the proposed activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS-84 spheroid in a national or local projection) 		
Landowner(s) Consent:	<p>If the applicant is not the owner or person in control of the land on which the activity has been undertaken, he/she must obtain written consent from all landowners or persons in control of the land (of the site and all alternative sites). This must be attached to this document as Appendix G. Such consent must indicate whether or not the owner or person in control of the land would support approval of the application and that the land need not be rehabilitated.</p> <p>Note: The consent of the landowner or person in control of the land is not required for: a) linear activities; b) an activity directly related to prospecting or exploration of a mineral and petroleum resource or extraction and primary processing of a mineral resource; or c) strategic integrated projects ("SIPs") as contemplated in the <i>Infrastructure Development Act, 2014 (Act No. 23 of 2014)</i>.</p>		

2. APPLICATION HISTORY

(Cross out the appropriate box "☒" and provide a description where required).

Has any national, provincial or local authority considered any development applications on the property previously?	Yes	No
If so, please give a brief description of the type and/or nature of the application/s as well as a reference number, if applicable: (In instances where there was more than one application, please attach a list of these applications)		
N/A		
Which authority considered the application:		
N/A		
Has <u>any</u> one of the previous application/s on the property been approved or refused? If so provide a list of the successful and unsuccessful application/s and the reasons for decision(s).	Yes	No
N/A		
Provide detail on the period of validity of decision and expiry dates of the above applications/ permits etc.		
N/A		

SECTION B: ACTIVITY INFORMATION

1. ACTIVITIES APPLIED FOR

I hereby apply in terms of section 24G of the National Environmental Management Act (Act 107 of 1998) for the regularisation of the unlawful commencement or continuation of the listed or waste management activities as specified in Section B:1 below.

Applicant (Full names): _____ Signature:  _____
 Place: _____ Date: _____

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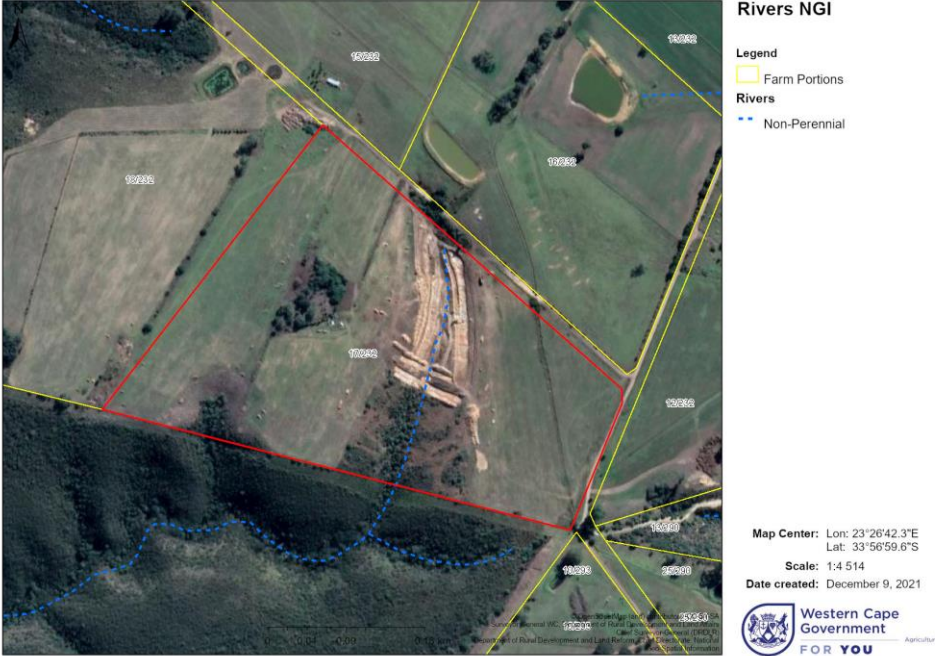
EAP (Full names): **Janet Ebersohn** Signature: _____
 Place: **Sedgefield** Date: **08/12/2021**

All listed activities associated with the development must be indicated below.

1.1 Applicable EIA listed activities

ECA EIA Contraventions: between 08 September 1997 and end of 09 May 2002			
Activities commenced with on or after 08 September 1997 and before end 09 May 2002: EIA regulations promulgated in terms of the ECA, Act 73 of 1989			
Government Notice No. ("GN") R1182 Activity No(s):	Describe the relevant listed activity/ies in writing as per GN No. 1182 of 1997	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
ECA EIA Contraventions: between 10 May 2002 and end of 02 July 2006			
Activities unlawfully commenced with on or after 10 May 2002 and before end 02 July 2006: EIA regulations promulgated in terms of the ECA, Act 73 of 1989,			
N/A			
NEMA EIA Contraventions: between 03 July 2006 and end of 01 August 2010			
Activities unlawfully commenced with on or after 03 July 2006 and before end 01 August 2010: EIA regulations promulgated in terms of the NEMA			
GN R386 Activity No(s): (Listing Notice 1 of 2006)	Describe the relevant listed activity/ies in writing as per GN No. R. 386 of 2006 ("NEMA 2006 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
Government Notice No. R387 Activity No(s): (Listing Notice 2 of 2006)	Describe the relevant listed activity/ies in writing as per GN No. R. 387 of 2006 ("NEMA 2006 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
NEMA EIA Contraventions: between 02 August 2010 and end of 07 December 2014			
Activities unlawfully commenced with on or after 02 August 2010 and before end 07 December 2014: EIA regulations promulgated in terms of the NEMA, Act 107 of 1998,			
GN No. R. 544 Activity No(s): (Listing Notice 1 of 2010)	Describe the relevant listed activity(ies) in writing as per GN No. R. 544 of 2010 ("NEMA 2010 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
GN No. R. 545 Activity No(s): (Listing Notice 2 of 2010)	Describe the relevant listed activity/ies in writing as per GN No. R. 545 of 2010. (NEMA 2010 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
N/A			
GN No. R. 546	Describe the relevant listed Activity(ies) in	Describe the portion of the development as	State the date of

Activity No(s): (Listing Notice 3 of 2010)	writing as per GN No. R. 546 of 2010	per the project description that relates to the applicable listed activity.	commencement of each activity
N/A			
NEMA EIA Contraventions: on or after 08 December 2014			
Activities unlawfully commenced with on or after 08 December 2014: EIA regulations promulgated in terms of the NEMA, Act 107 of 1998,			
GN No. R. 983 Activity No(s): (Listing Notice 1 of 2014)	Describe the relevant listed activity(ies) in writing as per GN No. R.327 of 2014 ("NEMA 2014 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
Activity 12 (i)(ii)(a)(c)	<p>The development of—</p> <ul style="list-style-type: none"> (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; <p>where such development occurs—</p> <ul style="list-style-type: none"> (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; — <p>excluding—</p> <ul style="list-style-type: none"> (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an urban area; (ee) where such development occurs within existing roads, road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the 	<p>The land-owners of 17/232 Redford Farm commenced with the construction of an instream dam in approximately the top half of a non –perennial watercourse on portion 17/232 Redford Farm without any environmental authorisations.</p> <p>The intended dam capacity was 300 000 m³ with a dam wall height of 17 m, however after several specialist studies were completed the dam size was reduced to store 70 000 m³. The dam will be constructed to store water for the irrigation of 28 ha of macadamia trees under drip irrigation on Portions 12, 15 and 17 of Farm 232.</p> <p>The appointed earthworks contractor commenced with scraping out the basin area which accounts for approximately the top narrow half of the non-perennial watercourse and comprised of steep vegetated valley sides (which had been cleared from pines and wattles which previously created an impenetrable alien forest) and a non-perennial watercourse at the bottom of the valley.</p> <p>The total area excavated and disturbed covers approximately 1.2 ha. Construction of the dam was stopped by receipt of a telephone call followed by the pre-directive from DEA&DP prior to the dam wall being built. Therefore, no water storage is currently taking place.</p> <p>The water source for the dam was intended to include surface water runoff from the catchment, borehole water, and 3 furrow allocations (1 per portion per property owned) through the Rondebosch River Water User Association (RRWUA). The applicant owns portions 12, 15 and 17 of the farm Redford 232.</p> <p>The application for the dam is only on portion 17 of the Farm Redford 232. No applications are intended for portions 12, 15 and 17 of the Farm Redford 232.</p> <p>The dam was excavated into the top half of a headwater non-perennial tributary of the Whiskey Creek, which is a tributary of the Keurbooms River and which is located entirely on the applicant/land-owners agricultural zoned property.</p>	28 March 2021–17 April 2021

	<p>commencement of development and where indigenous vegetation will not be cleared.</p>		
			
<p>Activity 19</p>	<p>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</p> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <ul style="list-style-type: none"> (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or <p>where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p>	<p>The total area excavated and disturbed covers approximately 1.2 ha of approximately 2.6 ha within the non-perennial watercourse.</p>	<p>28 March 2021-17 April 2021</p>
<p>Activity 27</p>	<p>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—</p>	<p>The total area excavated and disturbed covers approximately 1.2 ha of approximately 2.6 ha within the non-perennial watercourse that was cleared of impenetrable alien vegetation (wattles and pines).</p>	<p>28 March 2021-17 April 2021</p>

	(i) the undertaking of a linear activity; or maintenance purposes undertaken in accordance with a maintenance management plan.		
GN No. R. 984 Activity No(s): (Listing Notice 2 of 2014)	Describe the relevant listed activity(ies) in writing as per GN No. R.325 of 2014 ("NEMA 2014 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
Activity 16	The development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more.	The required dam capacity is approximately 70 000 m³. The wall height will be 17 m. Construction of the dam was stopped by receipt of a phone call followed by the pre-directive from DEA&DP prior to the dam wall being built. Therefore, no water storage is currently taking place.	28 March 2021-17 April 2021
GN No. R. 985 Activity No(s): (Listing Notice 3 of 2014)	Describe the relevant listed activity(ies) in writing as per GN No. R.324 of 2014	Describe the portion of the development as per the project description that relates to the applicable listed activity.	State the date of commencement of each activity
Activity 14 (i)(ii) Western Cape (i)(dd)(ff)	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour. Western Cape i. Outside urban areas: (dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	The required dam capacity is approximately 70 000 m³. The wall height will be 17 m The dam is excavated into approximately the top half a headwater non-perennial tributary of the Whiskey Creek, which is a tributary of the Keurbooms River and which is located entirely on the applicant/land-owners agricultural zoned property. The Biodiversity Spatial Plan has identified important remaining biodiverse sites across the province and indicates that sections of the property and specifically the receiving environment are within sensitive areas. The receiving environment at Portion 17 contains a primary aquatic Ecological Support Area (ESA 1; watercourse area) fringed by a secondary terrestrial (ESA 2); A small terrestrial Critical Biodiversity Area (CBA) occurs at the study area.	28 March 2021-17 April 2021

Please ensure that you have provided the similarly listed activities if the listed activities were commenced before the period the EIA Regulations came into effect, i.e. before 08 December 2014.

1.2 Applicable Waste Management Activities

List the relevant waste management activity/ies applied for:

Waste Management Activity Contraventions: On or after 03 July 2007 up to end of 28 November 2013			
Activities unlawfully commenced with in terms of GNR 718 of 03 July 2009 under the National Environmental Management Waste Act, Act 59 of 2008			
GN No. 718 – Category A Activity No(s):	Describe the relevant <u>Category A</u> waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity

N/A			
GN No. 718 – Category B Activity No(s):	Describe the relevant <u>Category B</u> waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity
N/A			

Waste Management Activity Contraventions: On or after 29 November 2013			
Activities unlawfully commenced with in terms of GNR 921 of 29 November 2013 under the National Environmental Management Waste Act, Act 59 of 2008,			
GN No. 921 - Category A Activity No(s):	Describe the relevant <u>Category A</u> waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity
N/A			
GN No. 921 – Category B Activity No(s):	Describe the relevant <u>Category B</u> waste management activity/ies in writing.	Describe the portion of the development as per the project description that relates to the applicable waste activity.	State the date of commencement of each activity
N/A			

Please note:

The National Department of Environmental Affairs is the competent authority for activities regarded as hazardous waste. Such activities must be indicated as hazardous waste in the abovementioned lists.

Only those activities listed above shall be considered for authorisation. The onus is on the applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, an application for amendment or a new application for Environmental Authorisation will have to be submitted.

1.3 Activities listed similarly in terms of the EIA Regulations

Kindly indicate the listed activities in terms of the EIA Regulations that is listed similar to the unlawfully commenced activities. The descriptions provided below must clearly state why the activity/development is still similarly listed in terms of the EIA Regulations, 2014.

The similarly listed activities in terms of the EIA Regulations promulgated in terms of the NEMA, Act 107 of 1998,		
GN No. R. 327 Activity No(s): (Listing Notice 1 of 2014)	Describe the relevant listed activity(ies) in writing as per GN No. R.327 of 2014 ("NEMA 2014 Basic Assessment listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.
Activity 12 (i)(ii)(a)(c)	<p>The development of—</p> <p>(iii) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or</p> <p>(iv) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs—</p> <p>(d) within a watercourse;</p> <p>(e) in front of a development setback; or</p> <p>(f) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; —</p> <p>excluding—</p> <p>(aa) the development of infrastructure or</p>	<p>The land-owners of 17/232 Redford Farm commenced with the construction of an instream dam in approximately the top half of a non-perennial watercourse on portion 17/232 Redford Farm without any environmental authorisations. The dam will be constructed to store water for the irrigation of 28 ha of macadamia trees under drip irrigation on Portions 12, 15 and 17 of Farm 232.</p> <p>The intended dam capacity was 300 000 m³ with a dam wall height of 17 m, however once all specialist studies were completed the size of the dam has decreased to 70 000m³.</p> <p>The appointed earthworks contractor commenced with scraping out the basin area which accounts for approximately the top narrow half of the non-perennial watercourse and comprised of steep vegetated valley sides (which had been cleared from pines and wattles which previously created an impenetrable alien forest) and a non-perennial watercourse at the bottom of the valley.</p> <p>The total area excavated and disturbed covers approximately 1.2 ha. Construction of the dam was stopped by receipt of a telephone call followed by the pre-directive from DEA&DP prior to the dam wall being built. Therefore, no water storage is currently taking place.</p> <p>The water source for the dam was intended to include surface water runoff from the catchment, borehole water, and 3 furrow allocations (1 per portion per property owned) through</p>

	<p>structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such development occurs within an urban area;</p> <p>(ee) where such development occurs within existing roads, road reserves or railway line reserves; or</p> <p>(ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.</p>	<p>the Rondebosch River Water User Association (RRWUA). The applicant owns portions 12, 15 and 17 of the farm Redford 232.</p> <p>The application for the dam is only on portion 17 of the Farm Redford 232. No applications are intended for portions 12 and 15 of the Farm Redford 232.</p> <p>The dam is excavated into the top half of a headwater non-perennial tributary of the Whiskey Creek, which is a tributary of the Keurbooms River and which is located entirely on the applicant/land-owners agricultural zoned property</p>
<p>Activity 19</p>	<p>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</p> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <p>(e) will occur behind a development setback;</p> <p>(f) is for maintenance purposes undertaken in accordance with a maintenance management plan;</p> <p>(g) falls within the ambit of activity 21 in this Notice, in which case that activity applies;</p> <p>(h) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or</p> <p>where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p>	<p>The total area excavated and disturbed covers approximately 1.2 ha of approximately 2.6 ha within the non-perennial watercourse.</p>
<p>Activity 27</p>	<p>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—</p>	<p>The total area excavated and disturbed covers approximately 1.2 ha of approximately 2.6 ha within the non-perennial watercourse that was cleared of impenetrable alien vegetation (wattles and pines).</p>

	(ii) the undertaking of a linear activity; or maintenance purposes undertaken in accordance with a maintenance management plan.	
GN No. R. 325 Activity No(s): (Listing Notice 2 of 2014)	Describe the relevant listed activity(ies) in writing as per GN No. R.325 of 2014 ("NEMA 2014 Scoping/EIA listed activity/ies")	Describe the portion of the development as per the project description that relates to the applicable listed activity.
Activity 16	The development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more.	The required dam capacity is approximately 70 000 m³. The wall height will be 17 m. Construction of the dam was stopped by receipt of a phone call followed by the pre-directive from DEA&DP prior to the dam wall being built. Therefore, no water storage is currently taking place.
GN No. R. 324 Activity No(s): (Listing Notice 3 of 2014)	Describe the relevant listed activity(ies) in writing as per GN No. R.324 of 2014	Describe the portion of the development as per the project description that relates to the applicable listed activity.
Activity 14 (i)(ii) Western Cape (i)(dd)(ff)	<p>The development of—</p> <p>(iii) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or</p> <p>(iv) infrastructure or structures with a physical footprint of 10 square metres or more;</p> <p>where such development occurs—</p> <p>(a) within a watercourse;</p> <p>excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p> <p>Western Cape</p> <p>ii. Outside urban areas:</p> <p>(ee) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(gg) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	<p>The required dam capacity is approximately 70 000 m³. The wall height will be 17 m. The dam will be constructed to store water for the irrigation of 28 ha of macadamia trees under drip irrigation on Portions 12, 15 and 17 of Farm 232</p> <p>The dam is excavated into approximately the top half a headwater non-perennial tributary of the Whiskey Creek, which is a tributary of the Keurbooms River and which is located entirely on the applicant/land-owners agricultural zoned property.</p> <p>The Biodiversity Spatial Plan has identified important remaining biodiverse sites across the province and indicates that sections of the property and specifically the receiving environment are within sensitive areas.</p> <p>The receiving environment at Portion 17 contains a primary aquatic Ecological Support Area (ESA 1; watercourse area) fringed by a secondary terrestrial (ESA 2);</p> <p>A small terrestrial Critical Biodiversity Area (CBA) occurs at the study area.</p>

Please note:

Where approvals for the activity have been obtained in terms of any other legislation (e.g. National Water Act, Act 36 of 1998), certified copies of such approvals must be attached to this form.

2. ACTIVITY DESCRIPTION

(Cross out the appropriate box "☒" and provide a description where required).

Is/are the activity(ies) complete or is/are the activity(ies) still to be completed?	Completed	Incomplete
(a) Is/was the project a new development or an upgrade of an existing development? Also indicate the date (e.g. 2 August 2010) when the activity commenced <u>as well as</u> the original date of commencement if the application is an upgrade.	New	Upgrade
28 March 2021-17 April 2021 – New development, the dam has not been completed as a directive was issued by DEA&DP.		

(b) Clearly describe the activity and associated infrastructure commenced with, indicating what has been completed and what still has to be completed.
<p>Completed Excavations within a watercourse and earth works occurred. Construction of the dam was stopped by receipt of the pre-directive from DEA&DP, prior to the dam wall being built. Therefore, no water storage is currently taking place.</p>  <p>To be Completed The construction of a 17-meter dam wall and completion of the 70 000m³ dam. The concept design of the proposed Bernardskloof Dam by consulting engineer Jan Brink page 7 proposed the following:</p> <p><i>Fill- or embankment dams are constructed from soil or rock, or a combination of the two. They are distinguished based on which of the materials forms the bulk of the structure. These dams are generally constructed with the materials available at, or close to the dam site. Water in the dam is retained by an impervious zone or membrane which is supported by general fill. Materials are preferably obtained from the dam basin. This has the advantage of limiting the environmental impacts of quarrying, because the borrow area becomes part of the dam basin.</i></p> <p><i>Based on the cost advantage only embankment dams are considered feasible for the site under consideration.</i></p>

(c) Please provide details of all components of the activity and attach diagrams (e.g. architectural drawings or perspectives, engineering drawings, process flow charts etc.).		
Buildings	YES	NO
Provide brief description:	No buildings have been constructed	
Infrastructure (e.g. roads, power and water supply/ storage)	YES	NO
Provide brief description:	Excavations within a watercourse and earth works occurred. Construction of the dam was stopped by receipt of the pre-directive from DEA&DP, prior to the dam wall being built. Therefore, no water storage is currently taking place.	
Processing activities (e.g. manufacturing, storage, distribution)	YES	NO
Provide brief description:	Excavations within a watercourse and earth works occurred. Construction of the dam was stopped by receipt of the pre-directive from DEA&DP, prior to the dam wall being built. Therefore, no water storage is currently taking place.	
Storage facilities for raw materials and products (e.g. volume and substances to be stored)		
Provide brief description	YES	NO
The site for the dam was partly cleared and materials were stockpiled in- and next to the basin. Additional clayey material was stockpiled at a nearby borrow pit. This will be used to complete the dam. Additional fine material will need to be sourced in order to complete the dam.		
The concept design of the proposed Bernardskloof Dam by consulting engineer Jan Brink page 9 & 10 proposed the following:		
<i>The site for the dam was partly cleared and materials were stockpiled in- and next to the basin. From observation the soft overburden material is thin and contains little fines. Additional clayey material was stockpiled at a nearby borrow pit. According to the owner's appointed contractor he will be able to excavate sufficient material from the basin. The stockpiled clay will not be sufficient to use as a core, but they have additional fine material available at a nearby site. This can potentially be mixed with the stockpiled finer clay to provide sufficient core material.</i>		



Stockpiled Fill Material



Stockpiled Clay

Storage and treatment facilities for solid waste and effluent generated by the project	Yes	No
Provide brief description		
No solid waste or effluent was stored or generated during the construction phase.		

