



DRAFT S24G ASSESSMENT REPORT

**NORRISEEP FARM – RECTIFICATION OF THE CLEARING OF
LAND AND THE CONSTRUCTION OF VINEYARDS AND
ASSOCIATED INFRASTRUCTURE ON REMAINDER OF
FARM AFSTOF NO. 421, ONSEEPKANS, NORTHERN CAPE
PROVINCE**

DENC REF: S24G02/01/2020

March 2021



DOCUMENT NAME:

Agricultural development and associated infrastructure on Remainder of Farm Afstof No. 421, Farm Norriseep, Onseepkans.

PROJECT NUMBER:

N/A

DATE:

31 March 2021

REPORT STATUS:

DRAFT REPORT

CARRIED OUT BY:

GroenbergEnviro (Pty) Ltd

COMMISSIONED BY:

Valam Boerdery (Pty) Ltd

AUTHOR(S):

Elanie Kühn

CLIENT CONTACT DETAILS:

Valam Boerdery (Pty) Ltd

Bernie Denton

P. O. Box 21

Kakamas

8870

Tel: 054 431 0568

SYNOPSIS:

See Below

PREPARED BY:



GroenbergEnviro (Pty) Ltd

**QUALITY CONTROL**

Revision	Date	Author	Technical Review	Report Review
00	April 2021	E. Kühn	E. Kühn	L. Labuschagne
01				
02				

CONTACT INFORMATION

Please contact the undermentioned should you require further information.

GroenbergEnviro (Pty) Ltd	
Address:	Wellington Klein Opperhorst Wellington 7654 PO Box 1058 Wellington, 7654
	Fax: +27 86 476 7139
Website	www.groenbergenviro.co.za
Contact Person	Elanie Kühn I have 14 years' experience in project management and report writing. I have a BSc degree and gained my Honours Degree in Environmental Management from the North West University in Potchefstroom. My focus in GroenbergEnviro is primarily on Environmental Impact Assessments and Water Use License Applications.
	
Contact number	+27 76 584 0822
Cell number	+27 76 584 0822
Fax Number	+27 86 476 7139
Email	elanie@groenbergenviro.co.za

CONTENTS

CONTACT INFORMATION	3
SECTION A: APPLICATION INFORMATION	10
1. APPLICANT PROFILE INDEX	10
2. APPLICATION HISTORY	12
SECTION B: ACTIVITY INFORMATION	15
1. ACTIVITIES APPLIED FOR:	15
2. ACTIVITY DESCRIPTION	17
3. ACTIVITY NEED AND DESIRABILITY	28
4. PHYSICAL SIZE OF THE ACTIVITY	30
5. SITE ACCESS	30
6. SITE PHOTOGRAPHS	31
7. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES	31
8. WASTE QUANTITIES (WHERE THE ACTIVITY IS A LISTED WASTE MANAGEMENT ACTIVITY)	32
9. GENERAL (WHERE THE ACTIVITY IS A LISTED WASTE MANAGEMENT ACTIVITY)	32
SECTION C: DESCRIPTION OF RECEIVING ENVIRONMENT	33
1. GRADIENT OF THE SITE	33
2. LOCATION IN THE LANDSCAPE	33
3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE	33
4. SURFACE WATER	33
5. VEGETATION AND GROUNDWATER	34
6. THE GEOLOGICAL FORMATIONS UNDERLYING THE SITE	39
7. LAND USE CHARACTER OF SURROUNDING AREA (PRE-COMMENCEMENT)	39
8. REGIONAL PLANNING CONTEXT	40
9. SOCIO-ECONOMIC CONTEXT	40
SECTION D: PRELIMINARY IMPACT ASSESSMENT	46
1. WASTE, EFFLUENT AND EMISSION MANAGEMENT	46
2. WATER USE	48
3. POWER SUPPLY	50
4. ENERGY EFFICIENCY	51
5. NOISE IMPACTS	51
6. VISUAL IMPACTS	51
7. SOCIO-ECONOMIC IMPLICATIONS OF THE ACTIVITY	51
8. PRELIMINARY IMPACT ASSESSMENT	52
SECTION E: LANDFILL PARAMETERS (Where application relates to a waste management activity)	63
1. THE METHOD OF DISPOSAL OF WASTE:	63
2. THE DIMENSIONS OF THE DISPOSAL SITE IN METRES	63
3. THE TOTAL VOLUME AVAILABLE FOR THE DISPOSAL OF WASTE ON THE SITE:	63
4. THE TOTAL VOLUME ALREADY USED FOR WASTE DISPOSAL:	63
5. THE SALVAGE METHOD	63
6. FATAL FLAWS FOR THE SITE:	64
7. LOCATION AND DEPTH OF GROUND WATER MONITORING BOREHOLES:	65
8. LOCATION AND DEPTH OF LANDFILL GAS MONITORING TEST PIT:	65
SECTION F: PROPOSED PUBLIC PARTICIPATION	66
7.1. PUBLIC PARTICIPATION PROCESS	66
7.2. PUBLIC PARTICIPATION UNDERTAKEN PRIOR TO THE SUBMISSION OF THE NOTICE OF INTENT	67
7.3. LIST OF STATE DEPARTMENTS CONSULTED/TO BE CONSULTED	68

SECTION G: ALTERNATIVES	69
SECTION H: APPENDICES.....	71
ANNEXURE A TO THE SECTION 24G APPLICATION FORM	72
SECTION A: DIRECTIVE	72
SECTION B: DEFERRAL.....	72
SECTION C: QUANTUM OF THE SECTION 24G FINE	73
SECTION D: ADVERTISEMENT – SEE APPENDIX F	78
SECTION A: DECLARATIONS	79
A1: DECLARATIONS OF THE EAP	79
A2: DECLARATIONS OF THE APPLICANT	80
ANNEXURE F.....	81
CONTACT DETAILS (NATIONAL AND PROVINCIAL S24G REGULATING DIRECTORATES)	81
ANNEXURE G	82
CONTACT DETAILS (NATIONAL AND PROVINCIAL ENVIRONMENTAL MANAGEMENT INSPECTORATE).....	82
APPENDIX A: LOCALITY MAP	83
APPENDIX B: SITE PLANS.....	84
Appendix B1: Preferred Development Layout.....	84
Appendix B2: Alternative 2	85
Appendix B3: Pack House Design	86
Appendix B4: DAM 1 Design	87
Appendix B4: Dam 2 Design.....	88
APPENDIX D: PHOTOGRAPHS, IMAGERY AND MAPS	89
Appendix D1: Historical Photographic Imagery	89
Appendix D1.1: Historical Imagery 2001	89
Appendix D1.2: Google 2002	91
Appendix D1.3: Google November 2006	92
Appendix D1.4: Google January 2015.....	93
Appendix D2: Site Photographs	94
Appendix D3: CBA 2 and No-Natural Areas located on Remainder of Farm Afstof No. 421.	100
Appendix E: LICENSING AND APPROVALS	101
Appendix E1: WUL	101
Appendix E2: Heritage letter	114
Appendix E3: Proof of Sewerage treatment	115
APPENDIX F: PUBLIC PARTICIPATION.....	117
Appendix F1: I&AP database	117
Appendix F2: Advertisement	119
Appendix F3: Notice Boards	121
Appendix F4: Proof of notices.....	122
Appendix F5: Notices sent	123
Appendix F5.1: Proof of Notices to Authorities	123
Appendix F5.2: Letter to I&AP's.....	124
Appendix F6: Proof of Notices sent	125
Appendix F6.1: Emails:.....	125
Appendix F6.2: Proof of reports and letters sent.	126
Appendix F7: Comments received	127
Appendix F8: Comments and responses sheet.....	128
Appendix F9: Responses to comments from Specialists	129
Appendix G: MEETINGS HELD	130

Appendix G1: Attendance register of meeting held	130
Appendix H: SPECIALIST REPORTS	131
Appendix H1.1: Archaeology Report	131
Appendix H1.2: Paleontology Report	143
Appendix H2: Botanical Report.....	149
Appendix H3: Water Use License Report.....	166
Appendix H4: Environmental Management Programme	216

TABLE OF FIGURES

Figure 1: Norriseep locality and property boundaries.....	18
Figure 2: Development Layout 2006.....	19
Figure 3: Pack house	20
Figure 4: Development areas January 2015	20
Figure 5: Locality of the two dams.....	21
Figure 6: Middle Dam design	22
Figure 7: Pakstoor Dam design	22
Figure 8: River pumps	23
Figure 9: Pack house design.....	24
Figure 10: Agricultural development	27
Figure 11: River pump station.....	27
Figure 12: River pump station and pipelines	28
Figure 13: Grape growing areas of South Africa	29
Figure 14: Access Road	30
Figure 15: Portion of the Vegetation Map of South Africa, Swaziland and Lesotho showing the farm 'Norriseep' outlined in red, lying mainly within Eastern Gariep Rocky Desert and to a limited extent in Eastern Gariep Plains Desert.	35
Figure 16: Fine-scale map of the vegetation of Norriseep (red boundary) overlaid on a Google Earth™ image of 16 July 2020. The vineyards and other farm infrastructure are all located in the low-lying, less rocky 'sheet wash' plains of typical Eastern Gariep Plains Desert between the rocky hills that support Eastern Gariep Rocky Desert.	36
Figure 17: The Critical Biodiversity Area Map of the Northern Cape Province as it applies to Norriseep.	37
Figure 18: Employment distribution per person	41
Figure 19: Small Family graveyard	44
Figure 20: Site Development Master Plan	69
Figure 21: Alternative 2	70



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Application form for the regularisation of unlawful commencement or continuation of a listed activity or waste management activity in terms of section 24G of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

2016

Kindly note that:

1. This application form must be completed for all applications in terms of S24G of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.
2. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the application form have been published or produced by the relevant competent authority.
3. This application form is structured as follows:

PART 1

Section A: Application Information
Section B: Activity Information
Section C: Description of Receiving Environment
Section D: Preliminary Impact Assessment
Section E: Landfill Parameters
Section F: Proposed Public Participation Process
Section G: Alternatives
Section H: Appendices

PART 2

Section A: Directive
Section B: Deferral
Section C: Quantum of the fine

PART 3

Section A: Declarations
Annexures

4. An independent EAP must be appointed to complete Part 1 as well as Part 2 Section C Part I of the application form on behalf of the applicant. The applicant must complete the remainder of Part 2 (i.e., excluding Section C part I. Both the EAP and Applicant must sign Part 3.
5. The declaration of independence must be completed by the independent EAP and submitted with the application.
6. 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 extends as each space is filled with typing. A

legible font type and size must be used when completing the form. The font size should not be smaller than 10pt (e.g., Arial 10).

7. The use of "***not applicable***" in the application form must be done with circumspection.
8. No faxed or e-mailed applications will be accepted. This application form must be submitted by hand or mailed to the relevant competent authority.
9. Unless protected by law, all information contained in and attached to this application form may become public information on receipt by the competent authority. Upon request, any interested and affected party must be provided with the information contained in and attached to this application form.
10. This application form constitutes the initiation of the S24G application process.

Kindly note further that:

11. Section 24G of the NEMA, without affecting any criminal liability of a person who has acted in contravention of the above, makes provision for that person to submit an application to the relevant MEC/Minister, which, if successful, will enable that person lawfully to continue with the listed activity and/or legalise an otherwise unlawful structure.
12. Before the Minister/MEC may take a decision in respect of the application, the applicant is required to pay an appropriate administrative fine, determined by the competent authority, which fine may not exceed five million Rand (R 5 000 000.00) per listed activity unlawfully commenced or per application where the activities are interrelated.
13. It is the responsibility of the applicant to familiarise himself/herself/itself with all the possible consequences associated with the submission of this application including, but not limited to, the following:
 - This application (including a positive decision in respect hereof) in no way affects any criminal liability that the applicant may have incurred in respect of the activities which were commenced, undertaken and/or conducted unlawfully as listed in paragraph 1 above, and in respect of which this application relates.
 - The processing of this application may be deferred pending the outcome of criminal proceedings, should criminal proceedings be instituted against the applicant in respect of the abovementioned activities; or where criminal proceedings are pending against the applicant in respect of a similar contravention of section 24F of NEMA or section 20(b) of NEM:WA.
 - Before the competent authority may take a decision on the application, an administrative fine determined by the competent authority must be paid, in full, by the applicant.
 - That neither the submission of this application, nor the payment of the administrative fine implies that authorisation will be issued for the continuation of an activity/activities that commenced, undertaken and/or conducted unlawfully. This decision will depend on the merits of the application itself.
14. Activities which result in detrimental impacts to the environment are considered in a serious light by the competent authority and accordingly applicants must understand that by lodging an application for the continuation of an activity/ activities that commenced/ was undertaken or conducted unlawfully does not necessarily imply that the activity will be authorised. In terms of the NEMA the Minister/MEC may either refuse to issue an environmental authorisation/waste management licence; conditionally authorise the activity or direct you, the applicant, to provide further information or take further steps prior to making a decision.

DEPARTMENTAL DETAILS

Department of Environment and Nature Conservation
Compliance and Enforcement
90 Long Street

Private Bag X6102
Kimberley
8300

Tel. 053-807 7300
Fax: 053-807 7328

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

Cross out the appropriate box "☒".