(d) Other activities (e.g. water abstraction activities, crop planting activities)	Yes	No
Provide brief description		
<p>Yes, a borehole was established on site and water is extracted at this stage for use in the residential dwelling on portion 12 of the farm 232.</p> <p>As per the Hydrology report page 11 & 12:</p> <p>Average irrigation demand per annum for the 28-hectare macadamia tree plantation is approximately 80 500 m³ per annum, with maximum demand increasing up to 116 000 m³ during below average rainfall periods.</p> <p>The total average annual irrigation requirements cannot be met by surface water volumes derived from the furrow and the immediate catchment area of the dam. Supplemental irrigation from a borehole will therefore be required.</p> <p>According to the geohydrological report the sustainable yield of the borehole drilled for this purpose is 69 000 m³ /annum or approximately 5 750 m³ /month (Stroebel, 2021). The borehole is limited by this yield and no more than 5 750 m³ can be abstracted from the borehole on a monthly basis.</p> <p>The borehole, together with surface flows from the catchment and furrow (total of approximately 106 000 m³) is therefore capable of providing sufficient water required to meet the mean annual irrigation requirements and up to a 5 % exceedance probability (i.e. only 5 % of the years had an irrigation requirement higher than 106 000 m³) (see Table 5). Irrigation demand frequently exceeds the quantity of water that can be supplied by the surface and groundwater resources and storage is therefore required to ensure assurance of supply during deficit months. This is particularly relevant in drought conditions when irrigation requirements are higher while water availability is lower.</p> <p>As per the Aquatic Specialist Report page 5:</p> <p>Water sources for storage and irrigation are from the 3 furrow allocations (Existing Lawful Use), surface runoff from the proposed dam's catchment, and a borehole. The estimated 3 furrow allocations are estimated to yield between 25 000 m³ and 50 000 m³ per annum and surface runoff from the catchment is 12 200 m³ per annum (Confluent Environmental Hydrology Report). The volume required from the borehole is the maximum sustainable yield of 69 000 m³ per annum (Confluent Environmental Hydrological Assessment & DHS Groundwater report). The Section 21 a) water use would exclude the Existing Lawful Use provided by the 3 furrow allocations, with the difference applied for in the WULA for the surface runoff and borehole volumes. In addition to the above water uses, a WULA would need to include Section 21 c) and i) water uses given the existing and proposed future clearing of soil and vegetation within the dam basin, as well as construction of the dam wall across the watercourse.</p> <p>A WULA permit application has been submitted for approval. Please refer to attached WULA application and proof of submission.</p> <p>A cover crop was planted of approximately 8 ha consisting of Babala/ Sorghum for soil preparation for the proposed planting of the Macadamia Nut Trees.</p>		

3. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical spatial size of the activity as well as associated infrastructure (footprints):	±92000	m ²
Indicate the area that has been transformed / cleared to allow for the activity as well as associated infrastructure	±12000	m ²
Total area:	±92000	m ²

4. SITE ACCESS

Was there an existing access road?	YES	NO
If NO, what was the distance over which the new access road was built? Please indicate the length and width of the new road.	(Length) _____ m	
	(width) _____ m	
Describe the type of access road constructed: N/A		

Please Note:

Indicate the position of the access road on the site plan (See Section 5 below)

5. SITE PHOTOGRAPHS

Colour photographs of the site and its surroundings (taken of the site and from the site), both before (if available) and after the activity commenced, with a description of each photograph, must be attached to this application. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide past and recent aerial photographs. It should be supplemented with additional photographs of relevant features on the site. Date and source of photographs must be included. Photographs must be attached as an **appendix** to this form.

Please note:

Should the relevant photographs not be included in the application, the application may be deemed insufficient and further information in this regard will be requested.

6. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

Please list all legislation, policies and/or guidelines that were or are relevant to this activity.

LEGISLATION	ADMINISTERING AUTHORITY	TYPE Permit/ license/ authorisation/comment	DATE (if already obtained):
BILL OF RIGHTS – CHAPTER 2 OF THE SOUTH AFRICAN CONSTITUTION	All State and Provincial Departments as well as Local Authorities	RELEVANT CONSIDERATION	N/A
NATIONAL WATER ACT 1998	Department of Water and Sanitation	LICENSE	In Process
NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO 107 OF 1998)	Western Cape Government Environmental Affairs and Development Planning	AUTHORIZATION	In Process
NATIONAL ENVIRONMENTAL MANAGEMENT AMENDMENT ACT (ACT 62 OF 2008)	Western Cape Government Environmental Affairs and Development Planning	AUTHORIZATION	In Process
ENVIRONMENTAL CONSERVATION ACT (ACT 73 OF 1989)	Western Cape Government Environmental Affairs and Development Planning	RELEVANT CONSIDERATION	N/A
NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (ACT NO 10 OF 2004)	Western Cape Government Environmental Affairs and Development Planning	RELEVANT CONSIDERATION	N/A
WESTERN CAPE NATURE CONSERVATION LAWS AMENDMENT ACT (ACT 3 OF 2000)	CapeNature	COMMENT/ RELEVANT CONSIDERATION	In Process
CONSERVATION OF AGRICULTURAL RESOURCES ACT (ACT 43 OF 1983)	Department of Agriculture, Forestry and Fisheries	PERMIT	N/A
NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)	Heritage Western Cape	COMMENT/ RELEVANT CONSIDERATION	In Process

POLICY/ GUIDELINES	ADMINISTERING AUTHORITY
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DEA (2010), Companion to the EIA regulations 2010, Integrated Environmental Management Guideline Series 5,	Department of Environmental Affairs, (DEA), Pretoria, South Africa Department of Environmental Affairs, Republic of South Africa. All provincial Departments that have been identified as Competent Authorities
DEA&DP (2010) Guideline on Public Participation, EIA Guideline and Information Document Series. Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
Guideline for Involving a Specialist in EIA Processes, June 2005	Western Cape Department of Environmental Affairs and Development Planning
Guideline for Environmental Management Plans, June 2005	Western Cape Department of Environmental Affairs and Development Planning
Ecosystem Guidelines for Environmental Assessment in The Western Cape	Fynbos Forum

7. APPLICATIONS IN TERMS OF NEMA AND SPECIFIC ENVIRONMENTAL MANAGEMENT ACTS (“SEMAs”)

If not specifically applied for in terms of this application, does the development require an application for a waste management license in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)?	YES	NO
If yes, has an application been submitted to the licensing authority?	YES	NO
Does the proposed project require an application for a water use license in terms of the National Water Act, 1998 (Act No. 36 of 1998)?	YES	NO
If yes, has an application been submitted to the licensing authority?	YES	NO
If no, please provide evidence of existing water use rights (if applicable) with this application form.		
Does the proposed project require an application for an atmospheric emissions license in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)?	YES	NO
If yes, has an application been submitted to the licensing authority?	YES	NO
Does the proposed project require an application in terms of the National Environmental Management: Integrated Coastal Management Act (“NEM: ICMA”)?	YES	NO
If yes, has an application been submitted to the relevant competent authority?	YES	NO
If yes, provide more details of the application submitted/to be submitted in terms of the NEM: ICMA		
N/A		

8. APPLICATIONS IN TERMS OF OTHER LEGISLATION

Is any permission, licence or other approval required in terms of any other legislation? (Please tick)	YES	NO
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If yes, please complete the table below:

Type of approval required (List the applicable legislation & approval required):	Name of the authority responsible for administering the applicable legislation	Application submitted (Yes / No)	Status of application (e.g. pending/ granted/ refused)

SECTION C: DESCRIPTION OF RECEIVING ENVIRONMENT

Site/Area Description

For linear activities (pipelines, etc.) as well as activities that cover very large sites, it may be necessary to complete copies of this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area which is covered by each copy No. on the site plan.

Section C Copy No. (e.g. 1, 2, or 3):

1. THE GEOLOGICAL FORMATIONS UNDERLYING THE SITE (Tick the appropriate box)

GRANITE	<input type="checkbox"/>	QUARTZITE	<input type="checkbox"/>
SHALE	<input type="checkbox"/>	DOLOMITE	<input type="checkbox"/>
SANDSTONE	<input type="checkbox"/>	DOLERITE	<input type="checkbox"/>
OTHER (specify)	Goudini Formation (sandstone & quartzitic sandstone) of the Table Mountain Group (TMG) which forms part of the Cape Supergroup.		

2. GRADIENT OF THE SITE

Indicate the general gradient of the site(s) (cross out the appropriate box).

Flat	<input type="checkbox"/>	Flatter than 1:10	<input type="checkbox"/>	1:10 – 1:5	<input type="checkbox"/>	Steeper than 1:5	<input checked="" type="checkbox"/>
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3. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site (cross out ("X") the appropriate boxes).

Ridgeline	<input checked="" type="checkbox"/>	Plateau	<input type="checkbox"/>	Side-slope of hill/mountain	<input type="checkbox"/>	Closed valley	<input type="checkbox"/>	Open valley	<input checked="" type="checkbox"/>	Plain	<input type="checkbox"/>	Undulating plain/low hills	<input type="checkbox"/>	Dune	<input type="checkbox"/>	Sea-front	<input type="checkbox"/>	Other	<input type="checkbox"/>
If other, please describe																			

4. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

4.1 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE (PRE-COMMENCEMENT)

Is the site(s) located on or near any of the following (cross out ("X") the appropriate boxes)?

Shallow water table (less than 1.5m deep)	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
Seasonally wet soils (often close to water bodies)	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
Unstable rocky slopes or steep slopes with loose soil	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
Dispersive soils (soils that dissolve in water)	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
Soils with high clay content	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
Any other unstable soil or geological feature	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
An area sensitive to erosion	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE

4.2 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE (POST-COMMENCEMENT)

Shallow water table (less than 1.5m deep)	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
Seasonally wet soils (often close to water bodies)	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE
Unstable rocky slopes or steep slopes with loose soil	<input checked="" type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	UNSURE

Dispersive soils (soils that dissolve in water)	YES	NO	UNSURE
Soils with high clay content	YES	NO	UNSURE
Any other unstable soil or geological feature	YES	NO	UNSURE
An area sensitive to erosion	YES	NO	UNSURE

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department. (Information in respect of the above will often be available at the planning sections of local authorities. Where it does not exist, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

5. SURFACE WATER

5.1 SURFACE WATER (PRE-COMMENCEMENT)

Indicate the surface water present on and or adjacent to the site and alternative sites (cross out ("☒") the appropriate boxes)?

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoonal wetland	YES	NO	UNSURE

5.2 SURFACE WATER (POST-COMMENCEMENT)

Indicate the surface water present on and or adjacent to the site and alternative sites (cross out ("☒") the appropriate boxes)?

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoonal wetland	YES	NO	UNSURE

6. VEGETATION AND/OR GROUND COVER

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org.za> or BGIShelp@sanbi.org.za. Information is also available on compact disc ("cd") from the Biodiversity-GIS Unit, Ph (021) 799 8738. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as an **appendix** to this form.

6.1 VEGETATION AND/OR GROUND COVER (PRE-COMMENCEMENT)

Cross out ("☒") the block **and** describe (where applicable) the vegetation types / groundcover present on the site before commencement of the activity.

Indigenous Vegetation – good condition	Indigenous Vegetation with scattered aliens	Indigenous Vegetation heavy alien infestation	x												
Describe the vegetation type above:	Describe the vegetation type above:	Describe the vegetation type above: The mapped vegetation type is Tsitsikamma Sandstone Fynbos. The area where vegetation was cleared for excavation of the dam was interspersed with alien vegetation including mature Pinus sp. trees													
Provide ecosystem status for above:	Provide ecosystem status for above:	Provide Ecosystem status for above: Least Threatened													
Indigenous Vegetation in an ecological corridor or along a soil boundary / interface	Veld dominated by alien species	Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe													
		<table border="1"> <thead> <tr> <th>Supergroup</th> <th>Group</th> <th>Formation</th> <th>Lithology</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Cape Supergroup</td> <td rowspan="3">Table Mountain</td> <td>Skurweberg (Sk)</td> <td>Medium to Coarse Grained Quartzitic Sandstone, Subordinate Shale.</td> </tr> <tr> <td>Goudini (St)</td> <td>Sandstones and Quartzitic Sandstones with subordinate Siltstone and Shale.</td> </tr> <tr> <td>Peninsula (Op)</td> <td>Medium to Coarse Grained Quartzitic Sandstone.</td> </tr> </tbody> </table>		Supergroup	Group	Formation	Lithology	Cape Supergroup	Table Mountain	Skurweberg (Sk)	Medium to Coarse Grained Quartzitic Sandstone, Subordinate Shale.	Goudini (St)	Sandstones and Quartzitic Sandstones with subordinate Siltstone and Shale.	Peninsula (Op)	Medium to Coarse Grained Quartzitic Sandstone.
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		Goudini (St)	Sandstones and Quartzitic Sandstones with subordinate Siltstone and Shale.												
		Peninsula (Op)	Medium to Coarse Grained Quartzitic Sandstone.												
Bare soil	Building or other structure	Sport field													
Other (describe below)	Cultivated land	Paved surface													

(a) Highlight the applicable pre-commencement biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category.

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	the receiving environment at Portion 17 contains a primary aquatic Ecological Support Area (ESA 1; watercourse area) fringed by a secondary terrestrial (ESA 2); based on the following specific geographic features: <ul style="list-style-type: none"> ➤ Cape Mountain Zebra; ➤ Tsitsikamma Plateau Proteoid Fynbos (Vlok variant- CR); ➤ Tsitsikamma Sandstone Fynbos (LT); ➤ Upland-lowland interface; ➤ Water source protection- Keurbooms; ➤ Watercourse protection- South Eastern Coastal Belt.

(b) Highlight and describe the habitat condition on site.

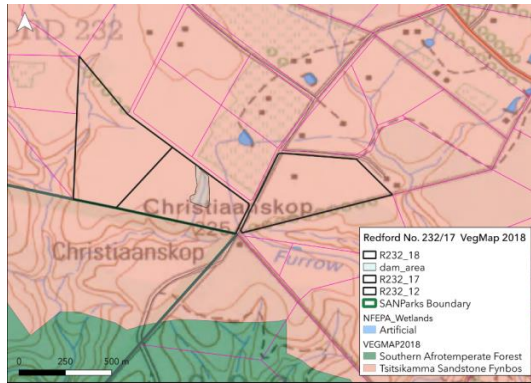
Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes etc).
Natural	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	8%	± 1.2 Hectares of natural Low to moderate levels of alien infestation.
Degraded (includes areas heavily invaded by alien plants)	21%	±2.9 Hectares of Heavy alien plant infestation.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	71%	± 10.04 Hectares. The property is zoned agriculture and has been transformed from its natural state for agricultural purposes.

(c) Complete the table to indicate:
 (i) the type of vegetation, including its ecosystem status, that was previously present on the site; and
 (ii) whether an aquatic ecosystem was previously present on site.

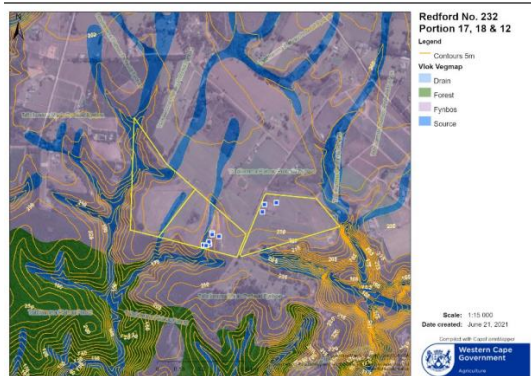
Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and un-channelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable							
	Least Threatened							
		YES	NO	UNSURE	YES	NO	YES	NO

(d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

As per the Biodiversity Assessment: According to the updated Vegetation Map of South Africa, Lesotho & Swaziland the main mapped vegetation unit occurring at the property and within the stay area is: Least Threatened Tsitsikamma Sandstone Fynbos (FFs 20).



As per the Biodiversity Assessment: The composite fine-scale Vegetation Map for the Garden Route (Vlokmap) delineated broad habitat types with associated vegetation variants, here as: Tsitsikamma Plateau Proteoid Fynbos matrix dissected by Tsitsikamma Perennial Stream (the latter indicating drainage line vegetation patterning).



As per the Biodiversity Assessment: There appears to be no species of special concern within the study area containing plant species representative of fynbos and riparian ecosystems.

As per the Aquatic Assessment: According to the WCBSA the management objective for these areas is: "Maintain in a functional near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised."

As per the Aquatic Assessment: The Ecological Importance and Sensitivity (EIS) for drainage lines was derived using the methods developed by Department of Water Affairs and Forestry (DWAF; 1999). Ecological Importance of a system is defined as the expression of its importance to the maintenance of ecological diversity and functioning on local as well as broader scales. The EIS was determined to be Moderate.

The most important aspect of the watercourse is preservation of ecological structure and function of habitat adjoining a Protected Area of conservation significance (Whiskey Creek Nature Reserve). The importance of the watercourse in terms of connectivity is not very high because it is at the headwater of the watercourse and surrounded by modified agricultural lands. In this sense it represents a dead end for migrating wildlife.

As a non-perennial system, any biota associated with the watercourse would be well adapted to periodic no flows, and therefore less sensitive to this aspect. The EIS does not however, account for sensitivity to earthworks and clearing, which would negatively affect most biota. It is not possible to determine whether any rare or endangered species were affected by the clearing and excavation works. Rare and endangered species are also not frequently identified in once-off site visits. The level of confidence in rating the presence of rare, unique, or endangered species at the site is relatively low.

6.2 VEGETATION AND/OR GROUND COVER (POST-COMMENCEMENT)

Cross out ("X") the block **and** describe (where required) the vegetation types / groundcover present on the site after commencement of the activity.

Indigenous Vegetation – good condition		Indigenous Vegetation with scattered aliens	X	Indigenous Vegetation with heavy alien infestation													
Describe the vegetation type above:		Describe the vegetation type above: The mapped vegetation type is Tsitsikamma Sandstone Fynbos. The area where vegetation was cleared for excavation of the dam was interspersed with alien vegetation including mature Pinus sp. trees		Describe the vegetation type above:													
Provide ecosystem status for above:		Provide ecosystem status for above: Least Threatened.		Provide Ecosystem status for above:													
Indigenous Vegetation in an ecological corridor or along a soil boundary / interface		Veld dominated by alien species		Distinctive soil conditions (e.g. Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe													
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Bare soil		Building or other structure		Sport field													
Other (describe below)		Cultivated land		Paved surface													

(a) Highlight and describe the post-construction habitat condition on site.

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing/harvesting regimes etc).
Natural	9%	± 1.3 hectares of indigenous vegetation
Near Natural (includes areas with low to moderate level of alien invasive plants)	14%	± 2 hectares still contain indigenous vegetation with a moderate level of alien vegetation
Degraded (includes areas heavily invaded by alien plants)	5%	± 0.7 hectares is degraded (the proposed dam site)
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	72%	± 10.14 Hectares is under cultivation

(b) How have the vegetation and/or aquatic ecosystem(s) present on site (including any important biodiversity features identified on site (e.g. threatened species and special habitats)) been affected by the commencement of the listed activity(ies)?

As per the Biodiversity Assessment: The proposed activity has impacted on species composition and vegetation structure of vegetation of Moderate Terrestrial Biodiversity Sensitivity.
As per the Biodiversity Assessment: The impact will not elevate the ecosystem threat status of the remaining extent of Least Threatened Tsitsikamma Sandstone Fynbos.
As per the Biodiversity Assessment: <ul style="list-style-type: none"> ➢ The impact on overall species and ecosystem diversity of the site is of medium intensity. ➢ The impact on threat status of species of special concern is unknown based on the plant species observed. ➢ Ecological services within and across the site have been and will be impacted by the activity. ➢ The activity has had a very high impact locally on ecological processes and ESA functionality ➢ The proposed activity may reduce ecological connectivity at the surrounding areas. ➢ The proposal has had an impact on the ecological integrity of indigenous fynbos and riparian elements at the property.

<p>As per the Aquatic Specialist Assessment: The dam is excavated into a portion of a headwater non-perennial tributary of the Whiskey Creek, which is a tributary of the Keurbooms River. The property is bordered by the Whiskey Creek Nature Reserve to the south, which is an extensive protected area.</p> <p>The total area excavated and disturbed covers approximately 1.2 ha of approximately 2.6 ha within the non-perennial watercourse that was cleared of impenetrable alien vegetation (wattles and pines).</p>
<p>As per the Aquatic Specialist Assessment: The area excavated for the dam was classified in the Western Cape Biodiversity Spatial Plan (WCBSP; 2017) mostly as Ecological Support Area 1 (Aquatic). This is defined as: "Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of Protected Areas or Critical Biodiversity Areas, and are often vital for delivering ecosystem services." According to the WCBSP the management objective for these areas is: "Maintain in a functional near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised." The location of the watercourse immediately upstream of the Whiskey Creek Nature Reserve (the Protected Area) is consistent with the definition. Excavation of the valley for construction of the dam is not consistent with the management objective because entire habitat loss has occurred resulting in complete loss of ecological functioning at this location.</p>
<p>As per the Aquatic Assessment: The watercourse is within NFEPA area (sub-quatarnary reach) 9097, which is categorised as a FEPA (Freshwater Ecosystem Priority Area). A FEPA is an area prioritised for conserving freshwater ecosystems and associated biodiversity. The selection of FEPAs is determined through a process of systematic biodiversity planning using data on freshwater ecosystem types, species and ecological processes. FEPAs should be maintained in a good condition to manage and conserve freshwater ecosystems and to protect water resources for human users. This does not mean that FEPAs should be fenced off from humans, but they should be supported by good planning, decision-making and management. The recommended condition for all river FEPAs is an A or B ecological category (Nel et al., 2011).</p>
<p>As per the Aquatic Assessment: The location of the watercourse immediately upstream of the Whiskey Creek Nature Reserve (the Protected Area) is consistent with the definition. Excavation of a portion of the valley for construction of the dam is not consistent with the management objective because entire habitat loss has occurred resulting in complete loss of ecological functioning at this location.</p> <p>The total area excavated and disturbed covers approximately 1.2 ha of approximately 2.6 ha within the non-perennial watercourse that was cleared. The state of this vegetation has been assisted by alien clearing conducted by the landowner. It is likely that some indigenous plants typically associated with riparian and possibly wetland areas were in the footprint of the dam and were subsequently cleared during excavation. However, it is not possible to accurately determine the relative proportion of indigenous to alien vegetation.</p>

6.3 VEGETATION / GROUND COVER MANAGEMENT

(a) Describe any mitigation/management measures that were adopted and the adequacy of these:

<p>The applicant had implemented the following mitigation/management measures thus far:</p> <ul style="list-style-type: none"> ➤ A silt fence was observed which had been erected by the earthmoving contractor at the outflow of the dam which is approximately 110m above the border of the property with Whiskey Creek Nature Reserve. ➤ The silt fence had been filled by sediment which has flattened the fence. This led to the Aquatic specialist compiling an erosion management plan to ensure that no further sediment reaches Whiskey Creek. The applicant was more than willing to implement the erosion management plan. ➤ The silt fence had been filled with sediment after a severe rainfall of more than 100 mm. ➤ An erosion management plan was compiled by Dr. Jackie Dabrowski of Confluent Environmental (Pty) Ltd. ➤ This erosion plan was sent to DEA&DP including BGCMA for approval prior to implementing the plan. ➤ DEA&DP did not approve this plan please refer attached to this report

7. LAND USE OF THE SITE (PRE-COMMENCEMENT)

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the activity/ies.

Untransformed area	Low-density residential	Medium-density residential	High-density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism & Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes or more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station

Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):				

(a) Please provide a description.

<p>The untransformed area: contained indigenous vegetation overgrown by heavy infested alien vegetation.</p>  <p>Photos of the valley approximately 4 months post slashing of an impenetrable bush of wattles as well as all pine trees with a diameter of less than 300mm and pre-earthworks supplied by the landowner (D. Bernard, 25/11/2020)</p>
<p>River, stream or wetland: a non-perennial tributary of the Whiskey Creek, which is a tributary of the Keurbooms River is present on portion 17 of the farm 232.</p> <p>As per the Aquatic Assessment:</p> <ul style="list-style-type: none"> ➢ It likely that indigenous plants typically associated with riparian and possibly wetland areas were located in the valley. ➢ The upper-most section has a small area of wetland vegetation this is partially due to seepage from a small dam on the adjacent property.
<p>Agriculture: Historical land use was dryland grazing and subsistence crops.</p>

8. LAND USE CHARACTER OF SURROUNDING AREA (PRE-COMMENCEMENT)

Cross out ("☒") the block that reflects the past land uses and/or prominent features that occur/red within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site. **Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and impact(s) of the activity/ies.

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism & Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes or more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):				

9. LAND USE CHARACTER OF SURROUNDING AREA (POST-COMMENCEMENT)

Cross out ("☒") the block that reflects the current land uses and/or prominent features that occur(s) within +/- 500m radius of the site and neighbouring properties if these are located beyond 500m of the site. **Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and impact(s) of the activity/ies.

Untransformed area	Low density residential	Medium density residential	High density residential	Informal residential
Retail	Commercial & warehousing	Light industrial	Medium industrial	Heavy industrial
Power station	Office/consulting room	Military or police base/station/compound	Casino/entertainment complex	Tourism & Hospitality facility
Open cast mine	Underground mine	Spoil heap or slimes dam	Quarry, sand or borrow pit	Dam or reservoir
Hospital/medical centre	School	Tertiary education facility	Church	Old age home
Sewage treatment plant	Train station or shunting yard	Railway line	Major road (4 lanes or more)	Airport
Harbour	Sport facilities	Golf course	Polo fields	Filling station
Landfill or waste treatment site	Plantation	Agriculture	River, stream or wetland	Nature conservation area
Mountain, koppie or ridge	Museum	Historical building	Graveyard	Archaeological site
Other land uses (describe):				

10. SOCIO-ECONOMIC CONTEXT

10.1 SOCIO-ECONOMIC CONTEXT (PRE-COMMENCEMENT)

Describe the pre-commencement social and economic characteristics of the community in order to provide baseline information.

As per the SDF 2017 of Bitou Municipality:

Kurland and The Crags have a well-defined tourism character, with numerous accommodation establishments on small holdings and farms. It also has timber and brick yards, dairies and a winery, which give it a different, service industrial character. Its theme should thus relate to the tourism attractions in an agricultural setting, while permitting the urban component to expand. Urban expansion should create a spread of market sectors, to complement the existing low income residential neighbourhood, while not detracting from the rural land uses and tourism attractions. The SDF should make proposals for this to become a balanced urban settlement according to the principles of walking distance access and functional and socio-economic integration.

As per the 2017 Socio-economic Profile: Bitou Municipality: *The primary sector in the Bitou municipal economy employed 1 507 people (or 7.8 per cent) in 2015, with almost all of the jobs falling under the agriculture, forestry and fishing sector.*

According to the Bitou Municipality IDP 2017-2022:

The annual income for households living within the Bitou municipal area is divided into three categories i.e. the proportion of people that fall within the low, middle and high-income brackets. Poor households fall under the low income bracket, which ranges from no income to just over R50 000 annually (R4 166 per month). An increase in living standards can be evidenced by a rising number of households entering the middle and high income brackets.

Amount (2016)	Eden District	Bitou	
No income	13.4	17.7	Low income
R1 – R6 327	2.8	4.5	
R6 328 – R12 653	4.4	5.7	
R12 654 – R25 306	14.3	16.3	
R25 307 – R50 6013	19.8	19.4	Middle Income
R50 614 – R101 225	16.9	14.0	
R101 226 – R202 450	12.0	9.1	
R202 451 – R404 901	9.0	6.5	High income
R404 902 – R809 802	5.1	4.3	
R809 803 – R1 619 604	1.5	1.6	
R1 619 605 – R3 239 208	0.5	0.4	
R3 239 209 or more	0.3	0.5	

Approximately 63.6 percent of households in Bitou fall within the low income bracket, of which 17.7 percent have no income. A sustained increase in economic growth within the Bitou municipal area is needed if the 2030 NDP income target of R110 000 per person, per annum is to be achieved.

PRIMARY SECTOR AGRICULTURE, FORESTRY AND FISHING

This sector comprised R133.95 million (or 6.1 percent) of the Municipality's GDP in 2015. It displayed steady growth of 2.8% for the period 2005 - 2015, but growth has nevertheless slowed in the post recessionary period (the sector experienced a relatively low growth rate of 0.9% over the period 2010 – 2015). Agriculture, forestry and fishing employed 7.9 percent of the Municipality's workforce. Employment growth over the period 2005 – 2015 has contracted by 0.8 percent per annum on average. Employment picked up significantly after the recession and grew at a rate of 4.4 percent per annum on average since 2010. On net employment, 226 jobs have been lost since 2005- not all of the jobs lost prior to and during the recession have been recovered. The labour force in the primary sector is characterised by a relatively large proportion of low skilled labour. The majority (40.3 percent or 614 workers) of the workforce in agriculture, forestry and fishing operate within the semi-skilled sector, which has experienced a contraction of 0.7 percent since 2005, nevertheless grew by 4.6 percent per annum over the post-recession period (2010 – 2015). The low-skilled sector employs 572 workers and the sector has contracted at a rate of 2.0 percent per annum since 2005 but experienced a notable recovery of 3.9 percent per annum over the post-recession period term (2010 – 2015). The skilled sector employs the smallest proportion of the industry's workforce (10.2 percent or 155 workers). This segment has shown robust growth post-recession (5.7 percent per annum), but a 0.4 percent per annum growth rate over the long term (2005 – 2015). The informal sector makes up 12.1 percent of the industry's workforce and was the only sector to experience meaningful long term growth as employment grew by 2.7 percent per annum over the period 2005 – 2015. Informal employment within the agriculture, forestry and fishing industry furthermore experienced robust growth of 4.4 percent per annum since 2010

GDP		2015	Trend 2005 – 2015	Recovery 2010 – 2015
		R133.95 million	2.8%	0.9%
Employment		1 525	-0.8%	4.4%
Skills	Skilled	155	0.4%	5.7%
	Semi-skilled	614	-0.7%	4.6%
	Low-skilled	572	-2.0%	3.9%
	Informal	184	2.7%	4.4%

Table 44: GDP recovery rate 2010 - 2015

10.2 SOCIO-ECONOMIC CONTEXT (POST-COMMENCEMENT)

Describe the post commencement social and economic characteristics of the community in order to determine any change. Where differences between pre- and post-commencement exist, state which are as a result of the activity(ies) for which rectification is being applied for.

An increased number of farm workers have been employed due to the increased agricultural footprint.

11. HISTORICAL AND CULTURAL ASPECTS

- (a) Please be advised that every application for Environmental Authorisation including an application for a Waste Management Licence, must include, where applicable the investigation, assessment and evaluation of the impact of any proposed listed or specified activity on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act.

Please be further advised that if section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), is applicable to your application, then you are requested to furnish this Department with written comment from Heritage Western Cape as part of your public participation process. Section 38 of the Act states as follows: "38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
 - (b) the construction of a bridge or similar structure exceeding 50m in length;
 - (c) any development or other activity which will change the character of a site-
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - (d) the re-zoning of a site exceeding 10 000 m² in extent; or
 - (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development."
- (b) The impact on any national estate referred to in section 3(2), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii), of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), must also be investigated, assessed and evaluated. Section 3(2) states as follows: "3(2) Without limiting the generality of subsection (1), the national estate may include—
- (a) places, buildings, structures and equipment of cultural significance;
 - (b) places to which oral traditions are attached or which are associated with living heritage;
 - (c) historical settlements and townscapes;
 - (d) landscapes and natural features of cultural significance;
 - (e) geological sites of scientific or cultural importance;
 - (f) archaeological and palaeontological sites;
 - (g) graves and burial grounds, including—
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the Gazette;
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
 - (h) sites of significance relating to the history of slavery in South Africa;
 - (i) movable objects, including—
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage;
 - (iii) ethnographic art and objects;
 - (iv) military objects;
 - (v) objects of decorative or fine art;
 - (vi) objects of scientific or technological interest; and
 - (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996)."

Is section 38 of the National Heritage Resources Act, 1999, applicable to the development?		YES	NO
		UNCERTAIN	
If YES, explain:	Section 38 (c) any development or other activity which will change the character of a site— (i) exceeding 5 000 m ² in extent; Vegetation of 12000m ² was cleared.		
Did/does the development impact on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999?		YES	NO
		UNCERTAIN	
If YES, explain:	N/A		
Was any building or structure older than 60 years affected in any way?		YES	NO
		UNCERTAIN	
If YES, explain:	N/A		

Please Note:

If uncertain, the Department may request that specialist input be provided. If, yes, a copy of the Notice of Intent submitted to Heritage Western Cape must be submitted with this form.

12. COASTAL ASPECTS (SEAFRONT/SEA ENVIRONMENT)

(a) Is the site(s) located within any of the following areas? (highlight the appropriate boxes).
If the site or alternative site is closer than 100m to such an area, please provide the approximate distance in (m).

AREA	YES	NO	UNSURE	If "YES": Distance to nearest area (m)
An area within 100m of the high water mark of the sea	YES	NO	UNSURE	N/A
An area within 100m of the high water mark of an estuary/lagoon	YES	NO	UNSURE	N/A
An area within the littoral active zone	YES	NO	UNSURE	N/A
An area in the coastal public property	YES	NO	UNSURE	N/A
Major anthropogenic structures	YES	NO	UNSURE	N/A
An area within a Coastal Protection Zone	YES	NO	UNSURE	N/A
An area seaward of the coastal management line	YES	NO	UNSURE	N/A
An area within the high risk zone (20 years)	YES	NO	UNSURE	N/A
An area within the medium risk zone (50 years)	YES	NO	UNSURE	N/A
An area within the low risk zone (100 years)	YES	NO	UNSURE	N/A
An area below the 5m contour	YES	NO	UNSURE	N/A
An area within 1km from the high water mark of the sea	YES	NO	UNSURE	N/A
A rocky beach	YES	NO	UNSURE	N/A
A sandy beach	YES	NO	UNSURE	N/A

(b) If any of the answers to the above is "YES" or "UNSURE", specialist input may be requested by the Department. (The 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

13. REGIONAL PLANNING CONTEXT

Is the activity permitted in terms of the property's existing land use rights?	YES	NO	Please explain
The property is zoned agriculture and is being used for agricultural purposes			
Will the activity be in line with the following?			
Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
The significance of the Province's spatial asset base stems from the fact that it: underpins the economy, particularly agriculture which provides food security, sustains rural livelihoods and draws income into the Province, and tourism. As per the Western Cape PSDF (2014): "Despite the importance of secondary and tertiary economic activities, agriculture remains the backbone of the provincial economy. Farming in the Western Cape covers some 11.5m hectares and contributes almost 21% of the country's agricultural production. The agricultural sector comprises: 6 682 commercial farmers, 9 844 smallholder farmers, and some 201 230 farm workers."			
Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The property is situated in an agricultural node			
Integrated Development Plan of the Local Municipality	YES	NO	Please explain

According to the Bitou Municipality IDP (2017 – 2022), the sector of Agriculture, Forestry and Fishing contributed 5.8% of the Municipality's GDP in 2015.			
Overall, between 2004 and 2015, almost every sector showed job creation except for the agriculture, forestry and fishing sector, mining, quarrying, and manufacturing sectors. The latter two sectors were the only sectors that recorded job losses after the recession.			
Agriculture, although a minor economic sector in the Bitou economy remains important as a creator of low skilled jobs. The limited amount of arable land means that protection and better use of this resource should occupy a high priority. The Bitou MSDF advocates integration of various areas to create a well-functioning space economy.			
Spatial Development Framework of the Local Municipality	YES	NO	Please explain
Bitou Municipal SDF 2017 states: The small contribution which agriculture is making to the Bitou economy should be expanded. Only 50% of the available land is currently being utilised and ways of increasing agricultural production should be explored.			
Approved Structure Plan of the Municipality	YES	NO	Please explain
The activity is in line with the Municipal Structure Plan.			
An Environmental Management Framework (EMF) adopted by the Department	YES	NO	Please explain
The Garden Route EMF refers to several policies and guidelines dealing with agriculture within the Garden Route. Of particular reference, is the Western Cape PSDF. The activity is in line with the WCPSDF 2014.			
Any other Plans	YES	NO	Please explain
N/A			

SECTION D: NEED AND DESIRABILITY

Please Note: Before completing this section, first consult this Department's *Guideline on Need and Desirability* (March 2013) available on the Department's website (<http://www.capegateway.gov.za/eadp>).

1. Was the activity permitted in terms of the property's land use rights at the time of commencement?	YES	NO	Please explain
The property is zoned Agriculture and is being used for agricultural practices			
2. Was the activity in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
As per the Western Cape PSDF, 2014: "Despite the importance of secondary and tertiary economic activities, agriculture remains the backbone of the provincial economy. Farming in the Western Cape covers some 11.5m hectares, and contributes almost 21% of the country's agricultural production. The agricultural sector comprises: 6 682 commercial farmers, 9 844 smallholder farmers, and some 201 230 farm workers."			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The property is situated in an agricultural node.			
(c) Integrated Development Plan and Spatial Development Framework of the Local Municipality (e.g. would the approval of this application have compromised the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO	Please explain
Bitou IDP 201-2022 states the following: Agriculture, although a minor economic sector in the Bitou economy remains important as a creator of low skilled jobs. The limited amount of arable land means that protection and better use of this resource should occupy a high priority			
Bitou Municipal SDF 2017 states: The small contribution which agriculture is making to the Bitou economy should be expanded. Only 50% of the available land is currently being utilised and ways of increasing agricultural production should be explored.			
(d) Approved Structure Plan of the Municipality	YES	NO	Please explain
The activity is in line with the Municipal Structure Plan.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application have compromised the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	NO	Please explain
The Garden Route EMF refers to several policies and guidelines dealing with agriculture within the Garden Route. Of particular reference, is the Western Cape PSDF. The activity is in line with the WCPSDF 2014.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
N/A			

<p>3. Was the land use (associated with the activity for which rectification is sought) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority (i.e. was the development in line with the projects and programmes identified as priorities within the relevant IDP)?</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>Bitou IDP 201-2022 states the following: Agriculture, although a minor economic sector in the Bitou economy remains important as a creator of low skilled jobs. The limited amount of arable land means that protection and better use of this resource should occupy a high priority</p>			
<p>4. Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) have occurred here when activities commenced?</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>Due to the need to ensure successful agricultural practises on the property, it is understood that the dam was required and AIPs needed to be removed.</p> <p>However, it is advised that the applicant conduct the necessary competent authorities prior to any future development on this property.</p>			
<p>5. Did the community/area need the activity and the associated land use concerned (was it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>The activity is broadly considered a societal priority as it has expanded and ensured agricultural success on the property, whilst providing additional employment opportunities.</p>			
<p>6. Were the necessary services with adequate capacity available (at the time of commencement), or was additional capacity created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the Application Form / additional information as an appendix, where applicable.)</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>No additional services from the municipality were required.</p>			
<p>7. Is/was this development provided for in the infrastructure planning of the municipality, and if not what was/will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the Application Form / additional information as an appendix, where applicable.)</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>No additional services from the municipality were required.</p>			
<p>8. Was this project part of a national programme to address an issue of national concern or importance?</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>The activity was undertaken to sustain agricultural development for the farm</p>			
<p>9. Did location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the land use on this site within its broader context.)</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>The property is zoned for Agriculture. All activities undertaken were in order to enable the success of agricultural practices on the farm.</p>			
<p>10. How did/does the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>As per the Biodiversity Assessment: The proposed activity has impacted on species composition and vegetation structure of vegetation of Moderate Terrestrial Biodiversity Sensitivity.</p>			
<p>As per the Biodiversity Assessment: The impact will not elevate the ecosystem threat status of the remaining extent of Least Threatened Tsitsikamma Sandstone Fynbos.</p>			
<p>As per the Biodiversity Assessment:</p> <ul style="list-style-type: none"> ➢ The impact on overall species and ecosystem diversity of the site is of medium intensity. ➢ The impact on threat status of species of special concern is unknown based on the plant species observed. ➢ Ecological services within and across the site have been and will be impacted by the activity. ➢ The activity has had a very high impact locally on ecological processes and ESA functionality ➢ The proposed activity may reduce ecological connectivity at the surrounding areas. ➢ The proposal has had an impact on the ecological integrity of indigenous fynbos and riparian elements at the property. 			
<p>As per the Aquatic Specialist Assessment: The dam is excavated into a portion of the headwater non-perennial tributary of the Whiskey Creek, which is a tributary of the Keurbooms River. The property is bordered by the Whiskey Creek Nature Reserve to the south, which is an extensive protected area.</p>			
<p>There is approximately a 100m of undisturbed watercourse between the excavated site and the border of the property which has only been cleared of alien vegetation to allow for regeneration of natural fynbos/vegetation.</p>			
<p>As per the Aquatic Specialist Assessment: The area excavated for the dam was classified in the Western Cape Biodiversity Spatial Plan (WCBSP; 2017) mostly as Ecological Support Area 1 (Aquatic). This is defined as: "Areas that are not essential for</p>			

meeting biodiversity targets, but that play an important role in supporting the functioning of Protected Areas or Critical Biodiversity Areas, and are often vital for delivering ecosystem services." According to the WCBS the management objective for these areas is: "Maintain in a functional near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised." The location of the watercourse immediately upstream of the Whiskey Creek Nature Reserve (the Protected Area) is consistent with the definition. Excavation of the valley for construction of the dam is not consistent with the management objective because entire habitat loss has occurred resulting in complete loss of ecological functioning at this location.

As per the Aquatic Assessment: The watercourse is within NFEPA area (sub-quaternary reach) 9097, which is categorised as a FEPA (Freshwater Ecosystem Priority Area). A FEPA is an area prioritised for conserving freshwater ecosystems and associated biodiversity. The selection of FEPAs is determined through a process of systematic biodiversity planning using data on freshwater ecosystem types, species and ecological processes. FEPAs should be maintained in a good condition to manage and conserve freshwater ecosystems and to protect water resources for human users. This does not mean that FEPAs should be fenced off from humans, but they should be supported by good planning, decision-making and management. The recommended condition for all river FEPAs is an A or B ecological category (Nel et al., 2011).

11. How did/does the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc.)?	YES	NO	Please explain
The activity does not impact on people's health and well-being, but could enhance the visual character of the area and could contribute to an increase in the value of surrounding properties.			

12. Did/does the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?	YES	NO	Please explain
No unacceptable opportunity cost is involved with the activity			

13. What were the cumulative impacts (positive and negative) of the land use associated with the activity applied for?	YES	NO	Please explain
<p>Positive Impacts:</p> <ul style="list-style-type: none"> - Expansion of Macadamia Orchards - Macadamia orchards require less water than the historical land use of perennial pastures. - Removal of AIPs. - Employment opportunities have been created for the local community. - Skills development of members of the local community: basic health and safety, chainsaw operators training, concrete skills, stone pitching, rehabilitation works - The activity will potentially contribute to the export sector and overall increase the economic status of the country. <p>Negative Impacts:</p> <ul style="list-style-type: none"> - The activity has resulted in the loss of indigenous terrestrial and aquatic vegetation, soil erosion and sedimentation of downstream watercourses, and flow modifications. - Death or injury to ground and tree dwelling biota and compaction of soil. - Removal of topsoil, subsoil and rock from a large area killing ground-dwelling biota, creating an erosion risk and habitat loss. 			