1.1	The applicant is an individual	YES	NO
1.2	The applicant is a company	YES	NO
1.3	The applicant is a state-owned enterprise or municipality	YES	NO
1.4	Other (specify)	YES	NO
1.5	There is more than one individual / company responsible for the unlawful commencement of listed activities / listed waste management activities.	YES	NO

Name of Project applicant:	Valam Boerdery (Pty) Ltd												
RSA Identity number:	4	8	0	8	2	8	5	0	5	4	0	8	8
Contact person:	Bernie Denton												
Position in company	CEO												
Registered Name of Company/ Closed Corporation	Valam Boerdery (Pty) Ltd												
Trading name (if any):	Valam Boerdery (Pty) Ltd												
Registration number	1998/012817/07												
Postal address:	P.O. Box 21												
	Kakamas					Postal code:	8870						
Telephone:	(054) 431 0568					Cell:							
E-mail:	bernie@capspanfarms.co.za					Fax:							
Please Note: In instances where there is more than one individual / company responsible for the unlawful commencement of listed activities / waste management activities, please attach a list of with all contact details to the back of this page.													

Environmental Assessment Practitioner (EAP):	GroenbergEnviro (Pty) Ltd												
Contact person:	Elanie Kuhn												
Postal address:	PO Box 1058												
	Wellington					Postal code:	8870						
Telephone:	(021) 873 7228					Cell:	076 584 0822						
E-mail:	elanie@groenbergenviro.co.za					Fax:	(086) 672 1916						
EAP Qualifications	Elanie Kuhn – 14 years' experience, environmental management, report writing, project management.												
EAP Registrations/Associations	Elanie Kühn – IAIAsa												

Name of Landowner(s):	Valam Boerdery (Pty) Ltd												
Contact person(s):	Bernie Denton												
Postal address:	P.O. Box 21												

Telephone: E-mail:	Kakamas	Postal code: 8870
	(054) 431 0568	Cell:
	bernie@capespanfarms.co.za	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 page.

Municipality in whose area of jurisdiction the activity falls: Contact person: Postal address: Telephone E-mail:	Khai! Ma Municipality	
	Municipal Manager	
	P. O. Box 108	
	Pofadder	Postal code: 8890
	(054) 933 1000	Cell:
	mmsecretary@khaima.gov.za	Fax: (054) 933 0252

Please Note: In instances where there is more than one Municipality involved, please attach a list of Municipalities with their contact details to the back of this page.

Project title:	Norriseep - S24G Rectification of cultivation vineyards across small streams and associated infrastructure and legalisation of a pack house on Remainder of Farm Afstof No. 421, Onseepkans.
Property location:	Norriseep – Onseepkans
Farm/Erf name & number (incl. portion):	Remainder of Farm Afstof No. 421.
SG21 Digit code:	C03600140000042100000

Cultivated area: Block 1. Co-ordinates:	Latitude (S):			Longitude (E):		
	28°	46'	36.13 "	19°	22'	01.37"
	28°	46'	41.52 "	19°	22'	15.90"
	28°	46'	58.82 "	19°	22'	16.99"
	28°	47'	01.31 "	19°	21'	57.97"
Cultivation area: Block 2 Co-ordinates:	Latitude (S):			Longitude (E):		
	28°	45'	55.06 "	19°	21'	35.45"
	28°	45'	54.69 "	19°	21'	43.63"
	28°	46'	05.50 "	19°	21'	35.38"
	28°	46'	02.80 "	19°	21'	44.56"
Cultivation area: Block 3 Co-ordinates:	Latitude (S):			Longitude (E):		
	28°	45'	21.99 "	19°	21'	28.16"
	28°	45'	27.99 "	19°	21'	44.01"
	28°	45'	43.37 "	19°	21'	44.22"
	28°	45'	43.74 "	19°	21'	34.95"
Pack house	Latitude (S):			Longitude (E):		

Co-ordinates:						
	28°	46'	42.30 "	19°	21'	55.58"
Middle Dam	Latitude (S):			Longitude (E):		
Co-ordinates:	28°	45'	40.98"	19°	21'	57.48"
Pakstoor Dam	Latitude (S):			Longitude (E):		
Co-ordinates:	28°	46'	32.45"	19°	21'	57.45"
Please Note: Where a large number of properties are involved (e.g., linear activities), attach a list of property descriptions to the back of this page. Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates must be in degrees, minutes and seconds. The minutes must be given to at least three decimals to ensure adequate accuracy. The EAP is required to contact the relevant competent authority with regards to the projection that must be used.						
Street address:	Khai! Ma Municipality					
Magisterial District or Town:	Onseepkans					
Please Note: In instances where there is more than one town or district involved, please attach a list of towns or districts as well as complete physical address information for the entire area to the back of this page.						
Closest City/Town:	Onseepkans				Distance	25 Km
Zoning of Property:	Agricultural Zone 1					
Please Note: In instances where there is more than one zoning, please attach a map clearly indicating the zoning of the different portions.						
Was a rezoning application required?					YES	NO
Was a consent use application required?					YES	NO
Please Note: Where planning approvals have been granted please attach the relevant approvals.						
Owner's consent:	NOT REQUIRED AS PROJECT IS ON APPLICANT'S PROPERTY Letters of consent from all landowners or a detailed explanation by the applicant explaining why such letters of consent are not furnished must be attached to the application form. .					

2. APPLICATION HISTORY

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

Has any national, provincial or local authority considered any development / waste management applications on the property previously?	Yes	NO
If so, please give a brief description of the type and/or nature of the application/s: (In instances where there was more than one application, please attach a list of these applications)		
Which authority considered the application(s):		

Has any one of the previous application/s on the property been approved or rejected? If so, provide a list of the successful and unsuccessful application/s and the reasons for decision/s.	Yes	NO
Provide detail on the period of validity of decision(s) and expiry dates of the above applications / licences etc.		

I hereby apply in terms of Section 24G of the National Environmental Management Act (Act no 107 of 1998 as amended) for the regularisation of the unlawful commencement or continuation of the listed activity(ies) in Section B of the application form:

Applicant (Full names) Bernie James Denton

Signature: 

Place: _____

Date: _____

EAP (Full names) Pieter Badenhorst

Signature: _____

Place: _____

Date: _____

SECTION B: ACTIVITY INFORMATION

1. ACTIVITIES APPLIED FOR:

Separate applications are required for one site where more than one listed activity has commenced and where these unlawfully commenced activities constitute offences in terms of different EIA regulations and / or the listed waste management activities.

Applicants and EAPS are strongly advised to discuss the merits of a combined application (if deemed applicable) with the relevant competent authority prior to the completion of this application form and submission thereof.

The relevant competent authority will use its discretion in deciding to allow the submission of a single application for more than one NEMA section 24F(1) and / or NEM:WA section 20(b) contravention on one site.

All potential listed activities / waste management activities associated with the site must be indicated below. Only those activities for which the applicant applies will be considered.

The onus is on the applicant to ensure that all the applicable listed activities are included in the application.

Listed activities applied for. Identify the relevant listed activities applied for below:

ECA EIA Contraventions: Between 10 May 2002 and before end of day 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 No 73 of 1989, as amended	
Listed Activity(ies)	Details of Activity(ies)
Activity 1 (j): The construction, erection or upgrading of canals and channel's, including structures causing riverbed disturbances to the flow of water in a riverbed, and water transfer schemes between water catchments and impoundments;	For the expansion of the existing pump station on the Orange River.
Activity 1 (k): The construction, erection or upgrading dams, levees and weirs affecting the flow of a river;	For the expansion of the dams.
Activity 10: The cultivation or any other use of virgin ground.	For the cultivation of virgin soil.

NEMA EIA Contraventions: Between 03 July 2006 and before end of day 01 August 2010	
Activities unlawfully commenced with in terms of the EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998, as amended on or after 03 July 2006 and before end of day 01 August 2010.	

Government Notice No. R386 Activity No(s):	Details of Activity(ies) requiring Basic Assessment
Activity 1 (j) The construction of facilities or infrastructure, including associated structures or infrastructure, for: (j) Agri-industrial purposes – outside areas with an existing land use zoning for industrial purposes that cover an area of 1 000 square metres or more;	For the construction of a pack house.
Government Notice No. R387 Activity No(s):	Details of Activity(ies) requiring a Scoping Report and EIA
NOT APPLICABLE	

NEMA EIA Contraventions: On or after 02 August 2010 until 7 December 2014	
Activities unlawfully commenced with in terms of the EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998, as amended on or after 02 August 2010 until 7 December 2014	
Government Notice No. R544 Activity No(s):	Details of Activity(ies) requiring Basic Assessment
Activity 11. The construction of (i) canals; (ii) channels; (iii) bridges; (iv) dams; (v) weirs; (vi) bulk storm water outlet structures; (vii) marinas, (viii) jetties exceeding 50 square metres in size; (ix) slipways exceeding 50 square metres in size; (x) buildings exceeding 50 square metres in size, or (xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	For the construction of agricultural areas across small streams.
Activity 18. The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from: (i) a watercourse; (ii) the sea; (iii) the seashore;	For the construction of agricultural areas across small streams.
Government Notice No. R545 Activity No(s):	Details of Activity(ies) requiring a Scoping Report and EIA
NOT APPLICABLE	
Government Notice No. R546 Activity No(s):	Details of Activity(ies) requiring Basic Assessment

Activity 12. The clearance of an area of 300 m ² or more of vegetation where 75% or more of the vegetation cover constitutes indigenous vegetation.	
--	--

NEMA EIA Contraventions: On or after 8 December 2014	
Activities unlawfully commenced with in terms of the EIA Regulations promulgated in terms of the NEMA, Act No 107 of 1998, as amended on or after 8 December 2014.	
Government Notice No. R983 Appendix 1 Activity No(s):	Details of Activity(ies) requiring Basic Assessment
NOT APPLICABLE	
Government Notice No. R984 Appendix 2 Activity No(s):	Details of Activity(ies) requiring a Scoping Report
NOT APPLICABLE	
Government Notice No. R985 Appendix 3 Activity No(s):	Details of Activity(ies) requiring Environmental Impact Assessment Report
NOT APPLICABLE	

Waste Management Activities Contraventions: On or after 3 July 2007 up to end of day 28 November 2013	
Activities unlawfully commenced with in terms of GNR 718 of 3 July 2009 published under the National Environmental Management Waste Act 59 of 2008	
Listed Activity(ies)	Details of Activity(ies)
NOT APPLICABLE	

Waste Management Activities Contraventions: On or after 29 November 2013	
Activities unlawfully commenced with in terms of GNR 921 of 29 November 2013 published under the National Environmental Management Waste Act 59 of 2008	
Listed Activity(ies)	Details of Activity(ies)
NOT APPLICABLE	

2. ACTIVITY DESCRIPTION

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

(a) Is/was the project a new development or an upgrade of an existing development.	New and upgrade.	Existing agricultural development,
--	-------------------------	---

and pack house.

(b) Clearly describe the activity and associated infrastructure commenced with, indicating what has been completed, what still has to be completed and applicable commencement dates.

Locality:

Norriseep Farm is located on the Remainder of Farm Afstof No. 421. The Norriseep farm is access via a gravel road off the R358 just north of Onseepkans in the Northern Cape Province. The property's location is shown in **Figure 1**.

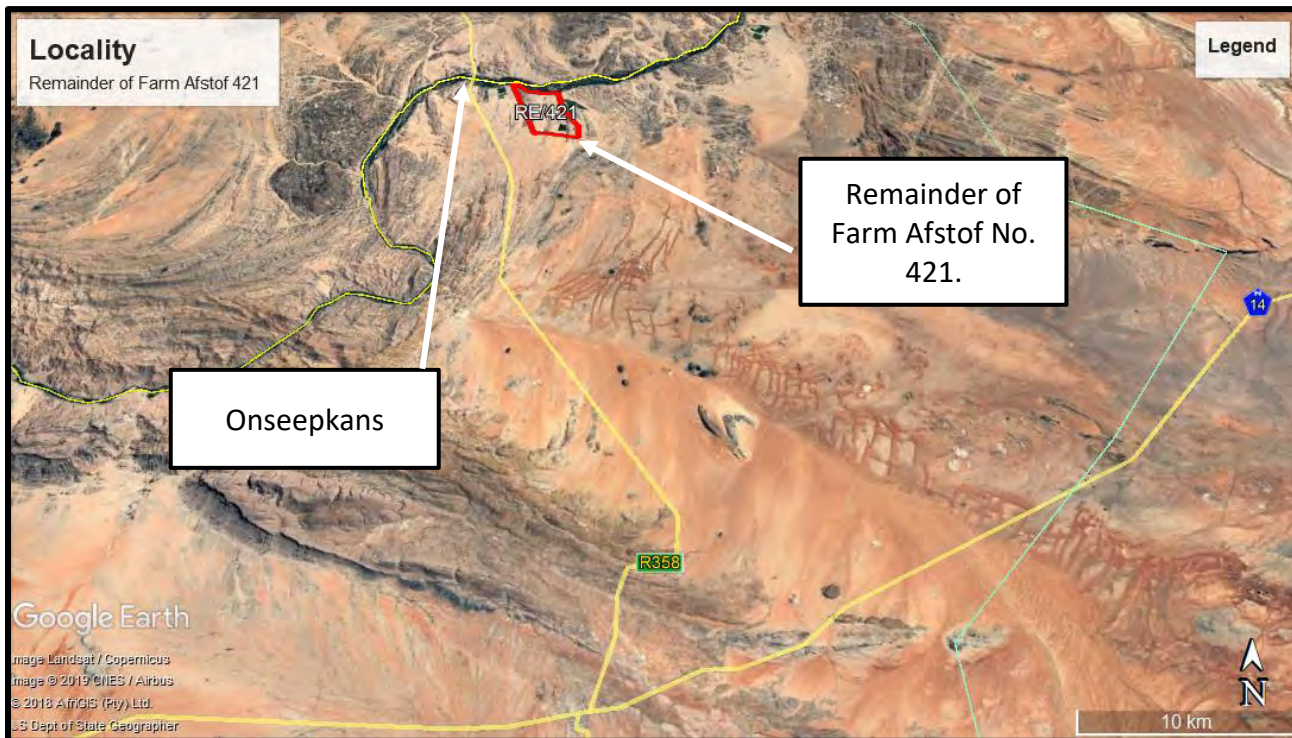


Figure 1: Norriseep locality and property boundaries

Refer to the Historical Google Earth images attached at APPENDIX D: PHOTOGRAPS, IMAGERY AND MAPS.

The current applicant, Valam Boerdery (Pty) Ltd, only purchased the property in 2014. All the development prior to this (Block 1, pump station and dams) was conducted by the previous owner. Some of these activities which triggered listed activities under NEMA 2000 and 2006. During this purchase, the applicant extended Block 2 and 3 and developed a packaging shed and he unknowingly activated certain listed activities that is included in the NEMA 2010 Regulations. Only during an Audit Report conducted by Mr Pieter Badenhorst, did it become apparent that this is not the case. The following activities are applied for:

NEMA 2002 -2006 Regulations:

1. Construction of agricultural areas of approximately 31ha (Block 1 - purple) that crosses small streams and pump station, dams, pipelines and roads as part of the clearance of indigenous vegetation to establish new agricultural areas.

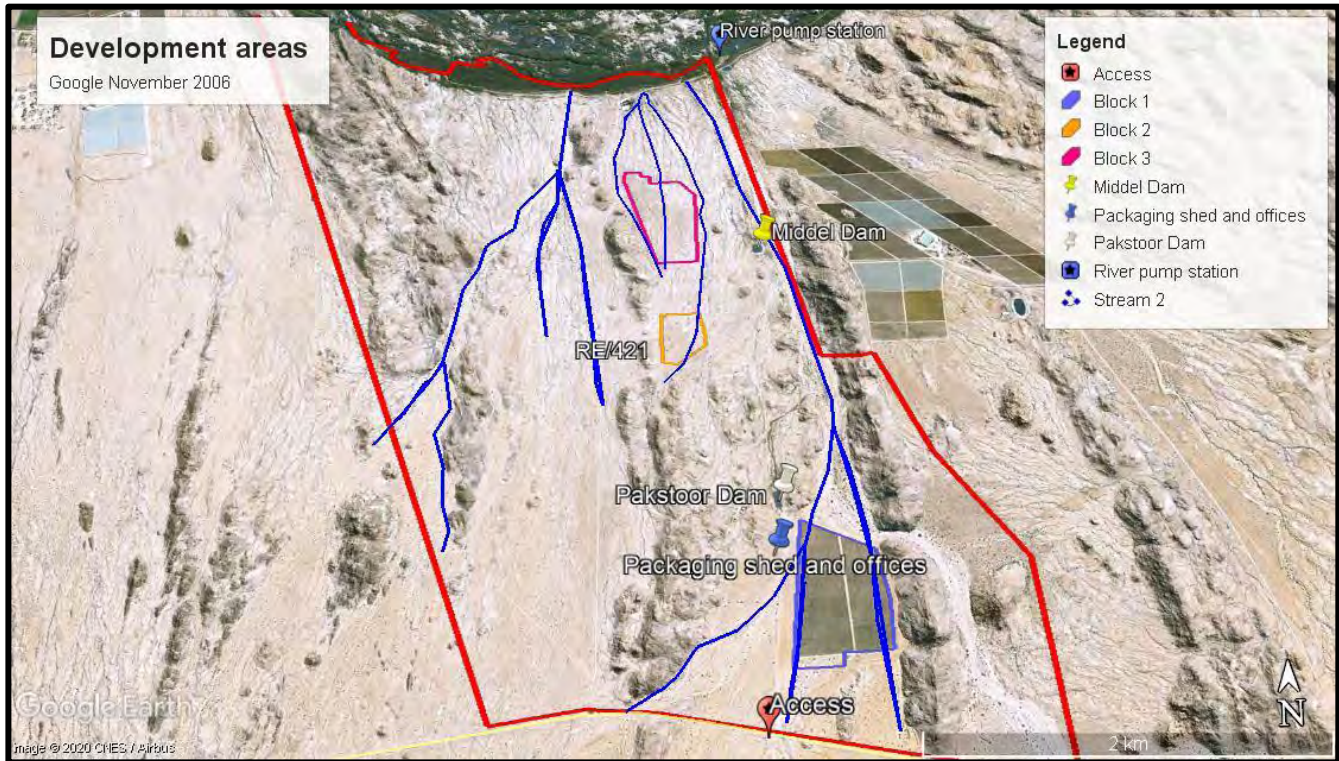


Figure 2: Development Layout 2006

NEMA 2010 -2014 Regulations:

2. Development of the pack house, clearing an area of approximately 1ha, see Figure 3.



Figure 3: Pack house

3. Construction of agricultural areas of approximately 7ha for Block 2 (orange) and 20ha for Block 3 (pink) that crosses small streams.



Figure 4: Development areas January 2015

4. Middle and Pakstoor Dam

Middle Dam: The dam has a capacity 8064m^3 , with a wall height of 3m and a wall length and height of 60m, see Figure 5 and Figure 6.

Pakstoor Dam: The dam has a capacity of $10\,500\text{m}^3$, with a wall height of 3m and a wall length of 102m and wall width of 44m, see Figure 7.

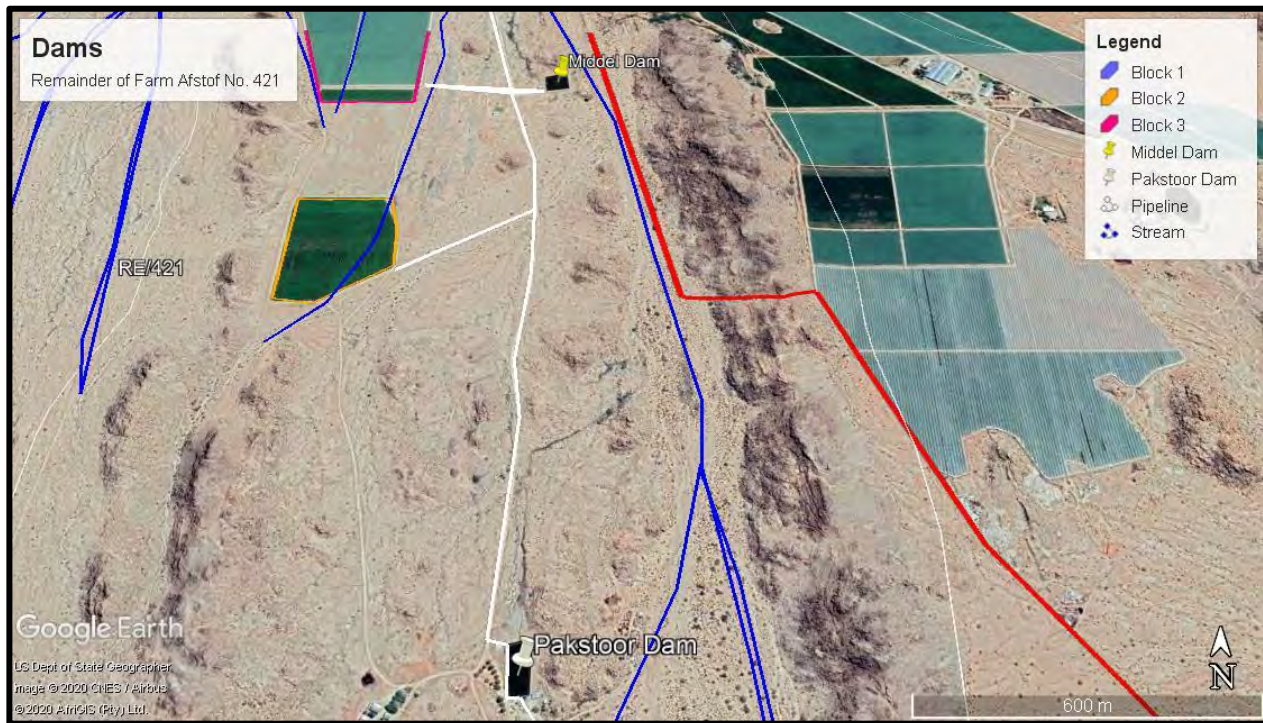


Figure 5: Locality of the two dams

CAPE SPAN NORRISEEP DAM 1

Dam depth: 3m
Dam length: 60m
Dam width: 60m
Dam water capacity: 8046 m³

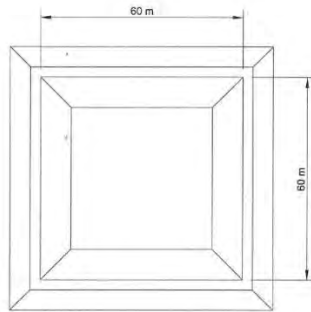


Figure 6: Middle Dam design

CAPE SPAN NORRISEEP DAM 2

Dam depth: 3m
Dam length: 100m
Dam width: 44m
Dam water capacity: 10500 m³

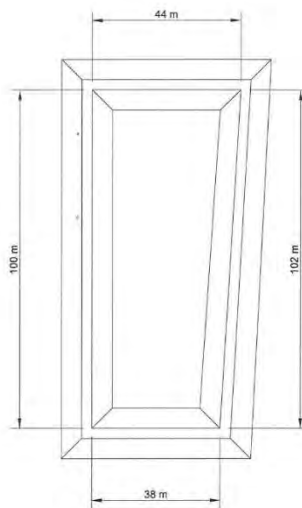


Figure 7: Pakstoor Dam design

By January 2015, a total of 58 hectares had been cleared for agricultural development.

5. River pump station (NEMA 2002-2006)

This is an old existing river pump station constructed by adjacent landowners for the development that took place prior to 2000. Note, as per Figure 8 below, it is a floating pump station that can be removed during flood periods. This pump station pumps the allocated water for which the owner already has a water use license. No further licensing is required.



Figure 8: River pumps

(c) 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:

During 2010 the development of a pack house took place; the total disturbance footprint area is approximately 1ha. The design of the pack house is shown below in Figure 9.

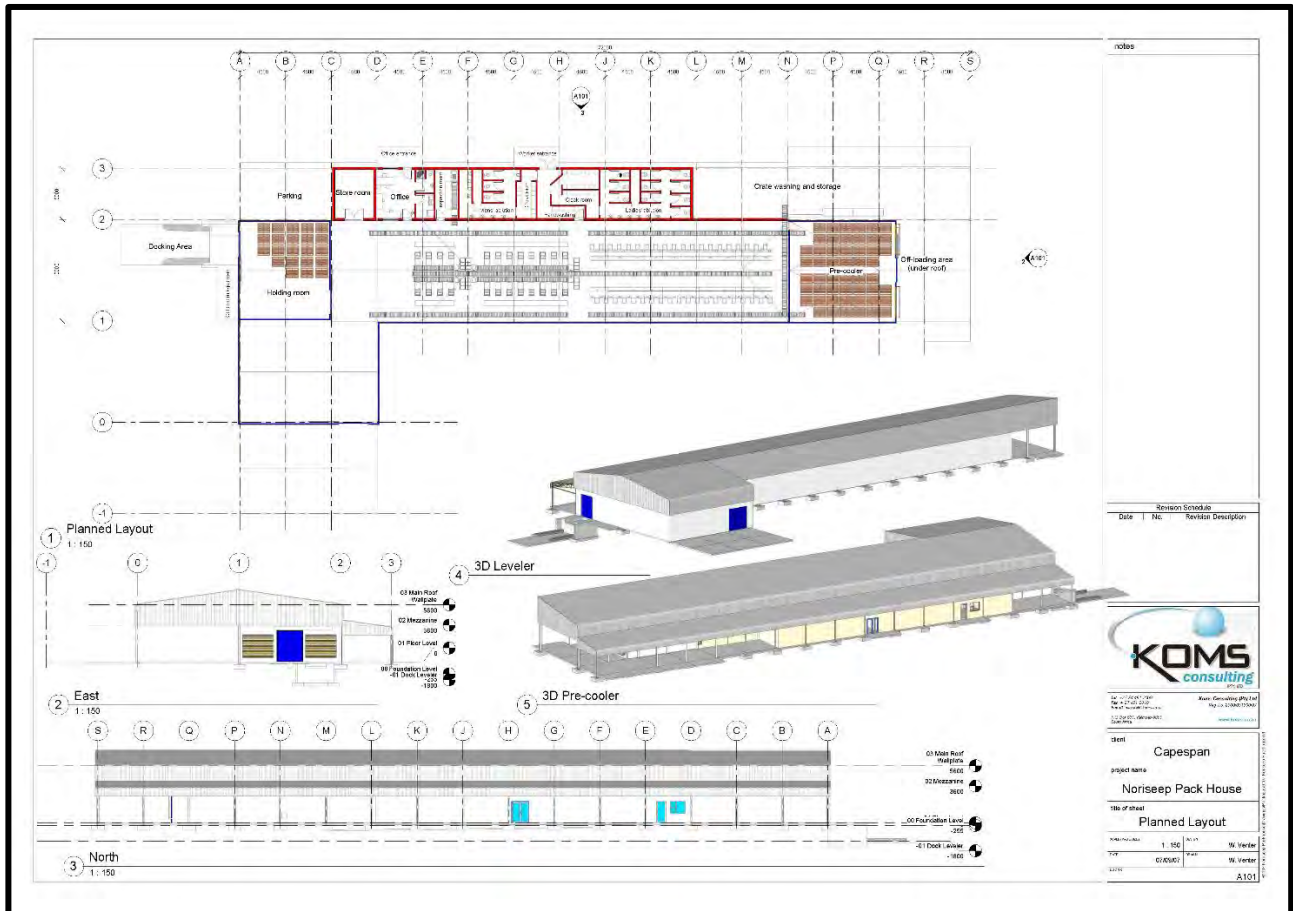


Figure 9: Pack house design.