14. Is/was the development the best practicable environmental option for this land/site?	YES	NO	Please explain
<p>The applicant/ landowners own portion 12, 15 and 17 of the farm Redford 232.</p> <ul style="list-style-type: none"> - Portion 12 and 15 is regarded as high valuable agricultural land, In terms of the agricultural act -The Agricultural act (act 43 of 1983) Point 6(1)(b) states: the utilization and protection of land which is cultivated (Portion 12 and 15 has been previously cultivated). - If a dam is constructed on portion 12 or 15 it will in all probability result in significant excavation and loss of valuable soil, both agricultural land and topsoil will be lost. This will result in a significant amount of soil to be moved and the environmental impacts will need to be determined. - The approximate dam capacity is 70 000m³. - As per the Dam Specialist Report: <ul style="list-style-type: none"> ➤ The dam type selection focusses on the most cost-effective dam option, but must also consider lifetime costs and environmental impact. ➤ The options to consider include earth- and rock fill dams and arch- and gravity concrete dams. ➤ Concrete options only become viable when the scope of the project is large enough to balance the cost of importing materials, equipment and expertise and when the volume of fill materials are insufficient. ➤ Fill- or embankment dams are constructed from soil or rock, or a combination of the two. They are distinguished based on which of the materials forms the bulk of the structure. These dams are generally constructed with the materials available at, or close to the dam site. ➤ Water in the dam is retained by an impervious zone or membrane which is supported by general fill. Materials are preferably obtained from the dam basin. ➤ This has the advantage of limiting the environmental impacts of quarrying, because the borrow area becomes part 			

<p>of the dam basin.</p> <ul style="list-style-type: none"> ➤ The disadvantages of fill dams are that they are more susceptible to erosion at the water level in the dam and especially when overtopped. ➤ Spillway capacity and freeboard must therefore be sufficient for all foreseeable circumstances. Fill dams also require better planning for temporary diversion during construction, as even minimal overtopping can cause severe damage to a partially built embankment. ➤ Bernardskloof Dam will require very little diversion of streamflow from the small natural catchment. Based on the cost advantage only embankment dams are considered feasible for the site under consideration.

15. What are/were the benefits to society in general and to the local communities?	Please explain
<p>The dam itself does not benefit the local community; however, agricultural practices on the farm benefit the local community by offering employment for the locals; as well as contributions to the food production sector. Agricultural activities will not be possible without the dam.</p>	

16. Any other need and desirability considerations related to the activity?	Please explain
<p>The landowner would like to irrigate 3 farm portions to be planted with Macadamia Nuts under drip irrigation. The farm portions are 17, 15 and 12 / 232 and the total area to be irrigated is 28 ha.</p> <p>As per the Hydrology Assessment page 14:</p> <p>Establishment of macadamia orchards represents a significant financial investment. Establishment costs of the orchards are approximately R 200 000/ha. At 10-12 years age, the orchards are expected to yield 3 tonnes/ha at a return of R 300 000/ha. As such security of water supply, particularly during below average rainfall conditions is critical for protection of the investment.</p> <p>As per the Hydrology Assessment page 18:</p> <p>The mean estimated irrigation requirements for 28 ha of macadamia trees under drip irrigation is approximately 81 000 m3 per annum, with maximum demand reaching up to 116 000 m³.</p> <p>As per the Aquatic Assessment page 24:</p> <p>If construction continues, contractors will commence with earthworks. These impacts can be mitigated to an extent, especially as the work could largely be maintained within the existing footprint of disturbance, which is one of the recommended mitigation measures (Table 9).</p> <p>Please refer to the Section 27 motivation within the water use application summary.</p>	

17. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA were taken into account:
<p>The purpose of Section 23 of NEMA is to promote the application of appropriate environmental management tools to ensure the integrated environmental management of activities.</p> <p>The general objectives were considered by undertaking the following:</p> <ul style="list-style-type: none"> • An Environmental Assessment Practitioner/ EAP was appointed to assess the significance of the activity on the surrounding environment. • All significant impacts on the environment have been identified and assessed. To avoid further negative impacts on the environment, the specialists' and EAP's recommendations must be adhered to. Monitoring and management must be undertaken in accordance with the specialists' and EAP's recommendations and an approved Environmental Management Programme (EMPr) and Maintenance Management Programs (MMPs). The applicant must in compliance with the EMPr and MMPs, ensure that rehabilitation is undertaken according to the specialists' recommendations and proper environmental management practices. • Lastly, a full Public Participation Process (PPP) will be undertaken as per the EIA Regulations 2014 as amended, and DEA&DP's Guidelines on PPP (2013); which allows sufficient opportunity for public consultation. An advertisement had been placed within the Knysna Plett Herald newspaper dated 10 December 2021, informing members of the public of the NEMA Section 24G Pre-Application Environmental Impact Report and available information. Other stakeholders (ward councillor, local authorities, adjacent landowners, organs of state, state departments, etc.) have been identified and have been notified of the process. In addition, a site notice had been placed at the site.

18. Please describe how the principles of environmental management as set out in section 2 of NEMA were taken into account:
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Section 2 of the NEMA provides principles of environmental management to serve as a framework for environmental management implementation and decision making. The main and applicable principles of environmental management as set out in Section 2 of NEMA emphasise the following:

- Environmental management placing people and their needs at forefront of its concern, and serve their physical, physiological, developmental, cultural and social interests equitably.

Environmental degradation can be mitigated successfully through the implementation of the EMPr and MMPs. I&APs and Stakeholders are allowed the opportunity to consider and submit comment and can become involved in the process, thereby ensuring that all people's needs, rights and concerns will be addressed through this process.

- Development must be socially, environmentally, and economically sustainable. The proposed activities are considered socially, environmentally, and economically sustainable provided all mitigation measures are implemented.
- Consideration for ecosystem disturbance and loss of biodiversity. The excavation and earthworks of the dam and removal of Alien Invasive vegetation has resulted in the loss of indigenous vegetation.
- Pollution and environmental degradation. The potential environmental degradation has been considered and mitigation measures proposed.
- Landscape disturbance. The proposed activity of planting Macadamia trees is considered in line with the current character of the area. However, the clearance of vegetation, construction of a dam and altering the bed and banks of a river have caused extensive damage to the landscape. Rehabilitation is required.
- Avoidance, minimisation and remedying of environmental impacts. The potential environmental degradation has been considered and mitigation measures proposed.
- Interests, needs and values of Interested and Affected Parties. This process provides potential Interested & Affected Parties (I&APs) and other key stakeholders with sufficient opportunity for review, comment and provide input into the process. Details of the Public Participation Process undertaken are included in Appendix G of this report and will be detailed in the Final S24G Report.
- Access of information.

Registered I&APs are all provided with access to the relevant documentation.

SECTION E: ALTERNATIVES

Please Note: Before completing this section, first consult this Department's *Guideline on Alternatives* (March 2013) available on the Department's website (<http://www.capegateway.gov.za/eadp>).

"Alternatives", in relation to an activity, means "different means of meeting the general purposes and requirements of the activity, which may include alternatives to –

- (a) the property on which, or location where, it is to undertake the activity/the activity was undertaken;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

The NEMA prescribes that the procedures for the investigation, assessment and communication of the (potential) consequences or impacts of activities on the environment must, *inter alia*, with respect to every application for environmental authorisation –

- ensure that the general objectives of integrated environmental management laid down in NEMA and the National Environmental Management Principles set out in NEMA are taken into account; and (where applicable)
- include an investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity.

The general objective of integrated environmental management is, *inter alia*, to "identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management" set out in NEMA.

1. In the sections below, please provide a description of any considered alternatives and alternatives that were found to be feasible and reasonable.

Please note:

- Detailed written proof of the investigation of alternatives must be provided. If no reasonable or feasible alternative exists, a motivation must be provided.
- Alternatives considered for a Section 24G application are used to determine if the development was the best practicable alternative (environmentally, socially and economically) for the site or property.

- In respect of a section 24 application, the option of not implementing the activity ("no-go"), includes the option of ceasing the activity, not implementing continuation of the activity, refusal of the commenced activity and complete rehabilitation of the affected site.

(a) Property and location/site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

No feasible or reasonable alternative exists:

The landowner would like to irrigate 3 farm portions to be planted with Macadamia Nuts under drip irrigation. The farm portions are 17, 15 and 12 / 232 and the total area to be irrigated is 28 ha.



- Portion 12 and 15 is regarded as high valuable agricultural land.

-The Agricultural act (act 43 of 1983) Point 6(1)(b) states: the utilization and protection of land which is cultivated (Portion 12 and 15 has been previously cultivated).

As per the Aquatic Assessment page 22:

Had the current site been selected through an impact assessment of proposed alternatives, the construction phase impact of sedimentation downstream would have been prevented through recommended mitigation measures which are fairly standard (e.g. silt fencing, hay bale check dams).

As per the Aquatic Assessment page 36

Had the correct process for environmental authorisations been followed from the start, an alternative site for an off-stream dam would have to have been considered in the process. Off stream dams are preferred storage reservoirs when surface water is not the main source of water as they cause less environmental damage than an instream excavation. However, now that the site has been excavated to such a large extent, it is considered preferable to construct the dam (with revised proportions) in the existing footprint of disturbance. This will ensure that large volumes of disturbed sediment on steep banks which will be difficult to stabilise will be contained within the dam, ensuring they do not move downstream.

Furthermore, it could be possible to divert the surface runoff from the small catchment through the dam from the bottom release pipe as indicated in the dam engineer study. Essentially creating an off-stream dam from a surface runoff perspective. However, this option would result in a slight deficit in the maximum irrigation requirements. If this option is considered, then a surface release of water is preferable to a bottom release given that water quality in the hypolimnion (deep layer of dam water) is frequently oxygen-depleted with elevated iron and manganese. This can be achieved with installation of a floating intake with a flexible pipe connected to the bottom outlet.

- (b) Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The dam on portion 17 is required to irrigate valuable agricultural land for the planting of Macadamia Trees on portion 12, 15 and 17 of the farm Redford 232. However to mitigate unavoidable negative impacts specialist were appointed to provide environmental input within the S24G process.

The original size of the dam was planned to be 300 000 m³. As a result of Hydrology and Aquatic Assessments and the implementation of a borehole the dam size has decreased. The required dam capacity is approximately 70 000 m³. The wall height will be 17 m.

As per the Dam specialist Report:

The applicant needs to consider the most cost-effective dam option, but must also consider lifetime costs and environmental impact. The options to consider include earth- and rock fill dams and arch- and gravity concrete dams.

In general, concrete dams are more expensive than fill dams as they require expensive cement and aggregates (gravel and sand) for concrete, specialised batching and placing equipment and construction expertise. The aggregates are usually produced on site, requiring large crushers. Concrete dams further require competent rock foundations and varying levels of foundation treatment, such as grouting and drainage. Concrete options only become viable when the scope of the project is large enough to balance the cost of importing materials, equipment and expertise and when the volume of fill materials are insufficient.

Fill- or embankment dams are constructed from soil or rock, or a combination of the two. They are distinguished based on which of the materials forms the bulk of the structure. These dams are generally constructed with the materials available at, or close to the dam site. Water in the dam is retained by an impervious zone or membrane which is supported by general fill. Materials are preferably obtained from the dam basin. This has the advantage of limiting the environmental impacts of quarrying, because the borrow area becomes part of the dam basin.

The disadvantages of fill dams are that they are more susceptible to erosion at the water level in the dam and especially when overtopped. Spillway capacity and freeboard must therefore be sufficient for all foreseeable circumstances. Fill dams also require better planning for temporary diversion during construction, as even minimal overtopping can cause severe damage to a partially built embankment. Bernardskloof Dam will require very little diversion of streamflow from the small natural catchment.

Based on the cost advantage only embankment dams are considered feasible for the site under consideration.

Embankment dams rely on a core zone constructed with clay or sandy clay for water tightness. The impervious zone can be surrounded and protected by more permeable zones or shell material. If the materials available on the site are suitably dense, no formal zoning may be necessary. The denser material is then placed towards the upstream side of the embankment and the permeable materials downstream.

To prevent water from seeping under the embankment, a cut-off core is excavated into the foundation until it reaches impervious rock, or material of higher density and lower permeability than the core itself. The core is constructed from the trench bottom. The shell material can be placed on weaker foundations, as long as long term settlement will be within acceptable limits to prevent deformation and cracking of the embankment.

Fill dams are constructed with materials from borrow areas in the dam basin as far as possible.

The site for the dam was partly cleared and materials were stockpiled in- and next to the basin. From observation the soft overburden material is thin and contains little fines. Additional clayey material was stockpiled at a nearby borrow pit. According to the owner's appointed contractor he will be able to excavate sufficient material from the basin. The stockpiled clay will not be sufficient to use as a core, but they have additional fine material available at a nearby site. This can potentially be mixed with the stockpiled finer clay to provide sufficient core material.

For fill embankments the most practical **spillway options** are bywash- and side channel-type spillways. Bywash spillways are the most common solution for farm dams and consist of a channel excavated through the flanks and a return channel to the downstream river. Side channel spillways are employed when the required spillway length is too long for a by wash structure. The spillway must be founded on competent rock. Where the rock is too deep to form the natural invert of the spillway, a concrete structure must be built up to the required level. A concrete structure has the advantage of providing a fixed flow control position, as opposed to a rough channel where the control point is dependent on the flow rate. The return channel conveys water back to the river. Its capacity must be similar to the capacity of the spillway crest. Rapid flow rates in the channel have a high erosion potential. Water must therefore be guided away from the dam embankment. The channel alignment must be selected to avoid highly erodible areas, as lining of the channel will be very expensive.

The left flank of the valley appears more suitable for the spillway. It is slightly flatter and will therefore require less excavation for both the spillway and return channel. The valley also becomes slightly wider on the downstream left flank. This will allow a gentler return channel slope. The final position and layout will be determined by the rock conditions.

Construction of a balancing dam is regarded as an alternative.

As per the Aquatic Report:

It could be possible to divert the surface runoff from the small catchment through the dam from the bottom release pipe as indicated in the dam engineer study. Essentially creating an off stream dam from a surface runoff perspective. However, this option would result in a slight deficit in the maximum irrigation requirements. If this option is considered, then a surface release of water is preferable to a bottom release given that water quality in the hypolimnion (deep layer of dam water) is frequently oxygen-depleted with elevated iron and manganese. This can be achieved with installation of a floating intake with a flexible pipe connected to the bottom outlet.

(c) Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

The original size of the dam was planned to be 300 000 m³. As a result of Hydrology and Aquatic Assessments and the implementation of a borehole the dam size has decreased. The required dam capacity is approximately 73 000 m³. The wall height will be 17 m.

As per the Concept design of the proposed Bernardskloof Dam:

The dam type selection focusses on the most cost-effective dam option, but must also consider lifetime costs and environmental impact. The options to consider include earth- and rock fill dams and arch- and gravity concrete dams.

In general, concrete dams are more expensive than fill dams as they require expensive cement and aggregates (gravel and sand) for concrete, specialised batching and placing equipment and construction expertise. The aggregates are usually produced on site, requiring large crushers. Concrete dams further require competent rock foundations and varying levels of foundation treatment, such as grouting and drainage.

Concrete options only become viable when the scope of the project is large enough to balance the cost of importing materials, equipment and expertise and when the volume of fill materials are insufficient.

Fill- or embankment dams are constructed from soil or rock, or a combination of the two. They are distinguished based on which of the materials forms the bulk of the structure. These dams are generally constructed with the materials available at, or close to the dam site.

Water in the dam is retained by an impervious zone or membrane which is supported by general fill. Materials are preferably obtained from the dam basin. This has the advantage of limiting the environmental impacts of quarrying, because the borrow area becomes part of the dam basin.

The disadvantages of fill dams are that they are more susceptible to erosion at the water level in the dam and especially when overtopped. Spillway capacity and freeboard must therefore be sufficient for all foreseeable circumstances.

Fill dams also require better planning for temporary diversion during construction, as even minimal overtopping can cause severe damage to a partially built embankment. Bernardskloof Dam will require very little diversion of streamflow from the small natural catchment. Based on the cost advantage only embankment dams are considered feasible for the site under consideration.

(d) Technology alternatives (e.g. to reduce resource demand and resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts or detailed motivation if no reasonable or feasible alternatives exist:

Construction of a balancing dam

In addition, it is recommended that the dams on Portion 17 of the farm be fitted with release valves which release a controlled quantity of water regularly to ensure water supply continues to reach the downstream watercourses

(e) Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Construction of a balancing dam

In addition, it is recommended that the dam on Portion 17 farm be fitted with release valves which release a controlled quantity of water regularly to ensure water supply continues to reach the downstream watercourses.

(f) The option of ceasing the activity (the refusal of the activity(ies) and/or rehabilitation of the site):

The option of not continuing with the proposed dam could result in the following impacts:

1. The agricultural practises on portion 12, 15 and 17 of the farm 232 will in all probability fail as a result of not having enough water to irrigate the proposed Macadamia trees.
2. Socio Economic impacts that could have resulted in employment opportunities and skill developments.
3. The Socio Economic contribution to the economy with the export of Macadamia nuts.

As per the Aquatic Assessment page 36 & 37:

Rehabilitation of the excavated area (decommissioning the dam) will not be an easy task, and even with the rigorous implementation of mitigation measures recommended in this report is likely to have failures which would require ongoing monitoring and maintenance. This is because the surrounding slopes are steep and a lot of material (soil and rock) has been destabilised and moved. A concerted and sustained effort is necessary to reduce downstream impacts however, as the site is located within a FEPA and Ecological Support Area and is located upstream of a Protected Area.

If part or all of the excavated area is used for the dam, this leaves less area that requires rehabilitation (above the high-water mark), and reduces the risk of sedimentation downstream, as eroded sediment will largely be retained within the dam basin. Given these considerations it is concluded that a dam with proportions informed by the hydrological and engineering study be considered for approval within the footprint of disturbance. In this instance, all mitigation measures explained for this scenario must be fully implemented to rehabilitate degraded areas and prevent further habitat loss and degradation.

(g) Any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist:

Addressed in the Aquatic Specialist Report it address the fact that had EIA process been adhered too prior to construction alternatives would have been considered. Feasible alternatives would have been to place the proposed dam in another location or if the location where the disturbance has occurred was earmarked and authorised for the dam the proposed mitigation measures would have been implemented which in all probability would have resulted in fewer negative impacts on the receiving environment.

However, construction of the proposed dam commenced without Environmental Authorisation, as a result and conclusions of various specialist studies it is proposed that the dam be completed while adhering to all proposed mitigation measures. The reasons being that:

1. Rehabilitation of the excavated area will not be an easy task
2. The probability of failure with rehabilitation even when implementing mitigation measures will require on going maintenance and monitoring as a result of steep slopes.
3. Soil and rock have been destabilised and moved
4. Reduces the risk of sedimentation downstream

Given these considerations it is concluded that a dam with proportions informed by the hydrological and engineering study be considered for approval within the footprint of disturbance. In this instance, all mitigation measures explained for this scenario must be fully implemented to rehabilitate degraded areas and prevent further habitat loss and degradation.

(h) Please provide a summary of the alternatives investigated and the outcomes of such investigation:

Please note: If no feasible and reasonable alternatives exist, the description and proof of the investigation of alternatives, together with motivation of why no feasible or reasonable alternatives exist, must be provided.

1. Location / Site alternatives:

There no feasible or reasonable site alternatives.

2. Design / layout alternatives:

The original size of the dam was planned to be 300 000 m³. As a result of Hydrology and Aquatic Assessments and the implementation of a borehole the dam size has decreased. The required dam capacity is approximately 70 000 m³. The wall height will be 17 m.

3. Technology – alternative:

Construction of a balancing dam with release valves to ensure water continuously flows to Whiskey Creek.

4. Operational alternatives:

Construction of a balancing dam with release valves to ensure water continuously flows to Whiskey Creek

SECTION F: IMPACT ASSESSMENT, MANAGEMENT, MITIGATION AND MONITORING MEASURES

Please note, the impacts identified below refer to general impacts commonly associated with development activities. The list below is not exhaustive and may need to be supplemented. Where required, please append the information on any additional impacts to this application.

Please note: The information in this section must be duplicated for all the feasible and reasonable alternatives (where relevant).

1. PLEASE DESCRIBE THE MANNER IN WHICH THE DEVELOPMENT HAS IMPACTED ON THE FOLLOWING ASPECTS:

(a) Geographical and physical aspects:

<p>As per the Aquatic Assessment:</p> <p>The current excavation resulted in the following negative impacts on the receiving environment:</p> <ol style="list-style-type: none"> 1. Extensive excavation work using heavy machinery resulted in removal of topsoil, subsoil and rock from a large area killing ground-dwelling biota, creating an erosion risk and habitat loss. 2. Vegetation removal with chainsaws, stump removal and chipping using heavy machinery resulted in death or injury to ground and tree dwelling biota, destruction of indigenous plants, compaction of soil and soil erosion.
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(b) Biological aspects:

Has the development impacted on critical biodiversity areas (CBAs) or ecological support areas (ESAs)?	YES	NO
If yes, please describe:		
<p>As per the Biodiversity Assessment:</p> <p>The north western extent of Portion 18 is mapped as containing a primary terrestrial Critical Biodiversity Area (CBA 1); the receiving environment at Portion 17 contains a primary aquatic Ecological Support Area (ESA 1; watercourse area) fringed by a secondary terrestrial (ESA 2).</p> <ol style="list-style-type: none"> 1. The proposed activity is inconsistent with CBA designation management objectives. 2. The proposed activity has impacted on species composition and vegetation structure of vegetation of Moderate Terrestrial Biodiversity Sensitivity. 3. The impact will not elevate the ecosystem threat status of the remaining extent of Least Threatened Tsitsikamma Sandstone Fynbos. 4. The impact on subtypes is unknown 5. The impact on overall species and ecosystem diversity of the site is of medium intensity 6. The impact on threat status of species of special concern is unknown based on the plant species observed 7. Ecological services within and across the site have been and will be impacted by the activity. 8. The activity has had a very high impact locally on ecological processes and ESA functionality. 9. The proposed activity may reduce ecological connectivity at the surrounding areas. 10. The proposal has had an impact on the ecological integrity of indigenous fynbos and riparian elements at the property. 		
Has the development impacted on terrestrial vegetation, or aquatic ecosystems (wetlands, estuaries or the coastline)?	YES	NO

If yes, please describe:

As per the Biodiversity Assessment:

The receiving environment at Portion 17 contains a primary aquatic Ecological Support Area (ESA 1; watercourse area) fringed by a secondary terrestrial (ESA 2).