Infrastructure (e.g., roads, power and water supply/ storage)

YES

~~NO~~

Provide brief description:

Roads:

Access is gained off the R358 district road. The internal farm tracks are not surfaced and are compacted earth with no formal storm water management control structures in place. The low rainfall characteristic of the area negates the need to provide for formal storm water control.

Water:

Currently there is a new Water Use Licence (WUL) issued the transfer of water between two farms that are owned by the applicant. This is classified as a Section 21a use (taking of water). This Water Use Licence (WUL) was issued on 30-05-2019. The new WARMS certificate is still awaited.

The applicant, Valam Boerdery (Pty) Ltd, transferred 338 850m³/a (22.59ha) of water from the Remainder of Farm Afstof No. 421(existing rights of 77.6ha) to Kakamas North Settlement No. 341 (KNS 341), to rectify the water shortage at KNS 341. The transfer of 22.59ha of the available 77.6ha from the Remainder of Afstof No. 421, so that 55.01ha remains. The summary of the transfer is shown below in Table below.

Table 1: Transfer and Water allocations

Property	Current Water Allocation	Transfer	Irrigate tempo	Water Allocation ha	Water Allocation m ³ /a
Remainder of Farm Afstof 421	77.6 ha	22.59 ha	15 000 m ³ /h a	55.01 ha	82 5150 m ³ /a
Kakamas North Settlement No. 341	0 ha	0 ha	15 000m ³ /ha	22.59 ha	338 850 m ³ /a

The property is located directly adjacent the Orange River. Note however, that an area of 55 ha is available for irrigation on the farm. Currently only 46.51 ha are irrigated. This property has an Existing Lawful Use of 77.6 ha for irrigation – therefore a surplus of approximately 31.09 ha of water rights is available on the property. As described above, 22.59 ha of this water will be transferred to KNS 341, which leaves 8.5 ha of water rights for future developments on the Remainder of Farm Afstof No. 421. This Water Use License (WUL) was issued on 30-05-2019. The new WARMS certificate is still awaited. Find the WUL attached as **Appendix E1: WUL**.

As part of this application, it is also the intention to rectify the construction of agricultural development across small ephemeral streams, see **Figure 2**.

The application is also for section 21 b for storage of water. The first dam, the Middle Dam has a capacity 8064m³, with a wall height of 3m and a wall length and height of 60m. The second dam the Pakstoor Dam has a capacity of 10 500m³, with a wall height of 3m and a wall length of 102m and wall width of 44m. All storage dams not registered with a capacity of more than 2000m³, needs to be licensed.

Norriseep Farm uses water from the irrigation allocation for drinking purposes and garden irrigation. A license application (WULA) will be required for 21(a) to transfer water from “irrigation” to the sector “Schedule 1”. Water used in pack stores are used for commercial purposes and must, therefore, be licenced as “industrial”.

It can, therefore, be concluded that licences will be required to “transfer” water from the lawful “irrigation” allocation to “industrial use” and Schedule 1.

As shown above in **Table 2**, the total volume of water used annually amounts to 15 000m³/annum (1ha). Therefore, the application is to transfer approximately 1ha of water for Industrial and Schedule 1 use.

The WULA application is summarised, in the table below, for the following water usages:

Table 2: Water use license activities

<i>(a) transfer of water</i>	Applying for a licence for the “transfer” of water from the lawful “irrigation” allocation to “industrial use” and Schedule 1.
<i>(c) impeding or diverting flow of water in a watercourse</i>	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
<i>(i) altering the bed, banks, course or characteristics of a watercourse</i>	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
<i>(b) storing of water</i>	For the construction and registration of storage dams on the property.

Electricity:

Electricity is provided by Eskom for the irrigation process and is linked to the booster pump. See **Figure 6**, showing the existing Eskom connection, that has existing capacity.

Processing activities (e.g., manufacturing, storage, distribution)	YES	NO
--	----------------	-----------

Provide brief description:

Storage facilities for raw materials and products (e.g., volume and substances to be stored)	YES	NO
--	----------------	-----------

Provide brief description

Storage and treatment facilities for solid waste and effluent generated by the project	YES	NO
--	----------------	-----------

Provide brief description

There is an existing conservancy tanks at the hostels, and at the pack house. These are removed on a regular basis by an external company on a regular basis by the Khai Ma Municipality for treatment and disposal, find proof included in **Appendix E3: Proof of Sewerage treatment.**

Other activities (e.g., water abstraction activities, crop planting activities)	YES	NO
---	------------	---------------

Provide brief description

Crop Planting:

The applicant has developed an area of 58ha of cultivation areas without environmental authorization. Table grapes are being cultivated as indicated in the project area (refer to Appendix D2: Site Photographs).

As Shown below in **Figure 10** the development areas, pink, orange, and purple blocks took place between 2006 and 2007.

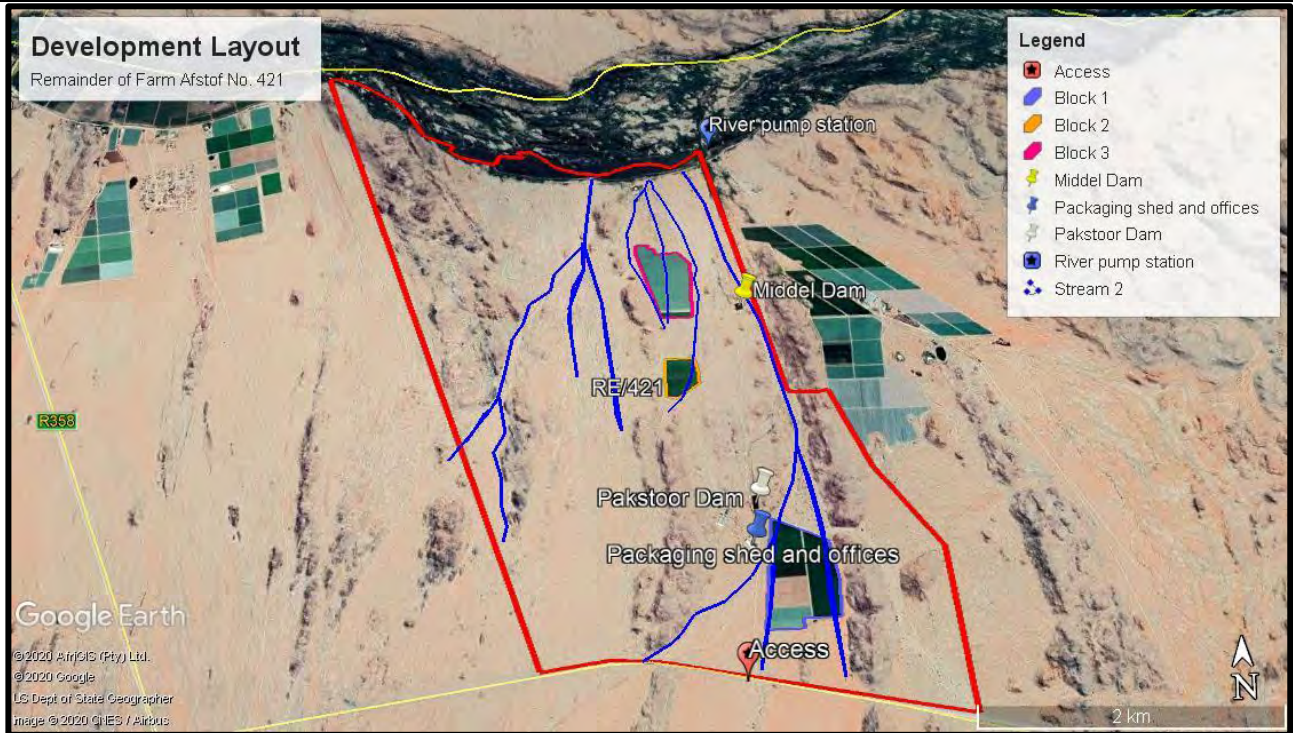


Figure 10: Agricultural development

River pump station and pipelines:

The River pump station was constructed in 1998 and therefore can be seen as an existing lawful water use. The River pump station is a basic floating jetty on the banks of the Orange River as can be seen below in **Figure 11**.



Figure 11: River pump station

The pipelines ran along the existing road infrastructure to the various small balancing dams, from where it is distributed to the irrigation areas, as shown below in **Figure 12**.

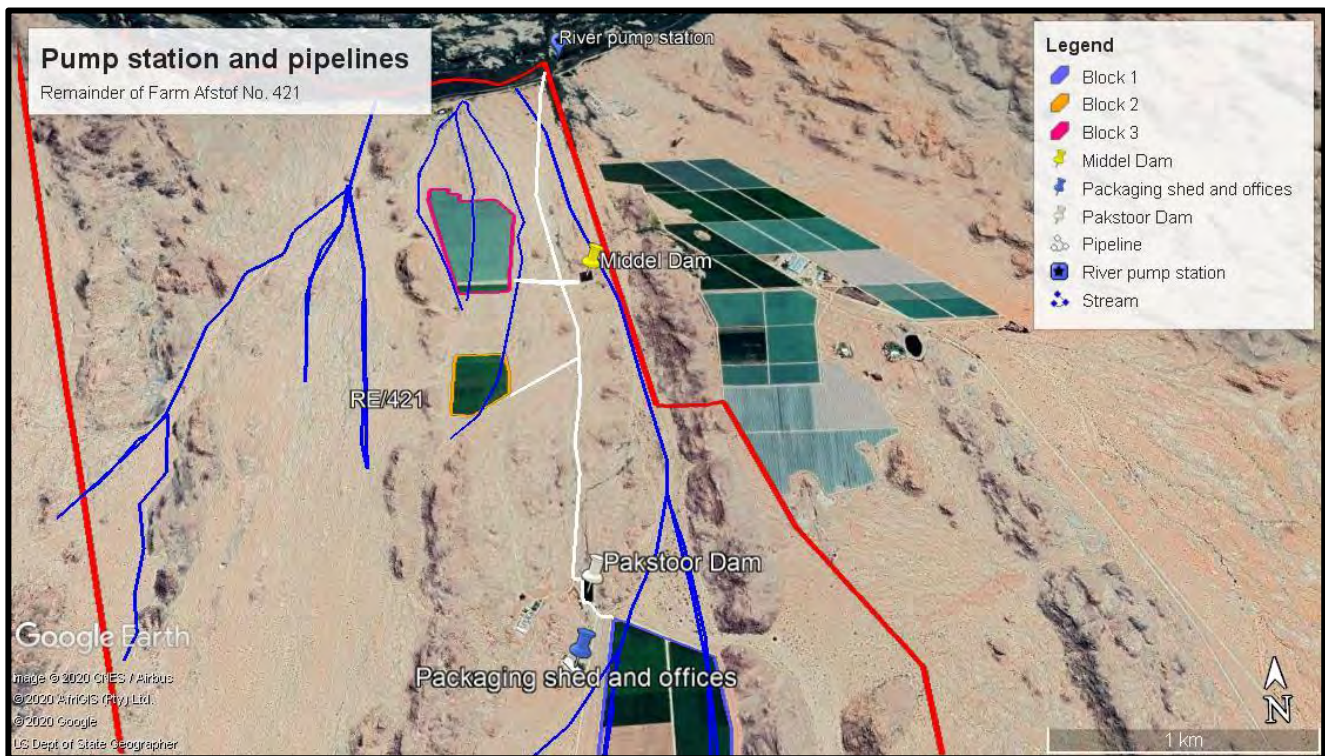


Figure 12: River pump station and pipelines

3. ACTIVITY NEED AND DESIRABILITY

Describe the need and desirability of the activity:

According to a report prepared by DAFF (2012), South African table grape exports totalled 2 708 767 metric tons that year. The majority of exports are to the European Market, with most table grapes being exported to the Netherlands (40%), followed by Great Britain (21%), Belgium (7,4%), Germany (5,5%), Hong Kong (3,1%) and other African countries (0,3%). During the summer season, India, Chile, South Africa and Israel are the major exporting countries.

Major production areas in South Africa

The Hex River Valley is the country's main table grape production area. More than half of all grape exports come from this district, which has the longest harvesting period in the country. The Northern Cape is a very dry province, so most of the grapes in this province are cultivated in the Orange River region and they are harvested exceedingly early, giving it an advantage from other regions in the country.

The project area is located within the Lower Orange River grape region (Refer to **Figure 13** below.)

Remainder of Farm Afstof No. 421 contributes to the production of table grapes that are harvested early for the export market, in time for the Christmas festive season overseas. This particular characteristic of growing table grapes in this region gives the growers a highly competitive advantage in the global market.

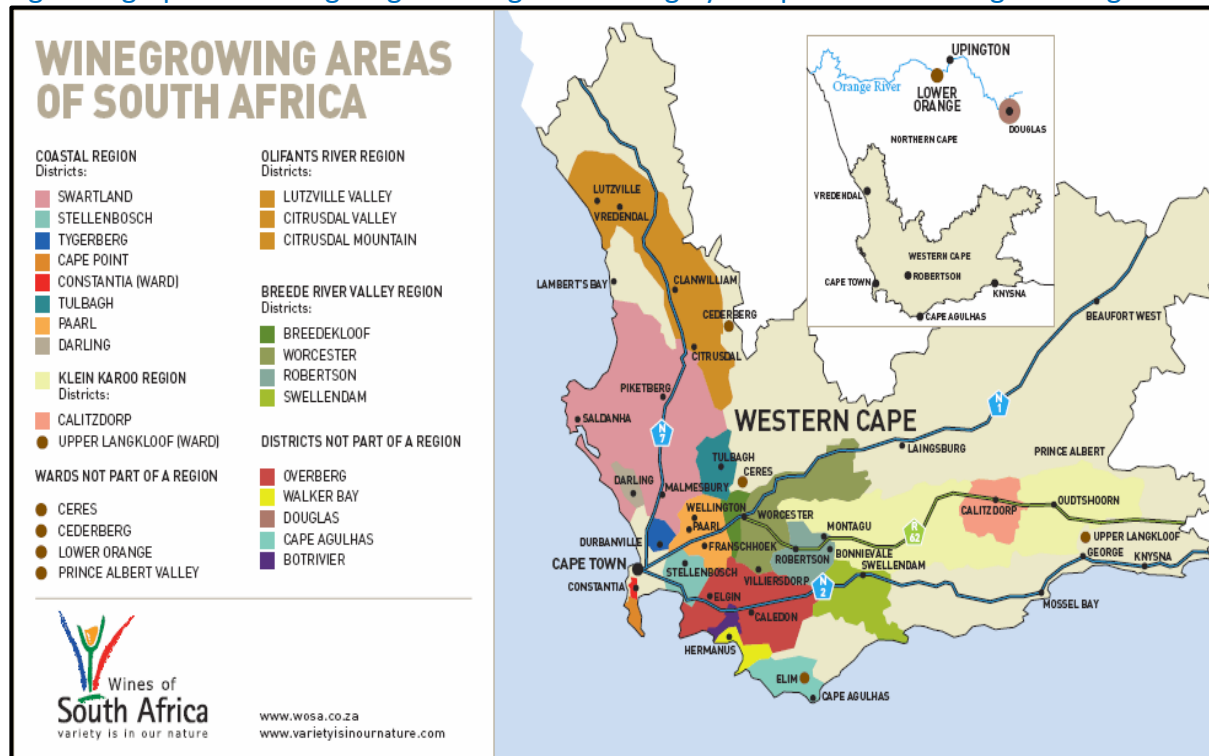


Figure 13: Grape growing areas of South Africa.

(sourced from www.wosa.co.za)

Indicate the benefits that the activity has/had for society in general and also indicate what benefits the activity has/had for the local communities where it is located:

The cultivation of table grapes created short-term employment during the construction/development phase, and long-term employment during the operational phase. The grower (Capespan) has to employ a large number of workers to harvest the grapes by hand and to sort them during harvest time, and there is a team to ensure the maintenance of the vineyards in general.

Local employment has a positive economic spin-off for the local economy and results in community upliftment through being able to provide for basic needs such as housing and education of the children of the employed staff.

The export of grapes contributes to the National Gross Domestic Profit (GDP).

The Capespan Farms are Valam Boerdery (Pty) Ltd's only shareholder. This shareholding endeavour greatly benefits the previously disadvantaged men and women.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical spatial size of the activity as well as associated infrastructure (footprints):	58ha for vineyards and 0.1ha for the river intake and pump station, 1ha for the pack house and 0.5ha for the dams.
Indicate the area that has been transformed / cleared to allow for the activity as well as associated infrastructure	58ha for vineyards and 0.1ha for the river intake and pump station, 1ha for the pack house and 0.5ha for the dams.
Total area (sum of the footprint area and transformed area)	58ha for vineyards and 0.1ha for the river intake and pump station, 1ha for the pack house and 0.5ha for the dams.

5. SITE ACCESS

Was there an existing access road?	YES	NO
If no, what was the distance over which the new access road was built?		<i>m</i>
Describe the type of access road constructed: [indicate the position of the access road on the site plan]		

The access road is an existing road as shown below in the Google Earth photograph (Figure 14) and is just under 4 metres wide. This road was constructed prior to 1998, this gravel road gains access off R358 that runs from Pofadder to Onseepkans.

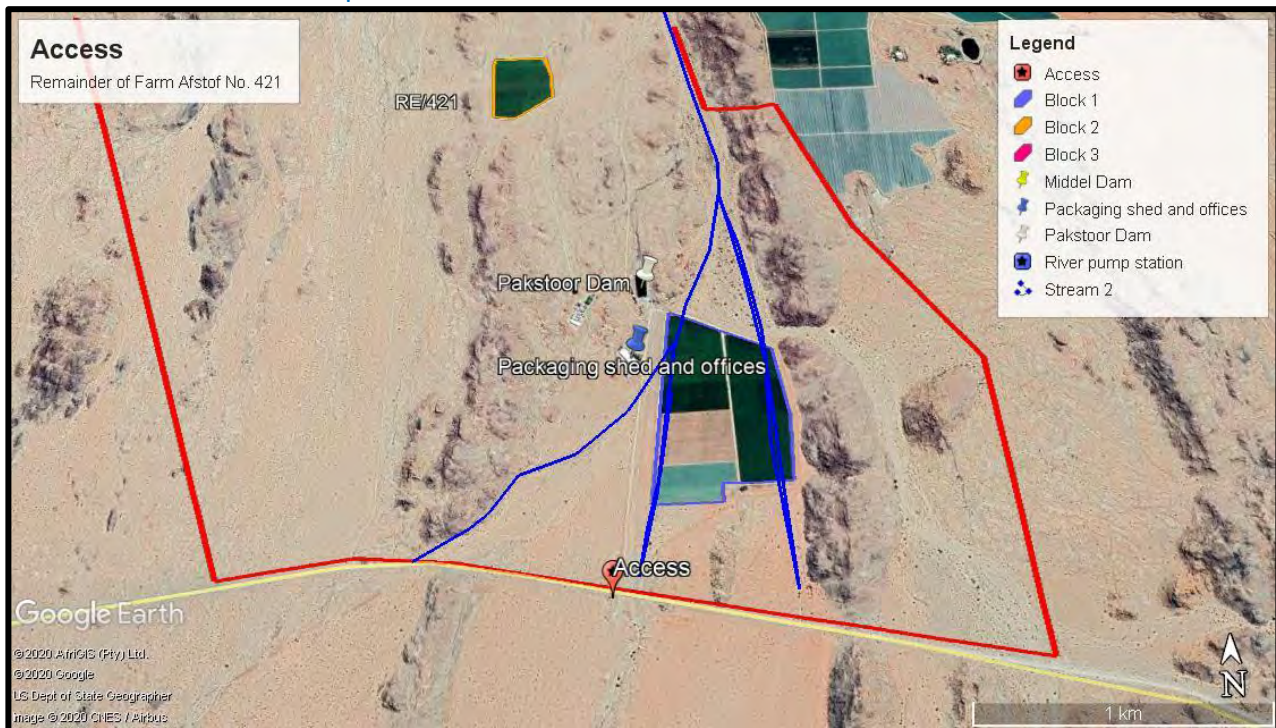


Figure 14: Access Road

6. 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 of photographs must be included. Photographs must be attached under Appendix D to this form.

Historical Aerial photographs dated back to 2003 are provided as Figures 1 to 5, attached at APPENDIX D: PHOTOGRAPHS, IMAGERY AND MAPS

Appendix D1: Historical Photographic Imagery. Site Photographs taken is attached as Appendix D2: Site Photographs.

7. 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/ authorization/comment	DATE (if already obtained):
National Environmental Management Act	Department Environment and Nature Conservation (DENC)	Authorisation	In progress
National Heritage Resources Act	SAHRA	Comment.	In progress
National Water Act	Department of Water and Sanitation	Water Use Licence or General Authorisation	In progress
Conservation of Agricultural Resources Act	Department of Agriculture	Plough Certificate for Water Use Licence; Comment on EIA.	In progress
National Forests Act (NFA) (Act 84 of 1998)	Department of Environment, Forestry and Fisheries	DEFF Permit	Will be finalised after the Environmental Authorisation.
National Veld and Forest Fires Act (Act 101 of 1998)	Department of Environment, Forestry and Fisheries	DEFF Permit	Will be finalised after the Environmental Authorisation.
Northern Cape Nature Conservation Act (NCNCA)	DENC	DENC Permit	Will be finalised after the Environmental Authorisation.

POLICY/ GUIDELINES	ADMINISTERING AUTHORITY
Guidelines published in terms of NEMA Regulations	Department of Environmental Affairs
Guidelines published in terms of the National Water Act	Department of Water and Sanitation

8. WASTE QUANTITIES (WHERE THE ACTIVITY IS A LISTED WASTE MANAGEMENT ACTIVITY)

THIS SECTION IS NOT APPLICABLE

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)

Hazardous waste	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

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	

9. GENERAL (WHERE THE ACTIVITY IS A LISTED WASTE MANAGEMENT ACTIVITY)

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		

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. GRADIENT OF THE SITE

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

Flat	Flatter than 1:10	1:10 – 1:5	Steeper than 1:5
-----------------	--------------------------	-----------------------	-----------------------------

2. LOCATION IN THE LANDSCAPE

Indicate the landform(s) that best describes the site (cross out (“”) the appropriate box (es)).

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front	Other
----------------------	--------------------	--	--------------------------	------------------------	--------------	-----------------------------------	-----------------	----------------------	------------------

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on or near any of the following [cross out (“”) the appropriate boxes]?

Shallow water table (less than 1.5m deep)	YES	NO	UNSURE
Seasonally wet soils (often close to water bodies)	YES	NO	UNSURE
Unstable rocky slopes or steep slopes with loose soil	YES	NO	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
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 exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used.			

4. SURFACE WATER

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 (mainly drainage areas and a small stream)	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. VEGETATION AND GROUNDWATER

5.1 VEGETATION / GROUND COVER (PRE-COMMENCEMENT)

Cross out ("~~☒~~") the block or describe (where required) the vegetation types / groundcover present on the site before commencement of the activity.

Indigenous Vegetation – good condition	Indigenous Vegetation with scattered aliens	X	Indigenous Vegetation with heavy alien infestation
<p>Describe the vegetation type above:</p> <p>Not applicable.</p>	<p>Describe the vegetation type above:</p> <p><i>The vegetation types found at Norriseep, according to Mucina et al. (2006), are mainly Eastern Gariep Rocky Desert, a small area of Eastern Gariep Plains Desert away from the Orange River, and Lower Gariep Alluvial Vegetation along the river. Vineyard blocks 2 and 3 lie within an area mapped as Eastern Gariep Rocky Desert and Block 1 is partly within Eastern Gariep Plains Desert (Figure 15). The two dams and other infrastructure are all in the area mapped as Eastern Gariep Rocky Desert.</i></p>		<p>Describe the vegetation type above:</p> <p>Not applicable.</p>
<p>Provide ecosystem status for above:</p> <p>Not applicable.</p>	<p>Provide ecosystem status for above:</p> <p><i>Least threatened [according to Mucina & Rutherford (2006)]</i></p> <p><i>Critical Biodiversity Area 2 (Refer to Appendix F1 showing the CBA status as sourced from bgis.sanbi.org) and inserted below as Error! Reference source not found..</i></p>		<p>Provide Ecosystem status for above:</p> <p>Not applicable.</p>
<p>Indigenous Vegetation in an ecological corridor or along a soil boundary / interface</p>	<p>Void dominated by alien species.</p>		<p>Distinctive soil conditions (e.g., Sand over shale, quartz patches, limestone, alluvial deposits, termitaria etc.) – describe:</p> <p>The average depth of the soil is 1.8 metres. The soil is known for rocky nature with limited soil areas.</p>

Bare soil	Building or other structure	Sport field
Other (describe below)	Cultivated land	Paved surface

The following was taken from the Botanical Report included in **Appendix H2: Botanical Report:**

Vegetation types:

“The vegetation types found at Norriseep, according to Mucina et al. (2006), are mainly Eastern Gariep Rocky Desert, a small area of Eastern Gariep Plains Desert away from the Orange River, and Lower Gariep Alluvial Vegetation along the river. Vineyard blocks 2 and 3 lie within an area mapped as Eastern Gariep Rocky Desert and Block 1 is partly within Eastern Gariep Plains Desert (Figure 15). The two dams and other infrastructure are all in the area mapped as Eastern Gariep Rocky Desert.