1. The proposed activity is inconsistent with CBA designation management objectives.
2. The proposed activity has impacted on species composition and vegetation structure of vegetation of Moderate Terrestrial Biodiversity Sensitivity.
3. The impact will not elevate the ecosystem threat status of the remaining extent of Least Threatened Tsitsikamma Sandstone Fynbos.
4. The impact on subtypes is unknown
5. The impact on overall species and ecosystem diversity of the site is of medium intensity
6. The impact on threat status of species of special concern is unknown based on the plant species observed
7. Ecological services within and across the site have been and will be impacted by the activity.
8. The activity has had a very high impact locally on ecological processes and ESA functionality.
9. The proposed activity may reduce ecological connectivity at the surrounding areas.

The proposal has had an impact on the ecological integrity of indigenous fynbos and riparian elements at the property.

As per the Aquatic Assessment page 12:

The area excavated for the dam was classified in the Western Cape Biodiversity Spatial Plan (WCBS; 2017) mostly as Ecological Support Area 1 (Aquatic).

This is defined as: "Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of Protected Areas or Critical Biodiversity Areas, and are often vital for delivering ecosystem services." According to the WCBS the management objective for these areas is: "Maintain in a functional near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised."

The location of the watercourse immediately upstream of the Whiskey Creek Nature Reserve (the Protected Area) is consistent with the definition. Excavation of the valley for construction of the dam is not consistent with the management objective because entire habitat loss has occurred resulting in complete loss of ecological functioning at this location.

As per the Aquatic Assessment page 13:

The watercourse is within NFEPA area (sub-quaternary reach) 9097, which is categorised as a FEPA (Freshwater Ecosystem Priority Area). A FEPA is an area prioritised for conserving freshwater ecosystems and associated biodiversity. The selection of FEPAs is determined through a process of systematic biodiversity planning using data on freshwater ecosystem types, species and ecological processes. FEPAs should be maintained in a good condition to manage and conserve freshwater ecosystems and to protect water resources for human users. This does not mean that FEPAs should be fenced off from humans, but they should be supported by good planning, decision-making and management. The recommended condition for all river FEPAs is an A or B ecological category (Nel et al., 2011).

Has the development impacted on any populations of threatened plant or animal species, and/or on any habitat that may contain a unique signature of plant or animal species?	YES	NO
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If yes, please describe:

As per the Biodiversity Assessment:

1. The impact will not elevate the ecosystem threat status of the remaining extent of Least Threatened Tsitsikamma Sandstone Fynbos.

Please describe the manner in which any other biological aspects were impacted:

None

(c) Socio-Economic aspects: Will be completed in the final for the Competent Authorities to assess.

What was the capital value of the activity on completion?	R
What is the (expected) yearly income or contribution to the economy that is/will be generated by or as a result of the activity?	R
Has/will the activity have contributed to service infrastructure?	YES NO
How many new employment opportunities were/will be created in the construction phase of the activity?	19
What was the value of the employment opportunities during the construction phase?	R222 300 x 19
What percentage of this accrued to previously disadvantaged individuals?	100%
How was this ensured and monitored (please explain):	
Local Labour from Kurland village. Monitored by mages and transport to and from site.	
How many permanent new employment opportunities were/will be created during the operational phase of the activity?	
What is the current/expected value of the employment opportunities during the first 10 years?	R
What percentage of this accrued/will accrue to previously disadvantaged individuals?	90%
How was/will this be ensured and monitored (please explain):	

Local Labour from Kurland village. Monitored by wages and transport to and from site
Any other information related to the manner in which the socio-economic aspects was/will be impacted:
Only Poistive impacts are expected with regards to the socio economic aspects. They are as follow: <ul style="list-style-type: none"> • Skills development. • Basic health and safety. • Chain saw operators training. • Concrete Skills. • Stone pitching. • Rehabilitation works. • Alien vegetation identification and removal techniques.
<ul style="list-style-type: none"> • All employment will be sourced locally for as far as there are the necessary skills available. Where we need to source specific skills, we will source as close as possible. At the moment we have only sourced labour within the local area and within the Eastern and Western Cape as far as professional services have been required. • Every hectare requires three permanent workers and four seasonal workers. • Opportunities will include planting; herbiciding and pesticing, irrigation, fertilizer application, tree training & pruning, harvesting, dehusking & drying, grading and packing and general orchard maintenance, supervisors, farm manager, finance & accounting staff, and logistics staff. • The agricultural industry is one of few industries that are growing in South Africa to negate the effects of the country's dire economical situation. The macadamia industry in particular contributes significantly to earning forex, since 99% of the crop is exported. South Africa is the largest producer of macadamias globally, and the industry continues to grow. The export value of the SA macadamia industry in 2020 was approximately R4.8 billion. • Farm workers will be employed on a permanent basis and will increase with an increase in planted area. This will not only contribute to the local economy, but will also contribute to skills development. As more farms are established, more processing capacity is also created to cope with the ever-increasing volumes. Eventually when enough farms are established in the Western Cape a processing facility will be established locally which will also employ a large number of people.

(d) Cultural and historic aspects:

N/A

2. WASTE AND EMISSIONS

(a) Waste (including effluent) management

Did the activity produce waste (including rubble) during the construction phase?	YES	NO
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	m ³	
N/A		

Does the activity produce waste during its operational phase?	YES	NO
If yes, indicate the types of waste (actual type of waste, e.g. oil, and whether hazardous or not) and estimated quantity per type?	m ³	

Where and how was/will the waste be treated / disposed of (describe)?
N/A

Has the municipality or relevant authority confirmed that sufficient capacity exists for treating / disposing of the waste (to be) generated by this activity(ies)? If yes, provide written confirmation from Municipality or relevant authority N/A	YES	NO
Does/will the activity produce waste that is/will be treated and/or disposed of at another facility other than into a municipal waste stream? N/A	YES	NO
If yes, has this facility confirmed that sufficient capacity exists for treating / disposing of the waste (to be) generated by this activity(ies)? Provide written confirmation from the facility and provide the following particulars of the facility:N/A	YES	NO
Does the facility have an operating license? (If yes, please attach a copy of the license.)	YES	NO
Facility name:		
Contact person:		
Postal address:		
	Postal code:	
Telephone:	Cell:	
E-mail:	Fax:	

Describe the measures that were/will be taken to reduce, reuse or recycle waste:
N/A

(b) Emissions into the atmosphere

Does/will the activity produce emissions that will be disposed of into the atmosphere?	YES	NO
If yes, does it require approval in terms of relevant legislation?	YES	NO
Describe the emissions in terms of type and concentration and how it is/will be treated/mitigated:		
N/A		

3. WATER USE

Please indicate the source(s) of water for the activity by ticking the appropriate boxes)

Municipal	Water board	Groundwater	River, Stream, Dam or Lake	Other	The activity did/does/will not use water
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If water was extracted from a groundwater source, river, stream, dam, lake or any other natural feature, please indicate the volume that was extracted per month:	
3 furrow allocations to yield between 25 000m³ and 50 000m³ per annum (2083.33m³ and 4166.66m³ per month)	
Surface Runoff 12 200m³ per annum (1016.66m³ per month)	
Borehole 69 000m³ per annum (5750m³ per month)	

Please provide proof of assurance of water supply (e.g. Letter of confirmation from municipality / water user associations, yield of borehole)		
Did/does the activity require a water use permit / license from DWA?	YES	NO
If yes, please submit a certified copy of the water use permit/license or submit the necessary application to Department of Water Affairs and attach proof thereof to this application, whichever is applicable.		
Describe the measures that were/ will be taken to reduce water demand, and measures to reuse or recycle water:		
The original size of the dam was planned to be 300 000 m³. As a result of Hydrology and Aquatic Assessments and the implementation of a borehole the dam size has decreased. The required dam capacity is approximately 70 000 m³. The wall height will be 17 m.		
Drip irrigation is proposed for the Macadamia Trees.		

4. POWER SUPPLY

Please indicate the source of power supply e.g. Municipality / Eskom / Renewable energy source

Eskom as well as renewable energy source. The borehole is currently powered by solar energy

If power supply is not available, where will power be sourced from?
N/A

5. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:
Solar panels have been installed at the borehole.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:
Solar panels will be installed for the pump station at the dam.

6. DESCRIPTION AND ASSESSMENT OF THE SIGNIFICANCE OF IMPACTS prior to and after MITIGATION

Please note:

- While sections are provided for impacts on certain aspects of the environment and certain impacts, the sections should also be copied and completed for all other impacts.
- Mitigation measures that were implemented and mitigation measures that are to be implemented should be clearly distinguished.

Methodology for Assessment of Impacts There are mainly three categories of environmental impacts: Direct Impacts: These impacts are caused by the development itself for example the clearing of vegetation for a development.
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Indirect Impacts: These impacts are usually linked closely with the project and may have more profound results than the direct impacts for example the degradation of surface water due to soil erosion emanating from the site where vegetation clearance has taken place.

Cumulative Impacts: These impacts can be defined as the ability of natural and social environments to incorporate cumulative stresses placed on them and the likelihood of negative synergistic effects. Cumulative impacts also arise when existing future development rights set a precedent in an area. The process of cumulative impacts may arise from any of the following four events:

- A single large event
- Multiple interrelated events
- Sudden or catastrophic events
- Incremental change

Definition of key terminology:

Nature of the impact

This is an estimation of the type of effect the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected and how.

Extent of the impact

Describe whether the impact will be: local extending only as far as the development site area; or limited to the site and its immediate surroundings; or will have an impact on the region or will have an impact on a national scale or across international borders.

Duration of the impact

The specialist should indicate whether the lifespan of the impact would be short term (0-5 years), medium term (5-15 years), long term (16-30 years) or permanent.

Intensity

The specialist should establish whether the impact is destructive or benign and should be qualified as low, medium or high. The specialist study must attempt to quantify the magnitude of the impacts and outline the rationale used.

Probability of occurrence

The specialist should describe the probability of the impact actually occurring and should be described as improbable/unlikely (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of any prevention measures). NEMA SECTION 24G APPLICATION S24GAF/04/2018 47

Reversibility

- Completely reversible – the impact can be reversed with the implementation of minor mitigation measures.
- Partly reversible – the impact is reversible but more intense mitigation measures are required
- Barely reversible – the impact is unlikely to be reversed even with intense mitigation measures
- Irreversible – the impact is irreversible, and no mitigation measures exist

Irreplaceable loss of resources

Describes the degree to which resources will be irreplaceably lost due to the proposed activity. It can be no loss of resources, marginal loss, significant loss or complete loss of resources.

Cumulative effect

An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. The cumulative effect can be:

- Negligible – the impact would result in negligible to no cumulative effect
- Low – the impact would result in insignificant cumulative effects
- Medium – the impact would result in minor cumulative effects
- High – the impact would result in significant cumulative effects

Significance

Significance of impacts are determined through a synthesis of the assessment criteria and is described as –

- Low negative – where it would have negligible effects and would require little or no mitigation
- Low positive – the impact will have minor positive effects
- Medium negative – the impact will have moderate negative effects and will require moderate mitigation
- Medium positive – the impact will have moderate positive effects
- High negative – the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact
- High positive – the impact will have significant positive effects
- Very high negative – the impact will have highly significant effects and are unlikely to be able to be mitigated adequately
- High positive – the impact will have highly significant positive effects

(a) **Impacts that resulted from the planning, design and construction phases (briefly describe and compare the impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that occurred as a result of the planning, design and construction phases.**

Impacts on geographical and physical aspects:	
Nature of impact:	Extensive excavation work using heavy machinery resulted in the Removal of topsoil, subsoil and rock from a large area killing ground-dwelling biota, creating an erosion risk and habitat loss.
Extent and duration of impact:	On-going
Probability of occurrence:	Highly Probable
Degree to which the impact can be reversed:	Low
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative
Degree to which the impact can be mitigated:	None
Proposed mitigation:	The significance is a "moderate negative" in both cases because the impact cannot be mitigated in retrospect
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative

Impacts on geographical and physical aspects:	
Nature of impact:	Renewed earthworks to finish constructing the dam could in all probability result in soil erosion, downstream sedimentation, further vegetation loss, extension of disturbance footprint.
Extent and duration of impact:	Medium term impact will last between 5 and 10 years
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	downstream sedimentation, further vegetation loss
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<ol style="list-style-type: none"> 1. The revised dam (including dam wall) must be within the existing area of disturbance ensuring no further vegetation is removed or disturbed. 2. The footprint of the dam includes the spillway which should be included in the existing area of disturbance. 3. Demarcate the disturbed area with temporary fencing (not danger tape) and ensure all workers knows the limit of disturbance. 4. Construction vehicle parking and equipment stores must be located at least 100 m from the demarcated are to prevent fuel and material spills from entering the watercourse. 5. Access by vehicles must be in and out on one road only to reduce the are of disturbance. Vehicles must not leave this road. 6. Fence off the watercourse downstream and the wetland area upstream of the excavated area for the duration of construction. These must be demarcated as No Go Areas. 7. Remove loose soil material from within the dam basin and stockpile it in distinctive piles of rocky material, subsoil and topsoil. These must not be mixed as they can be re-used for rehabilitation. 8. Until the dam wall has been constructed, a large silt fence must be actively maintained across the outflow of the excavated area to prevent sedimentation downstream.
Cumulative impact post mitigation:	Natural and / or social functions and / or processes are moderately altered.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Impacts on geographical and physical aspects:	
Nature of impact:	Soil erosion above the high-water mark
Extent and duration of impact:	Local during the lifespan

Probability of occurrence:	High
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	Loosely piled soils and rock will erode overtime and areas will be colonised by alien vegetation
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be mitigated:	High
Proposed mitigation:	<ol style="list-style-type: none"> 1. Once the dam basin wall has been prepared, any disturbed areas above the high-water mark needs to be rehabilitated. 2. In excavated areas replace and compact first rocky layer then subsoils in all areas above the high-water mark, sloping the material to a 1:3 slope that ties in with the dam basin. 3. Cover the above compacted layer with loose topsoil from the site to a depth of at least 50cm. 4. Seed the slopes with a grass mixture of (Teff, Cynodon dactlyn (kweek), Digitaria eriantha (smuts finger grass), cover with a light mulch, and then nail in the overlapping soil saver matting to protect the soil. 5. On both sides of the dam two silt fences must be installed along the full length of the edge.
Cumulative impact post mitigation:	Mitigation measures will result in a legible improvement compared to the current state of disturbed area.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Impact on biological aspects:	
Nature of impact:	Vegetation removal with chainsaws, stump removal and chipping using heavy machinery resulted in the death or injury to ground and tree dwelling biota, destruction of indigenous plants, compaction of soil and soil erosion.
Extent and duration of impact:	Limited and ongoing
Probability of occurrence:	High
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	None, if the dam is constructed in the area the vegetation will be lost, however rehabilitation of the surrounding areas and replanting of indigenous vegetation is recommended.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate Negative

Impacts on socio-economic aspects:	
Nature of impact:	Temporary employment opportunities during construction
Extent and duration of impact:	Limited to the local area for the duration of the construction phase
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	Low positive
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low positive
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	N/A
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

Impacts on cultural-historical aspects:

Nature of impact:	No impacts on cultural-historical aspects are foreseen
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Noise impacts:	
Nature of impact:	Noise pollution caused by construction machinery
Extent and duration of impact:	Limited to the site and neighbouring properties
Probability of occurrence:	Highly probable
Degree to which the impact can be reversed:	Partly reversible – only lasting for the duration of construction
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources
Cumulative impact prior to mitigation:	Negligible
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	Construction only weekdays as per working day light hours
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Visual impacts / Sense of Place:	
Nature of impact:	The sense of place will not be impacted on.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

As per the Aquatic Assessment:

Should the proposed dam be approved to some extent through the WULA and S24G process, then construction of the dam would need to continue. Rehabilitation of disturbed areas outside of the dam basin (e.g. spillway, dam wall, shoreline) would also be required. This section considers the impacts and mitigation measures for these activities.

Project phase	Construction			
Impact	Renewed earthworks to finish constructing the dam			
Description of impact	Soil erosion, downstream sedimentation, further vegetation loss, extension of disturbance footprint.			
Mitigatability	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> • Plan the revised dam on a reduced footprint within the existing area of disturbance ensuring no further vegetation is removed or disturbed. <ul style="list-style-type: none"> • The footprint of the dam includes the spillway which should also be included in the existing area of disturbance. • Demarcate the disturbed area with temporary fencing (not danger tape) and ensure all workers know this is the limit of disturbance. • Construction vehicle parking and equipment stores must be located at least 100 m from the demarcated area to prevent fuel and material spills from entering the watercourse. • Access by vehicles must be in and out on one road only to reduce the area of disturbance. Vehicles must not leave this road. • Fence off the watercourse downstream and the wetland area upstream of the excavated area for the duration of construction. These must be demarcated 'No-go Areas'. • Remove loose soil material from within the dam basin and stockpile it in distinct piles of rocky material, subsoil and topsoil. These must not be mixed as they will be re-used for rehabilitation. • Until the dam wall has been constructed, a large silt fence must be maintained across the outflow of the excavated area to prevent sedimentation downstream. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Negative	
Duration	Medium term	Impact will last between 5 and 10 years	Medium term	Impact will last between 5 and 10 years
Extent	Local	Extending across the site and to nearby settlements	Local	Extending across the site and to nearby settlements
Intensity	High	Natural and/ or social functions and/ or processes are notably altered	Moderate	Natural and/ or social functions and/ or processes are moderately altered
Probability	Certain / definite	There are sound scientific reasons to expect that the impact will definitely occur	Probable	The impact has occurred here or elsewhere and could therefore occur
Confidence	High	Substantive supportive data exists to verify the assessment	High	Substantive supportive data exists to verify the assessment
Reversibility	Low	The affected environment will not be able to recover from the impact - permanently modified	Medium	The affected environment will only recover from the impact with significant intervention
Resource irreplaceability	Medium	The resource is damaged irreparably but is represented elsewhere	Medium	The resource is damaged irreparably but is represented elsewhere
Significance	Moderate - negative		Minor - negative	
Comment on significance				
Cumulative impacts	Not applicable			

Note that the impacts and recommended mitigation measures for 'soil erosion above the high-water mark' are identified for the construction phase of renewed dam construction (Table 10 and Figure 11). This indicates that the recommended work must take place prior to operation of the dam. The methods for revegetating and stabilising slopes above the high-water mark area also applicable to vegetating the dam embankment (wall) which will also require stabilisation at this phase of the development.

Project phase	Operation			
Impact	Erosion of previously excavated slopes			
Description of impact	Historically disturbed soil may be difficult to stabilise and protect from erosion			
Mitigatability	Medium	Mitigation exists and will notably reduce significance of impacts		
Potential mitigation	<ul style="list-style-type: none"> • Revegetated slopes above the high-water mark must be actively monitored to ensure a dense cover of > 80% of grass. Gaps should be actively reseeded. • A 10 m buffer zone surrounding the area of disturbance must be established and demarcated with basic fencing. <ul style="list-style-type: none"> • A combination of active and passive revegetation must take place in the 10 m buffer zone: Active = planting recommended indigenous species, and Passive = not disturbing plants that naturally germinate. • Alien vegetation must be actively removed before it becomes established when it can either be hand-pulled or removed with a tree popper. NO heavy machinery can be used within the buffer or previously disturbed area for the purpose of alien removal. • Revegetation of the buffer area must be monitored 6-monthly for 3 years by an Environmental Control Officer / Aquatic Ecologist. • Monitoring should also take place by the land-owner following heavy rainfall to identify and proactively address erosion before it can progress too severely. • Eroded areas of the steep banks must be refilled with topsoil, reseeded with grass mix, covered with a light mulch and protected with soil saver mats. The use of silt fencing can be extended to problem areas to provide further protection. 			
Assessment	Without mitigation		With mitigation	
Nature	Negative		Negative	
Duration	Long term	Impact will last between 10 and 15 years	Short term	Impact will last between 1 and 5 years
Extent	Limited	Limited to the site and its immediate surroundings	Limited	Limited to the site and its immediate surroundings
Intensity	Moderate	Natural and/ or social functions and/ or processes are moderately altered	Low	Natural and/ or social functions and/ or processes are somewhat altered
Probability	Likely	The impact may occur	Unlikely	Has not happened yet but could happen once in the lifetime of the project, therefore there is a possibility that the impact will occur
Confidence	Low	Judgement is based on intuition	High	Substantive supportive data exists to verify the assessment
Reversibility	Medium	The affected environment will only recover from the impact with	High	The affected environment will be able to recover from the impact
Resource irreplaceability	Low	The resource is not damaged irreparably or is not scarce	Low	The resource is not damaged irreparably or is not scarce
Significance	Minor - negative		Negligible - negative	
Comment on significance				
Cumulative impacts	Not applicable			

(b) Impacts that result from the operational phase (briefly describe and compare impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the operational phase.