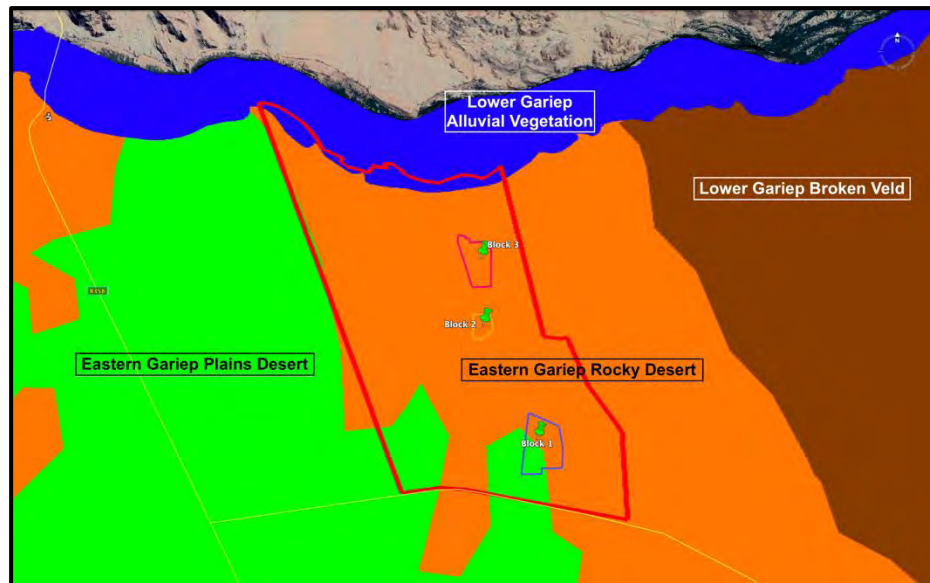


Figure 15: Portion of the Vegetation Map of South Africa, Swaziland and Lesotho showing the farm ‘Norriseep’ outlined in red, lying mainly within Eastern Gariep Rocky Desert and to a limited extent in Eastern Gariep Plains Desert.

The two vegetation types Eastern Gariep Rocky Desert (Figure 15) and Eastern Gariep Plains Desert (Figure 16) were mapped to show that the vineyards have been established in ‘plains’ areas that are actually zone of seasonal ‘sheet wash’, a typical habitat of low-lying areas that drain towards the Orange River.

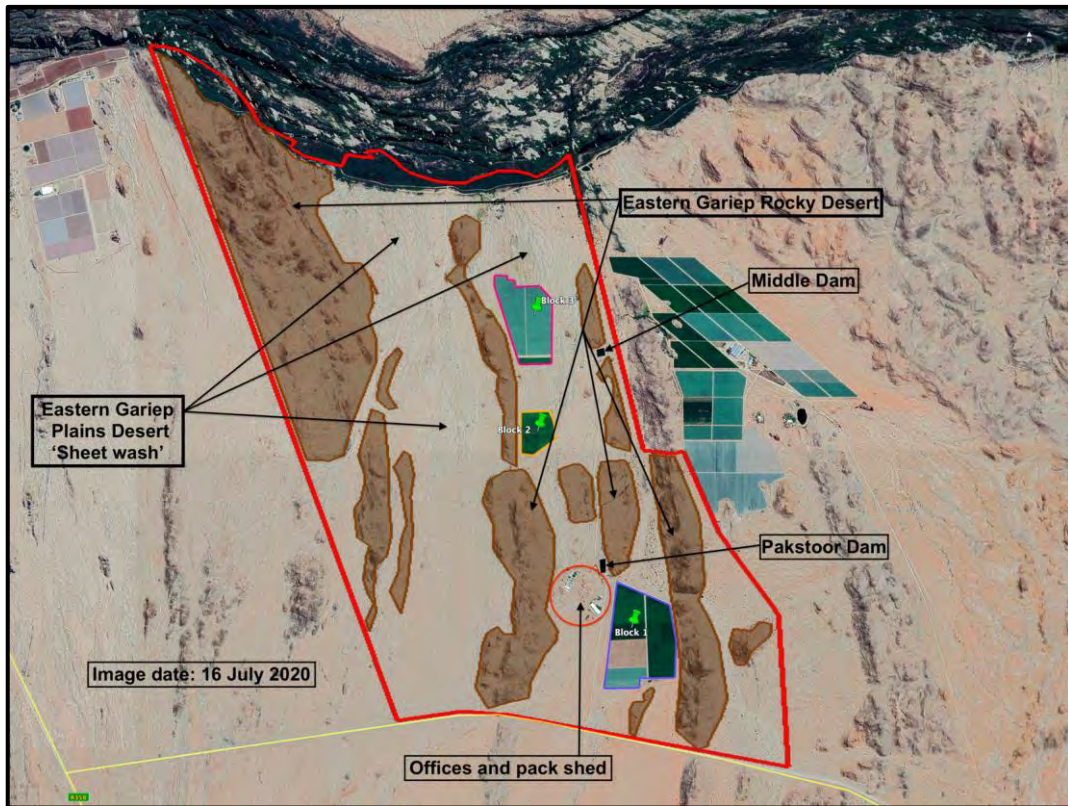


Figure 16: Fine-scale map of the vegetation of Norriseep (red boundary) overlaid on a Google Earth™ image of 16 July 2020. The vineyards and other farm infrastructure are all located in the low-lying, less rocky 'sheet wash' plains of typical Eastern Gariep Plains Desert between the rocky hills that support Eastern Gariep Rocky Desert.

Critical Biodiversity Area:

The farm of Norriseep is, in its entirety, within a Critical Biodiversity Area 2 (Figure 24). This indicates that it has high conservation value, and this is due to the inclusion of the area in the National Protected Area Expansion Strategy (NEPAES). The stated goal of the NPAES is “to achieve cost-effective protected area expansion for ecological sustainability and increased resilience to climate change”. The farming operation at Norriseep is compatible with the above objective as long as disturbance of areas not cultivated is kept to a minimum.

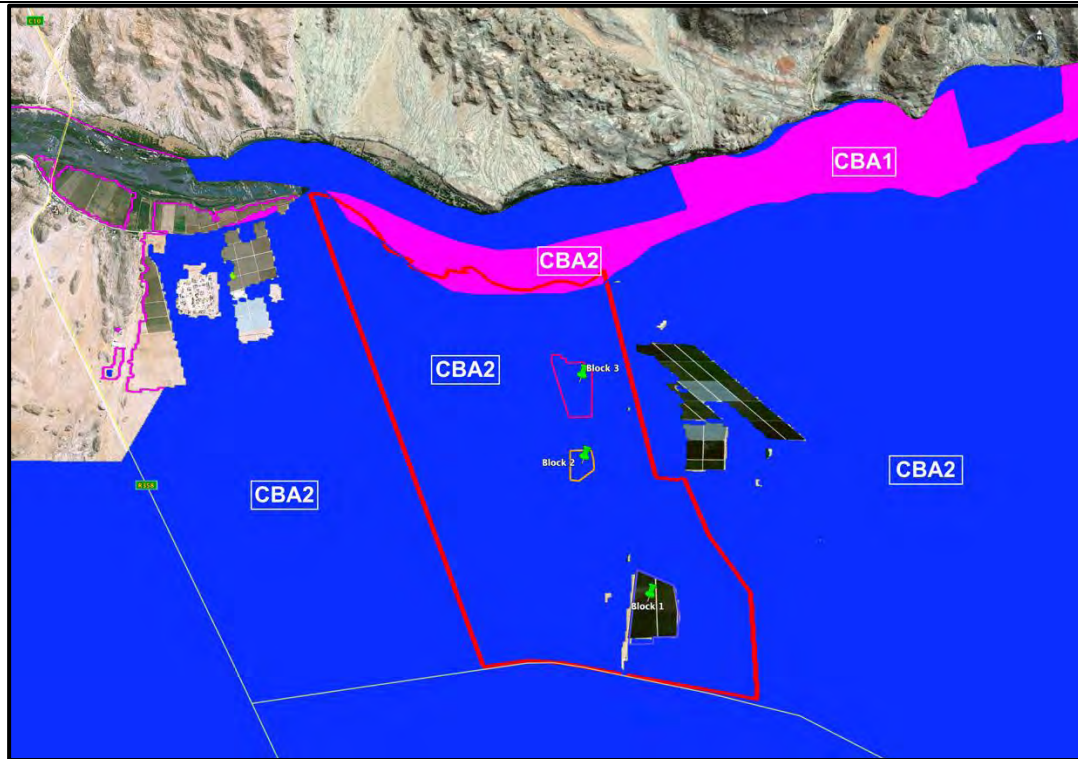


Figure 17: The Critical Biodiversity Area Map of the Northern Cape Province as it applies to Norriseep.

“The botanical study carried out was aimed at retrospectively determining the impact that has occurred at Norriseep due to the development of vineyards across ‘small streams’, at the dam sites and at the pack shed. The vineyard development to date has resulted in the clearance of approximately 31 ha of Eastern Gariep Plains Desert vegetation as described above. The Pakstoor Dam was built in an area formerly of Eastern Gariep Plains Desert but close to Eastern Gariep Rocky Desert. In contrast, the Middle Dam was built within a zone of Eastern Gariep Rocky Desert. The Middle Dam is square and has a capacity 8064m³, with a depth of 3m, width of 60m and length of 60m. It would thus have required clearance of 3600m² of vegetation. The Pakstoor Dam is rectangular and has a length of 100m, a width of 44m and a depth of 3m; total capacity is 10500m³. A total area of 4400m² would have been cleared to make way for this dam.

The pack shed or pack house covers approximately 1 ha, but it was built in an area that was disturbed. The site would originally have supported Eastern Gariep Plains Desert.

Of concern is the large amount of rock rubble (>5 m³) that has been deposited in seasonal watercourses. This has had and will continue to have a high negative impact since apart from a few shrubs, the area covered with rock rubble is essentially barren.”

Conclusions:

“There is no doubt that the development of vineyards in the area under investigation at ‘Norriseep’ has had a negative impact on the vegetation and more specifically on areas seasonal sheet wash of Eastern Gariep Plains Desert. However, due to the sparseness of the vegetation, it is difficult to retrospectively determine the intensity of the negative impact. Owing to the limited extent of the vineyards in relation to the total area of sheet wash on the farm, the impact is considered to be Medium Negative.

The area where the rock rubble has been deposited has experienced a High Negative impact since the natural seasonal stream flow would be impeded. However, it is recommended that the rock rubble should be left in situ now to limit any further damage due to re-excavation and removal of the rock rubble.

The natural vegetation (Eastern Gariep Plains Desert and Eastern Gariep Rocky Desert) has also been lost at the sites of the dams and pack shed. The impact is rated as Low Negative due to the limited extent of removal of natural vegetation and the Least Concern status of the vegetation types.”

5.2. VEGETATION / GROUND COVER (POST-COMMENCEMENT)

Cross out (“~~☒~~”) the block or describe (where required) the vegetation types / groundcover present on the site after commencement of the activity.

Indigenous Vegetation - good condition – No vegetation left	X	Indigenous Vegetation with scattered aliens – No vegetation left.	X	Indigenous Vegetation with heavy alien infestation	
Describe the vegetation type above:		Describe the vegetation type above:		Describe the vegetation type above:	
Provide ecosystem status for above:		Provide ecosystem status for above:		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	
Bare soil		Building or other structure – Pack house.		Sport field	
Other (describe below) Access roads within cultivated area.		Cultivated land.		Paved surface	
Please note: The Department may request specialist input/studies depending on the nature of the vegetation type / groundcover and impact(s) of the activity/ies. To assist with the identification of the <u>vegetation type</u> and <u>ecosystem status</u> consult http://bgis.sanbi.org or BGIShelp@sanbi.org . Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. 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.					

5.3 VEGETATION / GROUND COVER MANAGEMENT

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

The following was taken from the Botanical Report included in Appendix H2: Botanical Report:

Conclusions:
“There is no doubt that the development of vineyards in the area under investigation at ‘Norriseep’ has had a negative impact on the vegetation and more specifically on areas seasonal sheet wash of Eastern Gariep Plains Desert. However, due to the sparseness of the vegetation, it is difficult to retrospectively determine the intensity of the negative impact. Owing to the limited extent of the vineyards in relation to the total area of sheet wash on the farm, the impact is considered to be Medium Negative.
The area where the rock rubble has been deposited has experienced a High Negative impact since the natural seasonal stream flow would be impeded. However, it is recommended that the rock rubble should be left in situ now to limit any further damage due to re-excavation and removal of the rock rubble.

The natural vegetation (Eastern Gariep Plains Desert and Eastern Gariep Rocky Desert) has also been lost at the sites of the dams and pack shed. The impact is rated as Low Negative due to the limited extent of removal of natural vegetation and the Least Concern status of the vegetation types.”

Mitigation measures associated with Storm Water Management is included in the WULA in **Appendix H3: Water Use License Report.**

6. THE GEOLOGICAL FORMATIONS UNDERLYING THE SITE

GRANITE
SHALE
SANDSTONE

X

QUARTZITE
DOLOMITE
DOLERITE

OTHER NONE

7. 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):				

8. REGIONAL PLANNING CONTEXT

Is/was the activity permitted in terms of the property's existing land use rights? Please explain.

Yes, Remainder of Farm Afstof No. 421 is zoned as Agriculture.			
Is/was the activity in line with the following?			
Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
Remainder of Farm Afstof No. 421 is zoned for Agricultural use, and the agricultural activities are in line with the PSDF.			
Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The agricultural activities have taken place outside the urban edge/urban area on land for agriculture.			
Integrated Development Plan of the Local Municipality	YES	NO	Please explain
Remainder of Farm Afstof No. 421 is zoned for Agricultural use, and the agricultural activities are in line with the IDP.			
Spatial Development Framework of the Local Municipality	YES	NO	Please explain
Remainder of Farm Afstof No. 421 is zoned for Agricultural use, and the agricultural activities are in line with the SDF.			
Approved Structure Plan of the Municipality	YES	NO	Please explain
Remainder of Farm Afstof No. 421 is zoned for Agricultural use, and the agricultural activities are in line with the Structure Plan.			
Any other Plans	YES	NO	Please explain

9. SOCIO-ECONOMIC CONTEXT

9.1 SOCIO-ECONOMIC CONTEXT (PRE-COMMENCEMENT)

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

The following information was extracted from the Integrated Development Plan (IDP) of 2020/2021 for the Khai! Garib Municipality and summarises the agricultural sector at the time:

“The agricultural sector is still the main economic sector making the biggest contribution to the economy of Khai! Garib. The Agriculture sector is also a major employer in the Municipality in terms of all formal employment. It is also the sector with the largest potential for economic growth. The commercial farmers farm especially with grapes for export, raisins and wine, while citrus types of fruit are also becoming more prevalent in the area.”

There are three wine cellars in the area at Keimoes, Kakamas and Kanoneiland. High-quality table wine is produced at these wine cellars, as well as quality grape juice. Several permanent jobs are created through these wine cellars. Two major raisin export companies (Frut da Sud & Red Sun Raisin) are also established in Khai! Garib Area.

Lucerne, cotton, corn, and nuts are cultivated under irrigation from the Orange River.

The emerging farmers focus more on small stock farming. The Kenhardt area is known for small stock farming, especially dorper sheep. Abattoirs are available at Kenhardt and Kakamas.

Major constraints for agricultural development include poor quality of access roads to and from farms, farming skills amongst the youth and finance for emerging farmers.

Opportunities in the agricultural sector include the expansion of the production of lucerne and citrus, as well as the possible establishment of ostrich farming. Another sector that shows potential within the sector is agritourism, which has not been investigated or explored as yet.

The municipality embarked on a process to become an active facilitator of local economic development when it established a local economic development (LED) strategy with assistance from the Department of Economic Development and Tourism.”

As shown below in **Figure 18**, the biggest contributor of employment within this area is Agriculture:

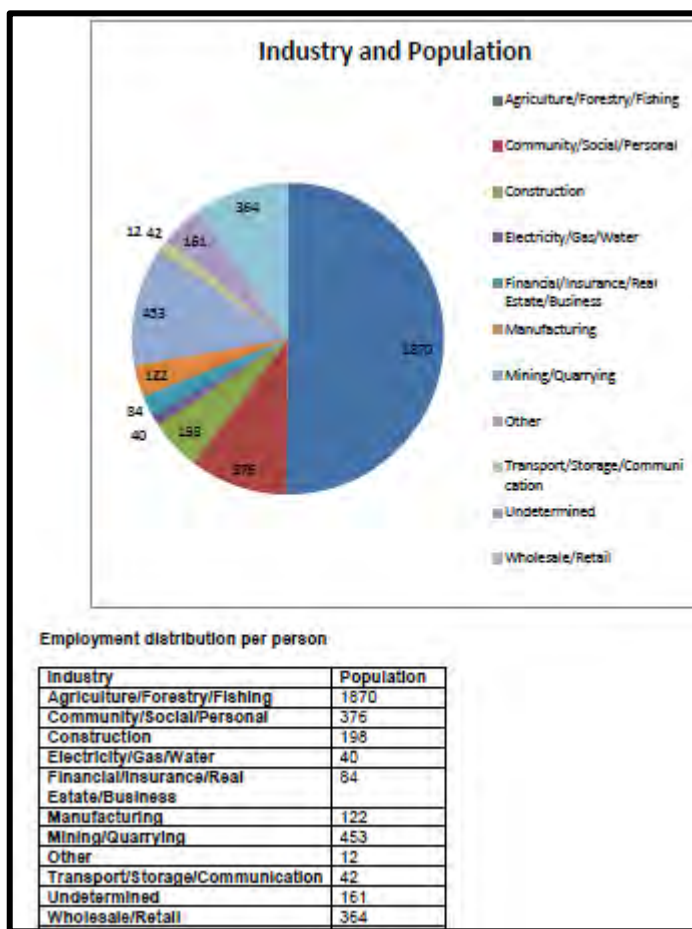


Figure 18: Employment distribution per person

9.2 SOCIO-ECONOMIC CONTEXT (POST-COMMENCEMENT)

Describe the post commencement social and economic characteristics of the community in order to determine any change.

The following information was extracted from the IDP of 2020/2021 and summarises the agricultural sector currently:

“The agricultural sector is still the main economic sector making the biggest contribution to the economy of Khai! Garib. The agricultural sector is also a major employer in the municipal area in terms of all formal employment.

There are three wine cellars in the area at Keimoes, Kakamas and Kanoneiland. High-quality table grapes are produced at these cellars, as well as quality grape juice. Several permanent jobs are created through these wine cellars. Two major raisin export companies (Fruit da Sud & Red Sun Raisin) are also established in Khai! Garib area.

Lucerne, cotton, corn, and nuts are cultivated under irrigation from the Orange River.

The emerging farmers focus more on small stock farming. The Kenhardt area is more known for small stock farming, especially the dorper sheep. Abattoirs are available in Kenhardt and Kakamas.

Major constraints for agricultural development include poor quality of access roads to and from farms, farming skills amongst the youth and finance for emerging farmers.

Opportunities in the agricultural sector include the expansion of the production of lucerne and citrus, as well as the possible establishment of ostrich farming. Another sector that shows potential within the sector is agritourism.”

Conclusion:

The economy of Khai Garib LM is small in size and is dominated by agriculture and Agri-industry which has substantial linkages with other sectors such as trade, transport, logistics, construction and financial services. The agricultural sector is highly dependent on the availability of water from the Orange River, and the management of such a source is therefore an important factor in future economic growth. Economic diversification is therefore required, and promising opportunity lies in the field of power generation using the area’s natural resources, renewable energy sources such as the sun, wind and water.”

CapeSpan Group Empowerment within the company:

The primary goal of Capespan Farms is to provide synergies within Cape span’s global fruit procurement and marketing footprint. All the farms are strategically positioned to enhance Capespan Group's service and product offering to all our third-party growers and our retail customers across the globe. At group level, Capespan enhances and adds to its significant third-party grower product basket through its own production in order to ensure a sustainable twelve-month supply of quality fresh produce.

Capespan Farms owns and controls 14 production units (including Novo Packhouse) throughout Southern Africa, producing respectively grapes, citrus, pome and stone fruit. All the farms have industry accredited certifications including Global GAP, HACCP, Nurture (where necessary), Leaf and Field to Fork.

Our employees’ wellbeing is imperative for Cape span’s continued sustainability and the employment relationship is regulated through comprehensive employment service agreements. Therefore, it's imperative that continuous engagement with our employees is fostered on a range of issues that affect them and we recognise that our employees can have the following expectations: an inspiring climate and safe, healthy

and congenial working conditions, a clear understanding of their jobs and related performance standards required, to be rewarded at market-related remuneration, job satisfaction, recognition and opportunities for skills acquisition, career development and empowerment.

Capespan manages these expectations through the Capespan Group's Code of Business Conduct and Ethics, the board-approved Employment Equity Policy and broad-based black economic empowerment (B-BBEE) targets. We conduct regular organisational culture surveys and compliance with relevant employment legislation and B-BBEE codes in the regions in which we operate.

Employee engagement also takes place through electronic newsletters, employee publications, intranet, employee feedback forums, performance management systems and climate surveys.

The Capespan Foundation is funded by the Capespan group to drive its corporate social investment (CSI) mandate - to add value to the lives of communities in which Capespan operates - by implementing various Blue Hand social, health and educational development programmes. The Foundation raises additional funding for projects, where possible, through joint ventures, staff volunteering and strategic leveraging of funding and projects.

The Blue Hand project goals include, but are not limited to:

- developing/empowering communities in which the company operates for sustainable growth of company business.*
- making a positive, sustainable impact on communities through improving quality of life.*
- building and improving relationships with existing/potential stakeholders by forming mutually beneficial partnerships.*
- maintaining the company's image and CSI reputation - strategic positioning as a leading contributor to social development in the industry.*
- enhancing loyalty and pride and attracting quality socially responsible staff.*
- improving the company's brand identity in the communities; and*
- increasing visibility of customer goodwill towards communities.*

10. CULTURAL/HISTORICAL FEATURES

Were there any signs or evidence (unearthed during construction) of culturally or historically significant elements including archaeological or palaeontological sites, on or in close proximity to the site?		YES	NO
		UNCERTAIN	
If YES, explain:	<p>The following summary from the Archaeological Assessment included in Appendix H1.1: Archaeology Report.</p> <p><i>Constraints and limitations:</i> <i>There were no constraints or limitations associated with the study. Access to the farm was easy and archaeological visibility was very good.</i></p> <p><i>Results of the desk top study</i> <i>Kaplan (2013, 2017) and Engelbrecht (2015) recorded very small numbers of precolonial archaeological resources in the course of surveys covering large parcels of land in Onseepkans while Dreyer (2008) recorded no archaeological</i></p>		

resources during an investigation of 14 borrow pits alongside the R362 between Pofadder and Onseepkans.

Beaumont (2008) also recorded no archaeological resources during a survey of the farm Sty-Kraal near Onseepkans.

FINDINGS:

Illegal vineyard development:

No archaeological resources were recorded in the illegally developed vineyards on the Farm Norriseep. Combined, the 58ha of cultivated vineyards constitute a highly transformed and modified landscape.

No archaeological resources were recorded in the surrounding area.

Built environment:

No old buildings, structures, features or equipment were recorded on the farm.

Graves:

A small family graveyard was recorded on the farm but is located a considerable distance from the illegal vineyard development (**Figure 19**).



Figure 19: Small Family graveyard

ASSESSMENT OF IMPACTS:

In the case of an illegal vineyard development on the Farm Norriseep (Rem of the Farm Afstof 421), it is expected that impacts on archaeological heritage are likely to have been LOW. This is based on a field assessment, as well as a desktop study of previous archaeological work undertaken in the Onseepkans area.

CONCLUSION:

Cultivation of illegal vineyards on the Farm Norriseep (Rem. of Farm Afstof 421) has fundamentally transformed the receiving environment.

The literature survey indicates that it is unlikely that significant archaeological resources were impacted by the development.

	<p><i>The impact significance of the illegally established vineyards on archaeological heritage is therefore assessed as LOW.</i></p> <p>The following summary from the Paleontological Assessment included in Appendix H1.2: Paleontology Report:</p> <p><i>“In view of the negligible palaeontological sensitivity of the ancient Precambrian granitoid bedrocks as well as the low sensitivity of the geologically recent superficial sediments along shallow stream tributaries of the Gariiep River in the broader Onseepkans region, the unauthorized agricultural developments on the farm Norriseep are not considered to pose a significant threat to local palaeontological heritage. Substantial, potentially-fossiliferous older alluvial deposits of the Orange River are not mapped here.</i></p> <p><i>Pending any significant new fossil discoveries in the area, no further specialist studies or mitigation are considered necessary for this agricultural project. All South African fossil heritage is protected by the National Heritage Resources Act, 1999. Should substantial fossil remains - such as vertebrate bones and teeth, or petrified logs of fossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably in situ. They should then alert the relevant provincial heritage management authority as soon as possible - i.e. SAHRA (Contact details: Dr Ragna Redelstorff, SAHRA, P.O. Box 4637, Cape Town 8000. Tel: 021 202 8651. Email: rredelstorff@sahra.org.za). This is to ensure that appropriate action (i.e. recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer’s expense. A tabulated Chance Fossil Finds Procedure is appended to this report.</i></p> <p><i>Please note that:</i></p> <ul style="list-style-type: none"> <i>• All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;</i> <i>• The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);</i> <i>• All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by SAHRA (2013).”</i>
<p>If uncertain, the Department may request that specialist input be provided to establish whether such possibilities occurred on or close to the site.</p>	
<p>Briefly explain the findings of the specialist if one was already appointed:</p>	<p>See above.</p>

Were any buildings or structures older than 60 years affected in any way?	YES	NO	
Was it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO	
If yes, please submit or, make sure that the applicant or a specialist submit the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application.			

SECTION D: PRELIMINARY IMPACT ASSESSMENT

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.