Impacts on the geographical and physical aspects:	
Nature of impact:	Flow modification
Extent and duration of impact:	Site Related. Long Term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Partly reversibly
Degree to which the impact may cause irreplaceable loss of resources:	Marginal Loss
Cumulative impact prior to mitigation:	Low- Medium Negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low- Medium Negative
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	If deemed necessary, a EWR should be calculated. It is proposed that the spillway of the dam be redirected down the drainage line.

	If any repair work is to be done in future, a EWR should be calculated for these as well.
Cumulative impact post mitigation:	Low- Medium
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

Impacts on the geographical and physical aspects:	
Nature of impact:	Erosion of previously excavated slopes. Historically disturbed soil may be difficult to stabilise and protect from erosion.
Extent and duration of impact:	Limited
Probability of occurrence:	Likely
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Minor Negative
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<ul style="list-style-type: none"> • Revegetated slopes above the high-water mark must be actively monitored to ensure a dense cover of > 80% of grass. Gaps should be actively reseeded. • A 10 m buffer zone surrounding the area of disturbance must be established and demarcated with basic fencing. • A combination of active and passive revegetation must take place in the 10 m buffer zone: Active = planting recommended indigenous species, and Passive = not disturbing plants that naturally germinate. • Alien vegetation must be actively removed before it becomes established when it can either be hand pulled or removed with a tree popper. NO heavy machinery can be used within the buffer or previously disturbed area for the purpose of alien removal. • Revegetation of the buffer area must be monitored 6-monthly for 3 years by an Environmental Control Officer / Aquatic Ecologist.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible - Negative

Impacts on the geographical and physical aspects:	
Nature of impact:	Maintenance of the dam involving dredging and removal of silt
Extent and duration of impact:	During the lifespan of the dam
Probability of occurrence:	High
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	Disturbance of rehabilitated slopes, disturbance to instream habitat and biota, increasing the dam capacity
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<ol style="list-style-type: none"> 1. Heavy machinery for dredging the dam may only gain access to the basin from the dam wall or from the road. Machines may not drive over previously disturbed and rehabilitated slopes. 2. To minimise the impact of dredging on instream biota (plants and animals) dredging must be conducted in mid-winter to avoid the breeding season. 3. Only 60% of vegetation that has established (reeds etc.) can be removed, working from the central basin outwards. 4. Make an effort to rescue any obvious wildlife from disturbance such as frogs 5. Work should be conducted when the water level is as drawn down as low as possible to minimise increasing suspended sediments in the dam. 6. The dam's original capacity must not be increased in volume, and records of the cubic metres of sediment removed must be maintained. 7. No trees or large shrubs must be allowed to grow on the dam embankment (wall) as these can lead to piping erosion and dam wall failure.
Cumulative impact post mitigation:	Disturbance to instream habitat and biota
Significance rating of impact after mitigation	Medium

(Low, Medium, Medium-High, High, or Very-High)	
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Impact on biological aspects:	
Nature of impact:	Loss of riparian, aquatic and terrestrial vegetation
Extent and duration of impact:	Limited to the site – Long term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Low – Partly reversible
Degree to which the impact may cause irreplaceable loss of resources:	Marginal – Significant
Cumulative impact prior to mitigation:	Medium negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	Setback from Watercourse and steep slopes; rehabilitate watercourse area; install berms and anti-erosion measures; side/drains / culverts for access tracks; no instream dam. The whole freshwater system (unnamed stream, drainage lines and wetland areas), are to be properly rehabilitated and re-vegetated with appropriate vegetation. A guided alien vegetation removal plan should also be followed for the remaining alien vegetation on site. All future agricultural practices should be kept outside of the 30m buffer area, and if the dam walls.
Cumulative impact post mitigation:	Low - Medium negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative

Impact on biological aspects:	
Nature of impact:	Spread of alien plants
Extent and duration of impact:	Limited to the site – long term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Partly reversible
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss
Cumulative impact prior to mitigation:	Medium negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative
Degree to which the impact can be mitigated:	Medium – High
Proposed mitigation:	Alien plants must be continually removed from disturbed (and other) areas. This activity should commence immediately as there are already a number of alien plants re-growing in disturbed areas.
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

Impacts on the socio-economic aspects:	
Nature of impact:	The activity will create new employment opportunities
Extent and duration of impact:	Local and long Term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	Increased job security may contribute to improved living standards and social wellbeing within the community.
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low – Medium positive
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	N/A
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

Impacts on the cultural-historical aspects:	
Nature of impact:	No impacts on cultural-historical aspects are foreseen
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation	

(Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Noise impacts:	
Nature of impact:	No impacts on cultural-historical aspects are foreseen
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Visual impacts / Sense of Place:	
Nature of impact:	The sense of place will not be impacted on
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

(c) Impacts that may result from the decommissioning and closure phase (briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase.

Potential impacts on the geographical and physical aspects:	
Nature of impact:	Earthworks to replace soil may result in erosion leading to soil loss and sedimentation of the watercourse downstream.
Extent and duration of impact:	Local
Probability of occurrence:	Very High
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Moderate - negative
Degree to which the impact can be mitigated:	Minor - negative
Proposed mitigation:	<ul style="list-style-type: none"> • Demarcate the disturbed area with temporary fencing (not danger tape) and ensure all workers know this is the limit of disturbance. • Construction vehicle parking and equipment stores must be located at least 100 m from the demarcated area to prevent fuel and material spills from entering the watercourse. • Access by vehicles must be in and out on one road only to reduce the area of disturbance (indicated in Figure 9 of the Aquatic Assessment). • Fence off the watercourse downstream and the wetland area upstream of the excavated area for the duration of construction. These must be demarcated 'No-go Areas' for people and vehicles. • Replace and compact soils in the order in which they were removed. ie. rock layer followed by subsoils (usually yellowish colour). Topsoil must be placed over the subsoil, but the latter must not be compacted. • Topsoil must be at a depth greater than or equal to 50 cm. • It is extremely important to not mix soil profiles (e.g. subsoil with topsoil).

	<ul style="list-style-type: none"> • There may not be sufficient topsoil from the site, in which case this will need to be purchased and brought in to achieve the required depth. • Attempt to reshape and slope the valley to the natural site contours, avoiding the creation of ditches and cuts which channel water flow and cause erosion. • Work must not be conducted during periods of rainfall to avoid further disturbance. • A large silt fence must be established and maintained free of silt for the duration of the rehabilitation work. • The depth of topsoil and final landform must be independently assessed by an Environmental Control Officer / Aquatic Ecologist using an auger prior to revegetation to ensure a uniform distribution of topsoil has been achieved.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Minor - negative

Potential impacts on the geographical and physical aspects:	
Nature of impact:	Restoration of the stream bed
Extent and duration of impact:	Local and Medium term
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Probable / Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	Erosion, habitat loss, and sedimentation downstream
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<ol style="list-style-type: none"> 1. install 4 - 5 gabion check dams equally spaced at intervals along the stream bed (Figure 11 in aquatic report). The purpose is to slow and filter flows, and encourage settling of sediment upstream of each check dam. 2. Gabions must be correctly installed on a geotextile such as bidim to prevent erosion from occurring beneath and around them. They should be 'anchored in' to the bottom of the valley sides. 3. The final gabion must be located at lower extent of the disturbed area. 4. Cover approximately 40% of the stream bed with cobbles and small rocks (Approx. 30 cm width) placed randomly along the length of the stream bed.
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Minor negative

As per the Aquatic Assessment:

Revegetation of the slopes and stream bed will be required to provide stability to the soil and prevent erosion. This is the primary aim in the short-term, while improving biodiversity of the site would be a longer-term aim. Monitoring of the site is recommended (Table 16) to ensure that rehabilitation efforts are successful and that problematic areas are attended to effectively and proactively. Without successful revegetation, the slopes will undoubtedly erode in areas, causing ongoing degradation of the watercourse. It is therefore crucial that if the decision is made for the excavated area to be rehabilitated that a detailed rehabilitation plan be followed using the mitigation measures in Table 16.

Potential impact on biological aspects:	
Nature of impact:	Erosion of recently replaced soil
Extent and duration of impact:	Local and on-going
Probability of occurrence:	Certain / Definite
Degree to which the impact can be reversed:	Medium
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	Without revegetation, replaced soil will erode causing habitat loss and sedimentation downstream
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<ol style="list-style-type: none"> 1. Seed the slopes and stream bed with a grass mixture (Italian Ryegrass, Cynodon dactylon (kweek), Digitaria eriantha (Smuts finger grass) and cover with a light mulch. 2. On the slopes, nail in overlapping soil saver matting to protect the soil

	<ol style="list-style-type: none"> 3. On both sides of the dam four silt fences must be installed parallel to each other along the full length of the disturbed slopes approximately 8 - 10 m apart. 4. Revegetated slopes must be actively monitored to ensure a dense cover of > 80% of grass. Gaps should be actively reseeded. 5. A 10 m buffer zone surrounding the area of disturbance must be established and demarcated with basic fencing. 6. A combination of active and passive revegetation must take place in the 10 m buffer zone: Active = planting recommended indigenous species, and Passive = not disturbing indigenous plants that naturally germinate. 7. Alien vegetation must be actively removed before it becomes established when it can either be hand-pulled or removed with a tree popper. NO heavy machinery can be used within the buffer or previously disturbed area for the purpose of alien removal. 8. Revegetation of the buffer and previously excavated area must be monitored 6-monthly for 3 years by an Environmental Control Officer / Aquatic Ecologist. 9. Monitoring should also take place by the land-owner following heavy rainfall to identify and proactively address erosion before it can progress too severely. 10. Eroded areas of the steep banks must be refilled with topsoil, reseeded with grass mix, covered with a light mulch and protected with soil saver mats. The use of silt fencing can be extended to problem areas to provide further protection
Cumulative impact post mitigation:	Sedimentation of Whiskey Creek.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Minor Negative

Potential impacts on the socio-economic aspects:	
Nature of impact:	Loss of employment for farm workers
Extent and duration of impact:	Local - Permanent
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Irreversible
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	Low - Medium negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - Medium negative
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	The only mitigation will be not to decommission the project
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	N/A

Potential impacts on the cultural-historical aspects:	
Nature of impact:	No impacts on cultural-historical aspects are foreseen
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Noise impacts:	
Nature of impact:	Noise pollution caused by construction machinery
Extent and duration of impact:	Limited to the site and neighbouring properties
Probability of occurrence:	Highly probable
Degree to which the impact can be reversed:	Partly reversible – only lasting for the duration of decommissioning
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources

Cumulative impact prior to mitigation:	Negligible
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	Construction only weekdays as per working day light hours
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Potential visual impacts:	
Nature of impact:	The sense of place will not be impacted on
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

(d) Any other impacts:

Potential impact:	N/A
Nature of impact:	
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Please note: If any of the above information is not available, specialist input may be requested. The impacts were derived from the appointed specialists assessments.

7. SPECIALIST INPUTS/STUDIES AND RECOMMENDATIONS

Please note: Specialist inputs/studies that will be undertaken as part of this application. These specialist inputs/studies must take into account the Department's relevant Guidelines on the Involvement of Specialists in EIA Processes available on the Department's website (<http://www.capegateway.gov.za/eaidp>). A summary of all the specialist inputs/studies must be provided with the additional information.

Specialist inputs/studies and recommendations:

Concept design of the proposed Bernardskloof Dam Report Nr. JB2091-01 2021-11-15, Specialist inputs/studies and Recommendations:
<ul style="list-style-type: none"> ➤ Based on its size the dam will be registered as a dam with a safety risk in terms of the National Water Act and classified as a Category II dam in terms of the Dam Safety Regulations. An Approved Professional Person will have to be employed to oversee the design and construction of the dam. ➤ The feasibility design concluded that an uncontrolled bywash spillway should be constructed on the left flank. A 150 mm diam. bottom outlet pipe should be installed for emergency draw-down and environmental releases (if required.) ➤ A geotechnical survey of the site and material should be conducted as part of the detail design phases. ➤ The required dam capacity is approximately 70 000 m³. The wall height will be 17 m.

- When the decision is made to proceed with the project the dam must be registered with the Dam Safety Office (DSO) at the Department of Water and Sanitation (DWS). The DSO will then confirm the final dam category based on a risk assessment submitted by the owner
- For a Category II dam the APP must submit an application for a license to construct to the DSO. The application must include a detail design report, drawings and specifications. The DSO assesses the design before issuing the license. A license will not be issued if the Water Use License does not specifically provide for the dam.
- During the construction phase the APP remains responsible for compliance with specifications. He/she must report to the DSO on progress with the works. At the completion of construction the APP must apply for a license to impound water in the dam before the dam can be filled. This application must in turn be supported by a completion report, an operation- and maintenance manual and an emergency preparedness plan for the dam.
- To optimise the design of the embankment and identify as many of the possible underground risks, a geotechnical investigation of the site must be conducted in the detail design phase. The scope of such an investigation may include the following:
 - Review of available geotechnical information on the area.
 - Site inspection to assess general site conditions and general geotechnical risks.
 - Subsurface investigations from test pits to determine e.g. local rock and soil types, ground water table and borrow area materials.
 - Soil sampling for embankment materials.
 - In situ and laboratory testing of potential construction materials. Testing of factors such as Atterberg limits, shear strength parameters and others as advised by specialist.
 - Slope stability analyses to confirm optimum embankment slopes.

Aquatic Specialist Assessment for a Section 24G and Water Use License Application at 17 / 232 Redford Farm, Knysna.

Specialist inputs/studies and Recommendations:

- Excavations for the dam that was proposed at 17/232 Redford Farm cover a wide area and have had a significant negative impact on the affected watercourse which is classified as a non-perennial drainage line. This has resulted in a decline in the localised Present Ecological State from a Class A/B (Largely Natural) to a Class E (Seriously Modified).
- The dam originally proposed for the site was sized to store water to irrigate macadamia nuts on 5 properties. The landowners have only purchased 3 properties with an area of proposed orchards covering 28 ha. Conclusions from engineering and hydrological studies suggest that 70 000 m³ storage capacity is needed. The proposed water for storage will come from 3 furrow allocations (25 000m³ /a), runoff from the catchment (12 200m³ /a) and the borehole (69 000 m³/a) which will form part of the Water Use License Application.
- Had the correct process for environmental authorisations been followed from the start, an alternative site for an off stream dam would have to have been considered in the process. Off stream dams are preferred storage reservoirs when surface water is not the main source of water as they cause less environmental damage than an instream excavation. However, now that the site has been excavated to such a large extent, it is considered preferable to construct the dam (with revised proportions) in the existing footprint of disturbance. This will ensure that large volumes of disturbed sediment on steep banks which will be difficult to stabilise will be contained within the dam, ensuring they do not move downstream.
- Furthermore, it could be possible to divert the surface runoff from the small catchment through the dam from the bottom release pipe as indicated in the dam engineer study. Essentially creating an offstream dam from a surface runoff perspective. However, this option would result in a slight deficit in the maximum irrigation requirements. If this option is considered, then a surface release of water is preferable to a bottom release given that water quality in the hypolimnion (deep layer of dam water) is frequently oxygen-depleted with elevated iron and manganese. This can be achieved with installation of a floating intake with a flexible pipe connected to the bottom outlet.
- Impacts in terms of the Ecological Reserve are not considered major because: 1) the dam is located at the very top of the stream system, and 2) the watercourse downstream is non-perennial and aquatic life are therefore accustomed to periods of low / no flow. The primary ecological function of the watercourse is therefore to deliver flows to downstream catchments which are more perennial in nature. In terms of volumes however, these are considered to be low in terms of the overall contribution of the local catchment at only 25% loss due to the dam (Confluent Environmental Hydrology Report).
- Rehabilitation of the excavated area (decommissioning the dam) will not be an easy task, and even with the rigorous implementation of mitigation measures recommended in this report is likely to have failures which would require ongoing monitoring and maintenance. This is because the surrounding slopes are steep (See Appendix 7.2) and a lot of material (soil and rock) has been destabilised and moved. A concerted and sustained effort is necessary to reduce downstream impacts however, as the site is located within a FEPA and Ecological Support Area and is located upstream of a Protected Area.
- If part or all of the excavated area is used for the dam, this leaves less area that requires rehabilitation (above the high-water mark), and reduces the risk of sedimentation downstream, as eroded sediment will largely be retained within the dam basin.
- Given these considerations it is concluded that a dam with proportions informed by the hydrological and engineering study be considered for approval within the footprint of disturbance. In this instance, all mitigation measures explained for this scenario must be fully implemented to rehabilitate degraded areas and prevent further habitat loss and degradation.

Hydrological Assessment for a Proposed Dam on Portion 17 of Farm 232 Redford, The Crags, Western Cape. FINAL REPORT.

Specialist inputs/studies and Recommendations:

- Based on the field work, interpretation of available and newly acquired data, the abstraction of groundwater from the site will have an overall "negligible – negative" impact on the investigated geohydrological environment after implementation of appropriate mitigation measures. During the rating and ranking procedure of impacts, all identified impacts could be countered by appropriate mitigation
- Based on the water balance results, it is recommended to apply for an allocation of 0.069 Mm³ /annum which places the application in Category B (medium scale abstractions: 60% -100% recharge to the GRU). The tested boreholes will be able to supply in 100% of the demand, as well as the applied volume.
- From a water quality point of view, all of the parameters analysed for in the on site production borehole (DBH1)

<p>(except for slightly elevated Iron concentrations) comply with the SANS241 drinking water limits.</p> <ul style="list-style-type: none"> ➤ EC, TDS, Chloride, Sodium, Manganese and Iron in neighbouring borehole DHC1 exceeds the SANS241 drinking water limits making the water unfit for human consumption without prior treatment. ➤ It is proposed that the applicant consult an applicable agricultural specialist to assess water quality criteria to make judgements on the fitness of water to be used for irrigation of the intended crop(s), its effects on soil properties, soil salinity tolerance of the intended crops and how these effects may be mitigated and possible treatment options, if necessary. ➤ It is the assessor's professional opinion that adequate information was available to appropriately assess the impact of groundwater abstraction from the production boreholes on the geohydrological environment. Based on the results, it is recommended that the application be approved. It is however imperative that the applicant implements the proposed "Environmental Management & Groundwater Monitoring Program". Production boreholes should be equipped as follow: <ul style="list-style-type: none"> • Installation of a 32 mm LDPE observation pipe from the pump depth to the surface, open at the bottom. This allows for a 'window' of access down the borehole which enables manual water level monitoring and can house an electronic water level logger if required. • Installation of a sampling tap (to monitor water quality). • Installation of a flow volume meter (to monitor abstraction rates and volumes). • The appropriate borehole pump must be installed, i.e. not an over-sized pump that is choked with a gate valve. If the monitoring shows that more water can be abstracted, then duty cycles (i.e. the duration of pumping time) may be increased, and not the flow rate.
<p>DHS Groundwater Consulting Engineers. Specialist inputs/studies and Recommendations:</p> <ul style="list-style-type: none"> ➤ Based on the field work, interpretation of available and newly acquired data, the abstraction of groundwater from the site will have an overall "negligible – negative" impact on the investigated geohydrological environment after implementation of appropriate mitigation measures. During the rating and ranking procedure of impacts, all identified impacts could be countered by appropriate mitigation. ➤ Based on the water balance results, it is recommended to apply for an allocation of 0.069 Mm³ / annum which places the application in Category B (medium scale abstractions: 60% -100% recharge to the GRU). The tested boreholes will be able to supply in 100% of the demand, as well as the applied volume. ➤ From a water quality point of view, all of the parameters analysed for in the onsite production borehole (DBH1) (except for slightly elevated Iron concentrations) comply with the SANS241 drinking water limits. ➤ EC, TDS, Chloride, Sodium, Manganese and Iron in neighbouring borehole DHC1 exceeds the SANS241 drinking water limits making the water unfit for human consumption without prior treatment. ➤ It is proposed that the applicant consult an applicable agricultural specialist to assess water quality criteria to make judgements on the fitness of water to be used for irrigation of the intended crop(s), its effects on soil properties, soil salinity tolerance of the intended crops and how these effects may be mitigated and possible treatment options, if necessary ➤ It is the assessor's professional opinion that adequate information was available to appropriately assess the impact of groundwater abstraction from the production boreholes on the geohydrological environment. Based on the results, it is recommended that the application be approved. It is however imperative that the applicant implements the proposed "Environmental Management & Groundwater Monitoring Program". Production boreholes should be equipped as follow: <ul style="list-style-type: none"> • Installation of a 32 mm LDPE observation pipe from the pump depth to the surface, open at the bottom. This allows for a 'window' of access down the borehole which enables manual water level monitoring and can house an electronic water level logger if required. • Installation of a sampling tap (to monitor water quality). • Installation of a flow volume meter (to monitor abstraction rates and volumes). • The appropriate borehole pump must be installed, i.e. not an over-sized pump that is choked with a gate valve. If the monitoring shows that more water can be abstracted, then duty cycles (i.e. the duration of pumping time) may be increased, and not the flow rate.
<p>TERRESTRIAL BIODIVERSITY ENVIRONMENTAL SENSITIVITY REPORT FARM REDFORD NO. 232 PORTION 17 REDFORD FARMS, THE CRAGS BITOU MUNICIPAL AREA. Specialist inputs/studies and Recommendations:</p> <ul style="list-style-type: none"> ➤ The Redford Farms area is important for conservation of biodiversity and maintenance of ecological and structural functioning and associated ecosystem services. Many streams drain into Whiskey Creek which feeds in to the Keurbooms River Estuary. ➤ Restoration and reducing impacts on ecological processes and structural functioning is key for biodiversity and ecosystem services provided by indigenous vegetation and watercourses, and also allowing for movement of fauna and avifauna. ➤ The remaining undeveloped areas at the property should be maintained in a natural state with a phased removal of existing and spreading Invasive Alien Plant Species. For properties zoned for agriculture In terms of the CARA, the owner must prevent the spread of IASs from entering or dispersing from the property. ➤ A management objective to conserve the remainder of the fynbos habitat, and restore areas to near-natural adjacent to watercourses and agricultural fields has good potential for biodiversity conservation. ➤ It is recommended that the proposed water storage dam be re-designed as a smaller dam allowing for rehabilitation of the upper surrounding slopes; and its capacity based on the catchment volumes at the head start of a tributary (see Fig. 13). ➤ As the entire property is generally sensitive the applicant must conduct activities carefully and reuse or relocate as much plant material as is practical prior to rehabilitation. ➤ An ECO must oversee the rescue and relocation of plant material and initial rehabilitation activities; and thereafter conduct follow up inspections. ➤ Utilize plant material and debris and stack debris into contour rows as berms to reduce wind erosion and water runoff within the excavated area as a temporary measure. ➤ A rehabilitation plan for the upper slopes of the watercourse at the study area (if reduced in size) and immediate surrounds should be compiled to guide rehabilitation. ➤ Ensure drainage and runoff is managed to prevent erosion and soil loss during the operational lifespan of the

- activities.
- Prevent the spread of Invasive Alien Species from entering or dispersing from the set aside natural areas and from within the study area. Removing of Invasive Alien Species must be done carefully without the use of heavy machinery or disturbance of the indigenous vegetation. Restore the remaining fynbos and forest vegetation by removing IASs in a phased approach (from least invaded to densely invaded areas).
 - The main vegetation unit at the receiving environment is Least Threatened Tsitsikamma Sandstone Fynbos of Medium Terrestrial Biodiversity Sensitivity.
 - If the mitigation measures described above are conducted it is probable that the study area will have reduced downstream erosion.
 - As sufficient plant material exists within and around the study area there is no need to bring in plant material from other sources; and rehabilitation will require planting and seeding within the study area.

8. IMPACT ASSESSMENT SUMMARY

Briefly describe the impacts (as appropriate), significance rating of impacts, mitigation and significance rating of impacts of the activity. This must include an assessment of the significance of all impacts.

Impacts	Significance rating of impacts after mitigation (Low, Medium, Medium-High, High, Very High):
Extensive excavation work using heavy machinery resulted in the Removal of topsoil, subsoil and rock from a large area killing ground-dwelling biota, creating an erosion risk and habitat loss.	Moderate Negative
Vegetation removal with chainsaws, stump removal and chipping using heavy machinery resulted in the death or injury to ground and tree dwelling biota, destruction of indigenous plants, compaction of soil and soil erosion.	Moderate Negative
Temporary employment opportunities during construction	Low Positive

9. SUMMARY OF THE CONSEQUENCES OF/ IMPACTS OF THE UNLAWFULLY COMMENCED ACTIVITY/IES

Please provide a detailed summary of the consequences/impacts of commencement of the activity/ies on the environment.

- Summary:
- Impeding the flow of a portion of a non-perennial watercourse.
 - Erosion and sedimentation of a portion of a watercourse on the applicant's property.
 - Loss of riparian and terrestrial habitat on a portion of the non-perennial watercourse.
 - Re-Infestation of Alien Invasive Plants after removal of heavy alien infestation, due to the disturbance seed bank and ceasing of the activities.
 - Clearing of indigenous plants on 1.2 hectares.
 - Increased success for future agricultural plans.
 - New employment opportunities and significant skills development.

10. OTHER MANAGEMENT, MITIGATION AND MONITORING MEASURES

(a) Over and above the mitigation measures described above, please indicate any additional management, mitigation and monitoring measures.

- The Environmental Management Programme must be implemented and adhered to.
- The Rehabilitation and Maintenance Management Plans needs to be compiled, be implemented and adhered to.
- An Alien Invasive Plant Removal Programme must form part of the EMPr/MMP and must be implemented. The area must be continuously maintained throughout the lifespan of the project.
- No pollution of groundwater or surface water may occur due to any activity.
- No permanent structures may be constructed within a 1:100 floodline or within 100 metres from a watercourse (seasonal or permanent river or stream etc), whichever is furthest without firstly obtaining authorization in terms of section 21 (c) and (i) of the National Water Act (Act 36 of 1998). • Environmental audits should be conducted every month during the course of rehabilitation until an 80% success rate is reached.

(b) Describe the ability of the applicant to implement the management, mitigation and monitoring measures.

The applicant will receive the necessary training in the understanding and implementation of the EMPr & MMP and will appoint a qualified ECO to undertake environmental inspections.

Please note: A draft **ENVIRONMENTAL MANAGEMENT PROGRAMME** must be attached to this application as **Appendix I**.

SECTION G: ASSESSMENT METHODOLOGIES AND CRITERIA, GAPS IN KNOWLEDGE, UNDERLYING ASSUMPTIONS AND UNCERTAINTIES

(a) Please describe adequacy of the assessment methods used.

The scope of the study has been determined with reference to the requirements of the relevant legislation, namely the NEMA EIA Regulations, 2014 as amended. The main responsibilities of the Environmental Consultant would include, inter alia, the following as stipulated in the EIA Regulations:

- Submission of the required Application Form to the relevant authority, in order to register the proposed project, and obtain the applicable reference number;
- Consultation with the relevant authorities and stakeholders, through the Section 24G process, to ensure that identification of relevant issues or concerns are undertaken. Ensure the assessment of and response to the issues that are raised;
- Consideration of the applicable Legislation, Guidelines & Policies;
- Compilation of the required S24G Report, describing the proposed activity, the affected environment, the potential environmental impacts, all applicable legislation and applicable guidelines, and the detail of the public participation process followed;
- Submission of the above-mentioned documents to the public for comment and to the authority (DEA&DP) for a decision.

This Section 24G process is being undertaken with sustainable development as a goal. The assessment identifies the impacts of the activity on the environment and assesses the significance of these, as well as proposed mitigation measures, as required, to ensure positive impacts and/or to reduce anticipated negative impacts to an acceptable level where they could not be avoided. This is to ensure that the activity makes "equitable and sustainable use of environmental and natural resources for the benefit of present and future generations." The assessment methods used are anticipated to be adequate for the nature of the application and the site,

(b) Please describe the assessment criteria used.

- NEMA Act 107 of 1998
- NEMA: EIA Regulations 2014 as amended
- Western Cape Department of Environmental Affairs and Development Planning: Guideline Documents.

The criteria are also based on the EIA Regulations, published by the Department of Environmental Affairs and Tourism (April 1998) in terms of the Environmental Conservation Act No. 73 of 1989.

These criteria include:

Nature of the impact

This is an estimation of the type of effect the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected and how.

Extent of the impact

Describe whether the impact will be: local extending only as far as the development site area; or limited to the site and its immediate surroundings; or will have an impact on the region or will have an impact on a national scale or across international borders.

Duration of the impact

The specialist should indicate whether the lifespan of the impact would be short term (0-5 years), medium term (5-15 years), long term (16-30 years) or permanent. NEMA SECTION 24G APPLICATION S24GAF/04/2018 62

Intensity

The specialist should establish whether the impact is destructive or benign and should be qualified as low, medium or high. The specialist study must attempt to quantify the magnitude of the impacts and outline the rationale used.

Probability of occurrence

The specialist should describe the probability of the impact actually occurring and should be described as improbable/unlikely (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of any prevention measures).

Reversibility

- Completely reversible – the impact can be reversed with the implementation of minor mitigation measures.
- Partly reversible – the impact is reversible but more intense mitigation measures are required
- Barely reversible – the impact is unlikely to be reversed even with intense mitigation measures
- Irreversible – the impact is irreversible, and no mitigation measures exist

Irreplaceable loss of resources

Describes the degree to which resources will be irreplaceably lost due to the proposed activity. It can be no loss of resources, marginal loss, significant loss or complete loss of resources.

Cumulative effect

An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. The cumulative effect can be:

- Negligible – the impact would result in negligible to no cumulative effect
- Low – the impact would result in insignificant cumulative effects
- Medium – the impact would result in minor cumulative effects
- High – the impact would result in significant cumulative effects

Significance

Significance of impacts are determined through a synthesis of the assessment criteria and is described as –

- Low negative– where it would have negligible effects and would require little or no mitigation
- Low positive – the impact will have minor positive effects
- Medium negative – the impact will have moderate negative effects and will require moderate mitigation
- Medium positive – the impact will have moderate positive effects
- High negative – the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact
- High positive – the impact will have significant positive effects
- Very high negative – the impact will have highly significant effects and are unlikely to be able to be mitigated adequately
- High positive – the impact will have highly significant positive effects

(c) Please describe the gaps in knowledge.

Gaps of knowledge for alternatives:

2. Is it possible to divert the water from the furrow system due to the locations of the furrows on site?
3. Loss of valuable agricultural land
4. Cost associated would negatively impact on the property owners.
5. Macadamia orchards are not economically viable with planting less than 25 hectares.
6. Where would excavated soil be moved too, if the dam was excavated on flat ground? (Approximately 80 000 – 100 000 m³ of soil). Where would the required basin fill be sourced from and what will the environmental impacts be of the borrow pit (offsite).
7. What would the geological impact be on excavating a new proposed dam?
8. What will the financial implications be and would it have been financially feasible for a new farmer?
9. The dam has already been excavated what the cost to the applicant will be to rehabilitate and construct a new off stream dam while losing very valuable agricultural potential soil.

There is limited knowledge of the environment prior to any earthworks.

The knowledge of the state of the environment is purely from information conveyed to the EAP by the applicant, literature, GIS mapping, and specialist assessments.

It is assumed that all the information conveyed to the EAP by the applicant and specialists are correct. The management of this proposed development will be in line with the recommendations in this report, which will be enforced by the implementation of a detailed Environmental Management Programme.

(d) Please describe the underlying assumptions.

It is assumed that all the information conveyed to the EAP by the applicant and specialists are correct. The management of this proposed development will be in line with the recommendations in this report, which will be enforced by the implementation of a detailed Environmental Management Programme.

(e) Please describe the uncertainties.

There are no identified uncertainties.

SECTION H: RECOMMENDATIONS OF THE EAP TO BE COMPLETED IN FINAL APPLICATION

In my view (EAP), the information contained in the Application and the documentation attached hereto is sufficient to make a decision in respect of the activity applied for.	YES	NO
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If "NO", list the aspects that should be further assessed through additional specialist input/assessment:

If "YES", please indicate below whether in your opinion the applicant should be directed to cease the activity or if it should be authorised:		
Applicant should be directed to cease the activity:	YES	NO
Please provide reasons for your opinion		
The EAP concur with the specialist's conclusion and findings		
If you are of the opinion that the activity should be authorised, then please provide any conditions, including mitigation measures that should in your view be considered for inclusion in an authorisation.		
To be completed after final round of PPP		

SECTION I: REPRESENTATIONS – RESPONSE TO AN INCIDENT OR EMERGENCY SITUATION

This section is only applicable to instances where Section 49A (2) of NEMA applies. Please list all steps that were taken in response to the incident or emergency situation.
N/A

Please note:

Section 30 of NEMA deals with the procedures to be followed for the control of emergency incidents and Section 30A deals with procedures to be followed in the case of emergency situations.

SECTION J: PUBLIC PARTICIPATION

1. PUBLIC PARTICIPATION PROCESS TO BE FOLLOWED

1.1 THE PUBLIC PARTICIPATION PROCESS IN TERMS OF THE SECTION 24G FINE REGULATIONS, 2017

Regulation 8 of the Section 24G Fine Regulations require that all applicants must conduct public participation **prior to submission** of a section 24G application (as outlined in Annexure A of the Section 24G Fine Regulations - Section D: Preliminary Advertisement).

"The applicant must place a preliminary advertisement in-
(1) A local newspaper in circulation in the area in which the activity was, or activities were, commenced; and on the applicant's website, if any.
(2) This advertisement must comply with the requirements set out in Annexure A, Section D of the Section 24G Fine Regulations, 2017.
(3) The applicant must open and maintain of a register of interested and affected parties.
(4) The register must be attached to the application form and included in the report , or form part of the information submitted in terms of section 24G(1) of the Act, which the register must, as a minimum, contain the names, contact details and addresses of- (a) all persons who, as a consequence of the public participation process conducted in respect of the application, have submitted written comments or attended meetings with the applicant or any environmental assessment practitioner or other specialist appointed by the applicant to assist with the application; (b) all persons who have requested the applicant, in writing, to place their names on the register; and (c) all organs of state that have jurisdiction in respect of the activity to which application relates."

Please provide a summary of the steps followed where public participation was undertaken in accordance with Regulation 8 prior to submission of this Application Form. Ensure that proof of compliance with Regulation 8 is submitted with this Application Form, including, <i>inter alia</i> , proof of preliminary advertisement in a local newspaper.
The applicant must place a preliminary advertisement in-

(1) A local newspaper in circulation in the area in which the activity was, or activities were, commenced; and on the applicant's website, if any.

(2) This advertisement must comply with the requirements set out in Annexure A, Section D of the Section 24G Fine Regulations, 2017.

(3) The applicant must open and maintain of a register of interested and affected parties.

(4) The register must be attached to the application form and included in the report, or form part of the information submitted in terms of section 24G(1) of the Act, which the register must, as a minimum, contain the names, contact details and addresses of-

(a) all persons who, as a consequence of the public participation process conducted in respect of the application, have submitted written comments or attended meetings with the applicant or any environmental assessment practitioner or other specialist appointed by the applicant to assist with the application;

(b) all persons who have requested the applicant, in writing, to place their names on the register; and

(c) all organs of state that have jurisdiction in respect of the activity to which application relates."

Please indicate whether the applicant has a website (please tick relevant box):	YES	NO
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If yes, please note that the application information as specified above must have been advertised on such website and proof thereof must accompany this application.

Eco Route Environmental Consultancy website (www.ecoroute.co.za) was used to provide notification and to provide the Pre-Application S24G EIR to the public

Please note: Annexure A: Section D attached to this Application form must be strictly adhered to.

1.2 THE PUBLIC PARTICIPATION PROCESS IN TERMS OF NEMA EIA REGULATIONS, 2014

As the applicant, you may be directed to conduct the public participation process that fulfils the requirements outlined in Chapter 6 of the EIA Regulations, 2014. In doing so, you must take into account any applicable guidelines published in terms of Section 24J of NEMA, the Department's Circular EADP 0028/2014 on the "One Environmental Management System" and the EIA Regulations, 2014 as well as any other guidance provided by the Department. Note that the public participation requirements are applicable to all proposed sites.

Please highlight the appropriate box below to indicate the public participation process that has been or will be undertaken to give notice of the application to all potential interested and affected parties, including deviations that may be agreed to by the competent authority:

1. In terms of regulation 41 of the EIA Regulations, 2014 -			
(a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of -			
(i) the site where the activity to which the application relates is or is to be undertaken; and	YES	DEVIATION	
(ii) any alternative site	YES	DEVIATION	
(b) giving written notice, in any manner provided for in section 47D of the NEMA, to -			
(i) the occupiers of the site and, if the applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	DEVIATION	N/A
(ii) owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	DEVIATION	
(iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	YES	DEVIATION	
(iv) the municipality (Local and District Municipality) which has jurisdiction in the area;	YES	DEVIATION	
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	YES	DEVIATION	
(vi) any other party as required by the Department;	YES	DEVIATION	N/A
(c) placing an advertisement in -			
(i) one local newspaper; or	YES	DEVIATION	
(ii) any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	YES	DEVIATION	N/A
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken	YES	DEVIATION	N/A
(e) using reasonable alternative methods, as agreed to by the Department, in those instances where a person is desirous of but unable to participate in the process due to— (i) illiteracy; (ii) disability; or (iii) any other disadvantage.	YES	DEVIATION	N/A
If you have indicated that "DEVIATION" applies to any of the above, then Section 2. below must be completed.			
NOTE: 2. The NEM: WA requires that a notice must be placed in at least two newspapers.			
If applicable, have/will an advertisement be placed in at least two newspapers?	YES	NO	
If "NO", then an application for exemption from the requirement must be applied for.			

To be completed in Final S24G

1. Provide a list of all the state departments that has been / will be consulted:		
List of State Depts.	Comment obtained (YES/NO)	If not, provide reasons
Bitou Municipality	Yes	
DEA&DP	N/A	Pre directives and Directives received handed over to the S24G Department
DFFE	Yes	Need to be amended due to significant changes
CapeNature	Yes	
SANParks	No	CapeNature Jurisdiction
BGCMA	Yes	

2. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues raised were incorporated, or the reasons for not being incorporated or addressed. (The details of the outcomes of this process, including supporting information must be included in the Comments and Report to be attached to this application as Appendix G.)

C&R, to be finalised and then this section to be completed.

3. Provide a summary of any conditional aspects identified / highlighted by any Organs of State, which have jurisdiction in respect of any aspect of the relevant activity.

BGCMA:

A directive was issued to rehabilitate the disturbed area. After consultation with the applicants appointed lawyer BGCMA has suspended the directive.

CapeNature:

Has the specialist investigated whether the unlawful activity has impacted or reduced the size of the climate corridor?

CapeNature would like to remind the landowner that in terms of the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) ("CARA"), landowners must prevent the spread of alien invasive plants on the property. The level of alien infestation is therefore not seen as reducing the sensitivity of a site, nor is the subsequent removal of alien vegetation from a property regarded as a mitigation measure due to this being a legal requirement. Infestation by alien plants does not necessarily mean that an area is not important for biodiversity as some vegetation types are particularly prone to invasive alien infestation but may recover when cleared of alien vegetation.

It is important is rehabilitate the study area to improve the ecological conditions. There was no suitable habitat rehabilitation plan submitted, although there is mention that the area needs to be rehabilitated. A monitoring regime associated with the rehabilitation plan and the entire plan should be appended to the EMP. The rehabilitation plan must consider including areas excluded from the study area that have been damaged or disturbed must also be rehabilitated, with guidance from a qualified specialist to a functional and usable condition. CapeNature does not consider any habitat as rehabilitated until a comparable lever of ecosystem functionality has been proven. Post construction monitoring of the impacts should be observed for more than one year.

In conclusion, if the proposed activity continues then the landowners should manage the are in line with the specific guidelines regarding CBA and ESA. The impact on the indigenous vegetation must be minimal and undisturbed areas should remain intact.

Bitou Municipality

The dam has been excavated into approximately the top half a headwater non-perennial tributary of the Whisky Creek, which is a tributary of the Keurbooms River on Portion 17 of Farm 232, Redford, Plettenberg Bay. Following a review of the documentation and appendices the following comments are made:

1. Please note that the Geohydrological Report as referred to in the EIR was not made available as part of the Environmental Impact Assessment Report. Please can these documents be provided for review?
2. As per the Aquatic Assessment "The excavation of the top portion of the valley for construction of the dam is not consistent with the management objective because entire habitat loss has occurred resulting in complete loss of ecological functioning at this location". The cumulative impact of the loss of ecological functioning of the relevant portion has not been addressed.
3. Clarity is sought regarding the established borehole and whether this has been authorised or is being authorised as

- part of the current WULA process. Has the impact on the water table been assessed as the dam is proposed to be filled with borehole water?
4. It is requested that an Ecological Water Reserve for the Whiskey Creek tributary be undertaken to be able to understand the indirect and cumulative impacts that the proposed dam will have on the ecological functioning of the system.
 5. An Environmental Management Plan (EMP) has not been included in the EIR documentation for comment. Please can this document be provided for review?
 6. Should the proposed dam be approved, a measuring and monitoring mechanism should be included in the conditions of approval to ensure that the approved and allocated water amount is used.
 7. The possibility of an ecological water release should be investigated.
 8. Do the specialist reports take cognisance of the current authorised water and in particular the unauthorised water uses still to be authorised on Portion 4 and 9 on Farm 232?
 9. A Water Use Audit should be undertaken in order to determine what is currently authorised for use and how it currently impacts on the systems at present before additional rights are granted.

Please note:

- A list of all the potential interested and affected parties, including the organs of State must be opened, maintained and made available to any person requesting access, in writing, to the register.
- All comments of interested and affected parties on the Application Form and Additional Information must be recorded, responded to and included in the Comments and Responses Report attached as Appendix G to the Application. The Comments and Responses Report must also include a description of the Public Participation Process followed.
- The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants must also be submitted as part of the public participation information to be attached to the additional information/Environmental Impact Report as Appendix G.
- Proof of all the notices given as indicated, as well as of notice to the interested and affected parties of the availability of the Application Form/Additional Information must be submitted as part of the public participation information to be attached to the application as Appendix G.

2. REPRESENTATIONS REGARDING DEVIATION FROM PUBLIC PARTICIPATION REQUIREMENTS IN TERMS OF THE EIA REGULATIONS, 2014

Please provide detailed reasons (representations) as to why it would be appropriate not direct you to comply with all of the requirements and to deviate from the requirements of regulation 41 as indicated above.
N/A

3. LIST OF STATE DEPARTMENTS

Section 24(O)(2) obliges the relevant authority to consult with every State department that administers a law relating to a matter affecting the environment when such authority considers an application for an environmental authorisation.

Provide a list of all the State departments that will be/have been consulted, including the name and contact details of the relevant official.			
State Department	Name of person	Contact details	
		Tel	
		Fax	
		E-mail	
		Tel	
		Fax	

		E-mail	
		Tel	
		Fax	
		E-mail	

Please note:

A State department consulted in terms of Section 24O(2) of NEMA and Regulations 3(4) and 43(2) must within 30 days from the date of the Department/EAP's request for comment, submit such comment in writing to the Department. The applicant/EAP is therefore required to inform this Department in writing when the application/relevant information is submitted to the relevant State Departments. Upon receipt of this confirmation, this Department will in accordance with Section 24O (2) & (3) of the NEMA inform the relevant State Departments of the commencement date of the 30-day commenting period.

PART 2 – ANNEXURE A TO THE SECTION 24G APPLICATION FORM**SECTION A: DIRECTIVES**

Section 24G(1) of NEMA provides that on application by a person who has commenced with a listed or specified activity without an environmental authorisation in contravention of section 24F(1); or a person who has commenced, undertaken or conducted a waste management activity without a waste management licence in terms of section 20(b) of the National Environment Management: Waste Act, 2008 (Act 59 of 2008) ("NEM:WA") the Minister, the Minister responsible for mineral resources or the MEC concerned (or the official to which this power has been delegated), as the case may be, may direct the applicant to-

i	immediately cease the activity pending a decision on the application submitted in terms of this subsection <i>The activity was immediately ceased</i>
ii	investigate, evaluate and assess the impact of the activity on the environment <i>The following Specialist were appointed to assess the impact of the activity:</i> <ol style="list-style-type: none"> 1. Biodiversity Specialist 2. Aquatic Specialist 3. Hydrology Specialist 4. Dam Engineer and Dam wall Safety Specialist 5. Geohydrologist
iii	remedy any adverse effects of the activity on the environment <i>A rehabilitation plan to prevent further erosion or loss of soil was compiled by the appointed Specialist. This plan was sent to DEA&DP and BGCMA for authorisation. BGCMA authorised the plan and DEA&DP rejected the planned rehabilitation.</i>
iv	cease, modify or control any act, activity, process or omission causing pollution or environmental degradation <i>A rehabilitation plan to prevent further erosion or loss of soil was compiled by the appointed Specialist. This plan was sent to DEA&DP and BGCMA for authorisation. BGCMA authorised the plan and DEA&DP rejected the planned rehabilitation.</i>
v	contain or prevent the movement of pollution or degradation of the environment <i>A rehabilitation plan to prevent further erosion or loss of soil was compiled by the appointed Specialist. This plan was sent to DEA&DP and BGCMA for authorisation. BGCMA authorised the plan and DEA&DP rejected the planned rehabilitation.</i>
vi	eliminate any source of pollution or degradation <i>A rehabilitation plan to prevent further erosion or loss of soil was compiled by the appointed Specialist. This plan was sent to DEA&DP and BGCMA for authorisation. BGCMA authorised the plan and DEA&DP rejected the planned rehabilitation.</i>
vii	compile a report containing- <i>Within this report</i>

	aa	<i>a description of the need and desirability of the activity</i>
	bb	<i>an assessment of the nature, extent, duration and significance of the consequences for or impacts on the environment of the activity, including the cumulative effects and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity</i>
	cc	<i>a description of mitigation measures undertaken or to be undertaken in respect of the consequences for or impacts on the environment of the activity</i>
	dd	<i>a description of the public participation process followed during the course of compiling the report, including all comments received from interested and affected parties and an indication of how the issues raised have been addressed</i>
	ee	<i>an environmental management programme</i>
viii		<i>provide such other information or undertake such further studies as the Minister, Minister responsible for mineral resources or MEC, as the case may be, may deem necessary.</i>

You are hereby provided with an opportunity to make representations on any or all of the abovementioned instructions including where you are of the opinion that any of these instructions are not relevant for the purposes of your application setting out the reasons for your assertion. Kindly note further that after taking your representation into account a final directive may be issued.

Please Note:

Notwithstanding the above, subsequent to submission of the application form to the Department, you may be issued with a specific directive in terms of section 24G(1)(i) to (viii), and you will therefore be provided with an opportunity to make further representations as to the specific directive.

The appointed Environmental Assessment Practitioner, on behalf of the applicant, may be directed to compile and submit a report that meets the requirements of section 24G(vii)(aa)-(ee) as specified above.

SECTION B: DEFERRAL OF THE APPLICATION

Section 24G(7) of the NEMA provides that if at any stage after the submission of an application it comes to the attention of the Minister, the Minister responsible for mineral resources or the MEC, that the applicant is under criminal investigation for the contravention of, or failure to comply with, section 24F(1) of the NEMA or section 20(b) of the NEM:WA, the Minister, Minister responsible for mineral resources or MEC may defer a decision to issue an environmental authorisation until such time as the investigation is concluded and-

- (a) the National Prosecuting Authority has decided not to institute prosecution in respect of such contravention or failure;
- (b) the applicant concerned is acquitted or found not guilty after prosecution in respect of which such contravention or failure has been instituted; or
- (c) the applicant concerned has been convicted by a court of law of an offence in respect of such contravention or failure and the applicant has in respect of the conviction exhausted all the recognised legal proceedings pertaining to appeal or review.

Kindly answer the following questions:

<i>Are you, the applicant, being investigated for a contravention of section 24F(1) of the NEMA in respect of a matter that <u>is not subject to this application</u> and in any province in the Republic?</i>	<i>YES</i>	<i>NO</i>	<i>UNCERTAIN</i>
<i>If yes provide details of the offence being investigated and authority conducting the investigation. If uncertain provide details of the activity or activities in relation to which you suspect you may be under investigation.</i>			

<i>Are you, the applicant, being investigated for the contravention of section 20(b) of the NEMWA in respect of a matter that is <u>not subject to this application</u> and in any province in the Republic?</i>	YES _____	NO _____	UNCERTAIN _____
<i>If yes provide details of the offence being investigated and authority conducting the investigation. If uncertain provide details of the activity or activities in relation to which you suspect you may be under investigation.</i>			
<i>Are you, the applicant, being investigated for an offence in terms of section 24F(1) of the NEMA or section 20(b) of the NEMWA <u>in terms of which this application directly relates?</u></i>	YES _____	NO _____	UNCERTAIN _____
<i>If yes provide details of the offence being investigated and authority conducting the investigation. If uncertain provide details of the activity or activities in relation to which you suspect you may be under investigation.</i>			
<p style="color: green;">DEA&DP – Issued a Compliance Notice in terms of section 31L of the National Environmental Management Act, 1998 ("NEMA"). The Compliance Notice relates to non-compliance with the provisions of section 24F of the NEMA. No activity listed in the Environmental Impact Assessment ("EIA") Regulations Listing Notice 1 of 2014 may commence without environmental authorisation from the competent authority.</p>			

If you have answered yes or uncertain to any of the above questions, you are hereby provided with an opportunity to make representations as to why the Minister, Minister responsible for mineral resources or MEC, as the case may be, should not defer the application as he or she is entitled to do under section 24G(7).

SECTION C: QUANTUM OF THE SECTION 24G FINE

In terms of section 24G(4) of the NEMA, it is mandatory for an applicant to pay an administrative fine as determined by the competent authority before the Minister, Minister responsible for mineral resource or MEC may take a decision on whether or not to grant an *ex post facto* environmental authorisation or a waste management licence as the case may be. The quantum of this fine may not exceed R5 million.

Having regard to the factors listed below, you are hereby afforded with an opportunity to make representations in respect of the quantum of the fine and as to why the competent authority should not issue a maximum fine of R5 million.

Please note that Part 1 of this section must be completed by an independent environmental assessment practitioner after conducting the necessary specialist studies, copies of which must be submitted with this completed application form.

Please also include in your representations whether or not the activities applied for in this application (if more than 1) are in your view interrelated and provide reasons therefor.

PART 1: THE IMPACTS OR POTENTIAL IMPACTS OF THE ACTIVITY/ACTIVITIES

Index	Socio Economic Impact	Place an "x" in the appropriate box
Description of variable		
	The activity is not giving, has not given and will not give rise to any negative socio-economic impacts	X
	The activity is giving, has given, or could give rise to negative socio-economic impacts, but highly localised	
	The activity is giving, has given, or could give rise to significant negative socio-economic	

and regionalized impacts	
The activity is resulting, has resulted or could result in wide-scale negative socio-economic impacts.	
Motivation:	

Index	Biodiversity Impact	Place an "x" in the appropriate box
	Description of variable	
	The activity is not giving, has not given and will not give rise to any impacts on biodiversity	
	The activity is giving, has given or could give rise to localised biodiversity impacts	X
	The activity is giving, has given or could give rise to significant biodiversity impacts	
	The activity is, has or is likely to permanently / irreversibly transform/ destroy a recognised biodiversity 'hot-spot' or threaten the existence of a species or sub-species.	
	Motivation: Loss of instream habitat and potential of siltation of the downstream	

Index	Sense of Place Impact and / or Heritage Impact	Place an "x" in the appropriate box
	Description of variable	
	The activity is in keeping with the surrounding environment and / or does not negatively impact on the affected area's sense of place and /or heritage	X
	The activity is not in keeping with the surrounding environment and will have a localised impact on the affected area's sense of place and/or heritage	
	The activity is not in keeping with the surrounding environment and will have a significant impact on the affected area's sense of place and/ or heritage	
	The activity is completely out of keeping with the surrounding environment and will have a significant impact on the affected area's sense of place and/ or heritage	
	Motivation:	

Index	Pollution Impact	Place an "x" in the appropriate box
	Description of variable	
	The activity is not giving, has not given and will not give rise to any pollution	X
	The activity is giving, has given or could give rise to pollution with low impacts.	
	The activity is giving, has given or could give rise to pollution with moderate impacts.	
	The activity is giving, has given or could give rise to pollution with high impacts.	
	The activity is giving, has given or could give rise to pollution with major impacts.	
	Motivation:	

PART 2: COMPLIANCE HISTORY AND KNOWLEDGE OF THE APPLICANT

Index	Previous administrative action (i.e. administrative enforcement notices) issued to the applicant in respect of a contravention of section 24F(1) of the National Environmental Management Act and/or section 20(b) of the National Environmental Management Waste Act	Place an "x" in the appropriate box
	Description of variable	
	Administrative action was previously taken against the applicant in respect of the abovementioned provisions.	
	No previous administrative action was taken against the applicant but previous administrative action was taken against a firm(s) on whose board one or more of the applicant's directors sit or sat at the relevant time when the administrative action was taken.	

Administrative action was not previously taken against the applicant in respect of the abovementioned provisions.	X
Explanation of all previous administrative action taken in respect of the above:	

Index	Previous Convictions in terms of section 24F(1) of the National Environmental Management Act and/or section 20(b) of the National Environmental Management Waste Act	Place an "x" in the appropriate box
Description of variable		
	The applicant was previously convicted in terms of either or both of the abovementioned provisions.	
	No previous convictions have been secured against the applicant but a conviction has been secured against a firm(s) on whose board one or more of the applicant's directors sit or sat at the relevant time; or a conviction was secured against a director of the applicant in his or her personal capacity.	
	The applicant has not previously been convicted in terms of either or both of the abovementioned provisions.	X
Explanation of all previous convictions in respect of the above:		

Index	Number of section 24G applications previously submitted by the applicant	Place an "x" in the appropriate box
Description of variable		
	Previous applications in terms of section 24G of NEMA were submitted by the applicant.	
	No previous applications have been submitted by the applicant but a previous application(s) have been submitted by a firm(s) on whose board one or more of the applicant's directors sit or sat at the relevant time.	
	No previous applications have been submitted by the applicant but the applicant sat on the board of a firm that previously submitted an application.	
Explanation in respect of all previous applications submitted in terms of section 24G: N/A no previous applications has been submitted by the applicant.		

PART 3: APPLICANT'S PERSONAL CIRCUMSTANCES

Index	Applicant's legal persona	Place an "x" in the appropriate box		
Description of variable				
	The applicant is a natural person.			
	The applicant is a firm.	X		
	Describe the firm: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">BALDERJA (PTY)LTD</td> </tr> <tr> <td style="padding: 2px;">2020/642346/07</td> </tr> </table>	BALDERJA (PTY)LTD	2020/642346/07	
BALDERJA (PTY)LTD				
2020/642346/07				

Index	Any other relevant information that the applicant would like to be considered.
	Motivate and explain fully:

NOTE: An explanation as to why the applicant did not obtain an environmental authorisation and/or waste management licence must be attached to this application.

SECTION D: PRELIMINARY ADVERTISEMENT

When submitting this application form, the applicant must attach proof that the application has been advertised in at least one local newspaper in circulation in the area in which the activity was commenced, and on the applicant's website, if any.

The advertisement must state that the applicant commenced a listed or specified activity or activities or waste management activity or activities without the necessary environmental authorisation and/or waste management licence and is now applying for *ex post facto* approval. It must include the following:

- the date;
- the location;
- the applicable legislative provision contravened; and
- the activity or activities commenced with without the required authorisation.

Interested and affected parties must be provided with the details of where they can register as an interested and affected party and / or submit their comment. At least 20 days must be provided in which to do so.

This advertisement shall be considered as a preliminary notification and the competent authority may direct the applicant to undertake further public participation and advertising after receipt of this application form.

NOTE: Unless protected by law, all information contained in and attached to this application form may become public information on receipt by the competent authority. This application must be attached to any documentation or information submitted by an applicant further to section 24G(1).

PART 3 -

APPENDICES

The following appendices must, where applicable, be attached to this form:

Appendix		Tick the box if Appendix is attached
Appendix A:	Locality map	√
Appendix B:	Site plan(s)	√
Appendix C:	Building plans (if applicable)	N/A
Appendix D:	Colour photographs	√
Appendix E:	Biodiversity overlay map	√
Appendix F:	Permit(s) / license(s) from any other organ of state including service letters from the municipality	N/A
Appendix G:	Public participation information: including a copy of the register of interested and affected parties, the comments and responses report, proof of notices, advertisements, Land owner consent and any other public participation information as required in Section J above.	To be completed in Final
Appendix H:	Specialist Report(s), if any	√
Appendix I:	Environmental Management Programme	No, this will be done when BGCMA Directive has been concluded.
Appendix J:	Supporting documents relating to compliance/enforcement history of the applicant, including but not limited to, Pre-compliance/compliance notices, Pre-directives/directives etc.	√
Appendix K:	Certified copy of Identity Document of Applicant	Will be completed in Final
Appendix L:	Certified copy of the title deed (or title deeds in the case of linear activities)	Will be completed in Final
Appendix M:	Any Other (if applicable) (describe)	

Where an application has been made in terms of the waste management activities, please complete and annex Annexure 1 as in the following:

Annexures for waste listed activity/ies supporting information		Tick the box if Annexure is attached
Annexure 1	Waste listed activities supporting information (as in prescribed attached form)	N/A
Other	(please list accordingly)	

DECLARATIONS

THE APPLICANT

Note: Duplicate this section where there is more than one applicant

- I, in my personal capacity or duly authorised as (state capacity) by thereto hereby declare/affirm that all the information contained in this application to be true and correct, and that I:
- am fully aware of my responsibilities in terms of † the National Environmental Management Act of 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment Regulations, 2014 ("EIA Regulations") in terms of NEMA, the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) ("NEM:WA") and all relevant specific environmental management Act(s), and that failure to comply with these requirements may constitute an offence in terms of the environmental legislation;
- appointed the environmental assessment practitioner as indicated above, which meet all the requirements in terms of Regulation 13 of the EIA Regulations to act as the independent Environmental Assessment Practitioner for this application;
- have provided the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- am aware that I may be issued with a directive and that I must comply with such a directive;
- am fully aware of the administrative fine to be paid before a decision, with respect to the continuation of the listed activity(ies), will be made;
- will be responsible for the costs incurred in complying with the environmental legislation including but not limited to –
 - o costs incurred in connection with the appointment of the environmental assessment practitioner or any specialist appointed in terms of Regulation 13 of the EIA Regulations);
 - o costs incurred in respect of the undertaking of any process required in terms of this application;
 - o costs in respect of any prescribed fee payable in respect of this application;
 - o costs in respect of specialist reviews, if the competent authority decides to recover costs;
 - o the provision of security to ensure compliance with the applicable management and mitigation measures; and
 - o fine costs
- am responsible for complying with the conditions that might be attached to any decision(s) issued by the competent authority;
- have the ability to implement the applicable management, mitigation and monitoring measures; and
- hereby indemnify, the government of the Republic of South Africa, the competent authority and all its officers, agents and employees, from any liability arising out of, inter alia, the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible.

am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (

Please Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.



Signature of the applicant:

Name:

Name of Firm (if applicable):

Date:

THE INDEPENDENT ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I **Janet Ebersohn** as the appointed independent environmental practitioner ("EAP") hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- act/ed as the independent EAP in this application;
- regard the information contained in this application to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the the National Environmental Management Act of 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment Regulations, 2014 ("EIA Regulations") in terms of NEMA, the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) ("NEM:WA") and the relevant specific environmental management Act(s);
- have and will not have any vested interest in the proposed activity proceeding;
- have disclosed, to the applicant and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the EIA Regulations, the NEM:WA and any specific environmental management Act(s);
- am able to meet the responsibilities in terms of NEMA, the EIA Regulations (specifically in terms of Regulation 13 of the EIA Regulations, 2014) and any specific environmental management Act, and am fully aware that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the application was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- have ensured that the comments of all interested and affected parties were considered, recorded and submitted to the competent authority in respect of the application;
- have kept a register of all interested and affected parties that participated in the public participation process; and
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations

Note: The terms of reference must be attached.



Signature of the environmental assessment practitioner:

Ecosense

Name of company:

11/12/2021

Date:

PART 4 -

ANNEXURE B - SUPPORTING INFORMATION WHERE THE ACTIVITY BEING APPLIED FOR IS A LISTED WASTE MANAGEMENT ACTIVITY/IES (IF RELEVANT) N/A

1. WASTE QUANTITIES

Indicate or specify types of waste and list the estimated quantities (expected to be) managed daily (should you need more columns; you are advised to add more)

Note: In this case of hazardous waste, the National Department of Environmental Affairs is the relevant competent authority to consider the 24G application.

Non-hazardous waste	Total waste handled (tonnes per day)

Source of information supplied in the table above Mark with an "X"

Determined from volumes

Determined with weighbridge/scale

Estimated

1.1. Recovery, Reuse, Recycling, treatment and disposal quantities:

Indicate the applicable waste types and quantities expected to be disposed of and salvaged annually:

TYPES OF WASTE	MAIN SOURCE (NAME OF COMPANY)	QUANTITIES		ON-SITE RECOVERY REUSE RECYCLING TREATMENT OR DISPOSAL	OFFSITE RECOVERY REUSE RECYCLING TREATMENT OR DISPOSAL	OFFSITE DISPOSAL
		Tons/ Month	M ³ / Month	Method & Location	Method & Location and Contractor details	

2. GENERAL

Prevailing wind direction (e.g. NWW)

November – April

May - October

The size of population to be served by the facility:

	Mark with "X"	Comment
0-499		
500-9,999		
10,000-199,999		
200,000 upwards		

LANDFILL PARAMETERS (If applicable)

The method of disposal of waste:

Land-building Land-filling Both

The dimensions of the disposal site in metres

	At commencement	After rehabilitation

The total volume for the disposal of waste on the site:

Volume Available	Mark with "X"	Source of information (Determined by surveyor/ Estimated)
Up to 99		
100-34 999		
35 000- 3,5 million		
>3,5 million		

The total volume already used for waste disposal on the site:

(a) Will the waste body be covered daily	Yes	No
(b) Is sufficient cover material available	Yes	No
(c) Will waste be compacted daily	No	No

If the answers (a) and/or (b) are No, what measures will be employed to prevent the problems of burning or smouldering of waste and the generation of nuisance?

The Salvage method

Mark with an "X" the method to be used.

At source	<input type="checkbox"/>
Recycling installation	<input type="checkbox"/>
Formal salvaging	<input type="checkbox"/>
Contractor	<input type="checkbox"/>
No salvaging planned	<input type="checkbox"/>

Fatal flaws for the site:

Indicate which of the following apply to the facility for a waste management activity:

Within a 3000m radius of the end of an airport landing strip	Yes	No
Within the 1 in 50-year flood line of any watercourse	Yes	No
Within an unstable area (fault zone, seismic zone, dolomitic area, sinkholes)	Yes	No
Within the drainage area or within 5 km of water source	Yes	No
Within the drainage area or within 5 km of water source	Yes	No
Within an area adjacent to or above an aquifer	Yes	No
Within an area with shallow bedrock and limited available cover material	Yes	No

Within 100 m of the source of surface water	Yes	No
Within 1km from the wetland	Yes	No

Indicate the distance to the boundary of the nearest residential area
 Indicate the distance to the boundary of the industrial area

metres
metres

Wettest six months of the year

November- April

May -October

For the wettest six-month period indicated above, indicate the following for the preceding 30 years

	Total rainfall for 6 months	Total rainfall for 6 months	Total rainfall for 6 months
For the 1st wettest year			
For the 2nd wettest year			
For the 3rd wettest year			
For the 4th wettest year			
For the 5th wettest year			
For the 6th wettest year			
For the 7th wettest year			
For the 8th wettest year			
For the 9th wettest year			
For the 10th wettest year			

Location and depth of ground water monitoring boreholes:

Codes of the boreholes	Borehole locality	Depth (m)	Latitude	Longitude
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "
			° ' "	° ' "

Location and depth of landfill gas monitoring test pit:

Codes of the boreholes	Borehole locality	Latitude	Longitude
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "
		° ' "	° ' "

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