1. WASTE, EFFLUENT AND EMISSION MANAGEMENT

(a) Solid waste management

Did/does the activity produce any general waste (e.g., domestic-, commercial-, certain industrial waste, including building rubble also known as solid waste) during the construction phase <u>and/or</u> the operational phase?	YES	NO
If yes, briefly describe what type of waste was produced (i.e., green waste, building rubble, etc.) in which phase.		
Construction phase:		
A small amount of construction related waste associated with vineyards would have been generated, such as cement bags, paint tins, etc.		
Operational phase:		
Operational waste is limited to broken materials associated with the farming activities, and with solid waste associated with food eaten by the farm workers.		
What quantity was/is produced during the construction period?	App. 2	m ³
What was/is the estimated quantity that will be produced per month during the operational phase?	Negligible	m ³

Did/does the activity produce any <u>hazardous</u> waste (e.g., chemical, medical waste, infectious, nuclear etc.) during the construction and/or the operational phase?	YES	NO
If yes, briefly describe what type of waste was produced (i.e., infectious waste, medical waste, etc.) in which phase.		
What quantity was/is produced during the construction period?		m ³
What was/is the estimated quantity that will be produced per month during the operational phase?		m ³

Where and how was/is waste treated / disposed of (describe each waste stream)?		
Very little solid waste is produced by farm workers and general farming activities.		
General solid waste collection and disposal by the municipality will be confirmed during the public consultation process.		
Has the municipality or relevant authority confirmed that sufficient capacity exists for treating / disposing of the solid waste to be generated by this activity(ies)? If yes, provide written confirmation from municipality or relevant authority.	YES	NO
Does/did the activity produce solid waste that was/will be treated and/or disposed of at another facility other than into a municipal waste stream?	YES	NO

If yes, did/has this facility confirmed that sufficient capacity exists for treating / disposing of the solid waste to be generated by this activity(ies)? Provide written confirmation from the facility and provide the following particulars of the facility:		YES	NO
Did/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:	

(b) Effluent

Did/does the activity produce sewage and or any other effluent?	YES	NO
---	------------	---------------

The **Table 3** below shows the summary of all the water usage and sewerage outflow. As outlined above the sewerage will be collected and taken to the Khai! Ma Municipality for treatment. As shown the total sewerage capacity for the packhouse and worker accommodation amounts to approximately 70% of the water use. The total volume for the property is 2708m³/annum.

Table 3: Water usage on the property

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		
Valam/Norriseep			Actual										Forecast		Total (m ³)		
			2018												2018		
Location	Category		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Packhouse	Pre-cooler	Voorkoeler	5	0	0	0	0	0	0	0	0	0	5	5			
Packhouse	Packers	Pakstasies	120	0	0	0	0	0	0	0	0	0	120	120			
Packhouse	Leaders	Voormanne	4	0	0	0	0	0	0	0	0	0	4	4			
		Toemakers	16	0	0	0	0	0	0	0	0	0	16	16			
Packhouse	Palletizers	Palletmanne	6	0	0	0	0	0	0	0	0	0	6	6			
Packhouse	Coldroom	Koelkamer	4	0	0	0	0	0	0	0	0	0	4	4			
Packhouse	Quality Control	QC	6	0	0	0	0	0	0	0	0	0	6	6			
Packhouse	Cleaner	Skoonmaker	4	0	0	0	0	0	0	0	0	0	4	4			
Packhouse	General	Algemeen	0	0	0	0	0	0	0	0	0	0	0	0			
Outside	Grape trailers	Wamanne	16	0	0	0	0	0	0	0	0	0	16	16			
Outside	Harvesting	Snyspan	30	0	0	0	0	0	0	0	0	0	30	30			
Outside	Irrigation	Besproeing	12	0	0	0	0	0	0	0	0	0	12	12			
Outside	Tractor drivers	Trekkerdrywers	10	0	0	0	0	0	0	0	0	0	10	10			
Outside	General	Algemeen	0	0	0	0	0	0	0	0	0	0	0	0			
		Domestic Cleaner	1	1	1	1	1	1	1	1	1	1	1	1			
		Gardener	2	2	2	2	2	2	2	2	2	2	2	2			
		Workshop Manager	1	1	1	1	1	1	1	1	1	1	1	1			
Permanent staff			5	5	5	5	5	5	5	5	5	5	5	5			
		Bestuur	242	9	9	9	9	9	9	9	9	9	242	242			
		Studente	2	2	2	2	2	2	2	2	2	2	2	2			
			3										3	3			
Water use(m ³)			1148,55	51,15	51,15	51,15	51,15	51,15	51,15	51,15	51,15	51,15	1111,5	1148,6	3868,95		
Sewerage(m ³)	Note (70% of water use)		803,985	35,805	35,805	35,805	35,805	35,805	35,805	35,805	35,805	35,805	778,05	803,99	2708,265		
Gardens and Landscaping(m ³)															11131,05		
Total (m ³)															15000 (1ha)		

What was/is the estimated quantity produced per month?	
Was/is the effluent treated and/or disposed of in a municipal system?	YES NO
If Yes, did/has the Municipality or relevant authority confirmed that sufficient unallocated capacity exists for treating / disposing of the sewage or any other effluent generated by this activity(ies)? Provide written confirmation from the Municipality or relevant authority.	

There is an existing conservancy tanks at the hostels, and at the pack house. These are removed on a regular basis by an external company on a regular basis by the Khai Ma Municipality for treatment and disposal, find proof included in Appendix E3: Proof of Sewerage treatment.
The water and sewerage usage are in full production during the following 3 months, January, December and November.

Was/is any effluent produced be treated and/or disposed of onsite?	YES	NO
If yes, briefly describe the nature of the effluent and how it was/will be disposed of:		
Did/does the activity produce effluent that was/will be treated and/or disposed of at another facility?	YES	NO
If yes, did/has this facility confirmed that sufficient capacity exists(ed) for treating / disposing of the liquid effluent generated by this activity(ies)? Provide written confirmation from the facility and provide the following particulars of the facility: There is an existing conservancy tanks at the hostels, and at the pack house. These are removed on a regular basis by an external company on a regular basis by the Khai! Ma Municipality for treatment and disposal, find proof included in Appendix E3: Proof of Sewerage treatment.	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 was/will be taken to ensure the optimal reuse or recycling of wastewater, if any:

(c) Emissions into the atmosphere

Did/does the activity produce emissions that will be disposed of into the atmosphere?	YES	NO
If yes, did/does it require approval in terms of relevant legislation? If yes, attach a copy to this application	YES	NO
Describe the emissions in terms of type and concentration and how it was/will be treated/mitigated:		

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

Not applicable.

2. WATER USE

(a) Please indicate the source(s) of water for the activity by crossing out ("X") the appropriate box(es)

Municipal	Water Board	Groundwater	Orange River - River, Stream, Dam or Lake	Other	The activity did/does not use water
----------------------	------------------------	------------------------	--	------------------	--

If water was/is extracted from a groundwater source, river, stream, dam, lake or any other natural feature, please indicate the volume that was/is extracted per month: _____ m³

Please provide proof of assurance of water supply e.g., letter of confirmation from Municipality/water user associations, yield of borehole etc.

Water:

Currently there is a new Water Use Licence (WUL) issued the transfer of water between two farms that are owned by the applicant. This is classified as a Section 21a use (taking of water). This Water Use Licence (WUL) was issued on 30-05-2019. The new WARMS certificate is still awaited.

The applicant, Valam Boerdery (Pty) Ltd, transferred 338 850m³/a (22.59ha) of water from the Remainder of Farm Afstof No. 421(existing rights of 77.6ha) to Kakamas North Settlement no 341 (KNS 341), to rectify the water shortage at KNS 341. The transfer of 22.59ha of the available 77.6ha from the Remainder of Afstof No. 421, so that 55.01ha remains. The summary of the transfer is shown below in Table below.

Table 4: Transfer and Water allocations

Property	Current Water Allocation	Transfer	Irrigate tempo	Water Allocation ha	Water Allocation m ³ /a
Remainder of Farm Afstof 421	77.6 ha	22.59 ha	15 000 m ³ /ha	55.01 ha	82 5150 m ³ /a
Kakamas North Settlement No. 341	0 ha	0 ha	15 000m ³ /ha	22.59 ha	338 850 m ³ /a

The property is located directly adjacent the Orange River. Note however, that an area of 55 ha is available for irrigation on the farm. Currently only 46.51 ha are irrigated. This property has an Existing Lawful Use of 77.6 ha for irrigation – therefore a surplus of approximately 31.09 ha of water rights is available on the property. As described above, 22.59 ha of this water will be transferred to KNS 341, which leaves 8.5 ha of water rights for future developments on the Remainder of Farm Afstof No. 421. This Water Use License (WUL) was issued on 30-05-2019. The new WARMS certificate is still awaited. Find the WUL attached as **Appendix E1: WUL**Error! Reference source not found..

As part of this application it is also the intention to rectify the construction of agricultural development across small ephemeral streams, see **Figure 2**.

The application is also for section 21 b for storage of water. The first dam, the Middle Dam has a capacity 8064m³, with a wall height of 3m and a wall length and height of 60m. The second dam the Pakstoor Dam has a capacity of 10 500m³, with a wall height of 3m and a wall length of 102m and wall width of 44m. All storage dams not registered with a capacity of more than 2000m³, needs to be licensed.

Norriseep Farm uses water from the irrigation allocation for drinking purposes and garden irrigation. A license application (WULA) will be required for 21(a) to transfer water from “irrigation” to the sector “Schedule 1”. Water used in pack stores are used for commercial purposes and must, therefore, be licenced as “industrial”.

It can, therefore, be concluded that licences will be required to “transfer” water from the lawful “irrigation” allocation to “industrial use” and Schedule 1.

As shown above in **Table 3**, the total volume of water used annually amounts to 15 000m³/annum (1ha). Therefore, the application is to transfer approximately 1ha of water for Industrial and Schedule 1 use.

The WULA application is summarised, in the table below, for the following water usages:

Table 5: Water use license activities

<i>(a) transfer of water</i>	Applying for a licence for the “transfer” of water from the lawful “irrigation” allocation to “industrial use” and Schedule 1.
<i>(c) impeding or diverting flow of water in a watercourse</i>	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
<i>(i) altering the bed, banks, course or characteristics of a watercourse</i>	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
<i>(b) storing of water</i>	For the construction and registration of storage dams on the property.

Did/does the activity require a water use permit / license from DWAF? If yes, attach a copy to this application	YES	NO
If yes, please submit the necessary application to Department of Water Affairs and Forestry and attach proof thereof to this application.		

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

The pumps are selected to provide optimum delivery at minimum demand where water use is managed by applying drip irrigation. This is good agricultural practice.

3. POWER SUPPLY

(a) Please indicate the source of power supply e.g., Municipality / Eskom / Renewable energy source.

There is an existing Eskom power supply on Remainder of Farm Afstof No. 421.

Has the Municipality or relevant service provider confirmed that sufficient electricity capacity (i.e., generation, supply and transmission) exist for activity(ies)?	YES	NO
This is not necessary as there is existing powerline providing electricity to the site currently.		
If yes, provide written confirmation from Municipality or relevant service provider.		

If power supply was/is not available, where was/is it sourced from?

Electricity is supplied by powerline to the cultivated areas from the existing grid.

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

The pumps utilized are selected based on their optimum delivery at minimum demand, and there are no other types of pumps available for this type of irrigation.

4. ENERGY EFFICIENCY

(a) Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The pumps utilized are selected based on their optimum delivery at minimum demand, and there are no other types of pumps available for this type of irrigation.

(b) Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Drip irrigation utilizes less energy (and water) than spray irrigation.

5. NOISE IMPACTS

(a) Did/does the activity result in any noise impacts?	YES	NO
If yes, please describe and indicate the measures implemented to mitigate and manage these impacts?		
No, additional noise impacts associated with the development.		

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

6. VISUAL IMPACTS

(a) Did/does the activity result in any visual impacts?	YES	NO
If yes, please describe and indicate the measures implemented to mitigate and manage these impacts?		
The site is not situated close to a road or adjacent homesteads.		
(b) Did/does the activity result in potential lighting impacts at night?	YES	NO
If yes, please describe and indicate the measures implemented to mitigate and manage these impacts?		
No this is an agricultural development.		
(c) Were/are there any alternatives available to address this impact?	YES	NO
If yes, please describe these alternatives?		
Not applicable.		

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

7. SOCIO-ECONOMIC IMPLICATIONS OF THE ACTIVITY

(a) What was/is the expected capital value of the activity on completion?	R15 000 000
(b) What was/is the expected yearly income or contribution to the economy that will be generated by or as a result of the activity?	R55 000 000
(c) Did/does the activity contribute to service infrastructure?	YES NO
(d) How many permanent new employment opportunities were created?	58 permanent workers and 400 seasonal from Sept to March, when in full production
(e) What was/is the expected current value of the employment opportunities to date?	R3 984 935
(f) What percentage of this accrued to previously disadvantaged individuals?	95%

How was (is) this (to be) ensured and monitored (please explain):

As far as possible selecting contractors using local labour.

8. PRELIMINARY IMPACT ASSESSMENT

Briefly describe the impacts (as appropriate), significance rating of impacts and significance rating of impacts after mitigation. This must include an assessment of the significance of all impacts. Please note: This is a preliminary impact statement. The Department may request specialist input/studies depending on the type and nature of the impact(s) of the activity/ies.

Possible Impacts	Significance rating of impacts after mitigation (Low, Medium, Medium-High, High, Very High):
Loss of indigenous vegetation	Low negative
Loss of non-perennial drainage lines	Medium negative
Water required for irrigation	Medium negative
Visual	Low negative
Noise	Low negative
Cultural	None
Employment creation	Medium-High positive
Production of table grapes for export market	Medium-High positive

Refer to the preliminary impact rating tables below:

Preliminary Impacts that resulted from the construction phase:

Impacts on geographical and physical aspects:	
Nature of impact:	<p>From the Botanical Assessment included in Appendix H2: Botanical Report:</p> <p><i>The vineyard development to date has resulted in the clearance of approximately 31 ha of Eastern Gariep Plains Desert vegetation as described above. The Pakstoor Dam was built in an area formerly of Eastern Gariep Plains Desert but close to Eastern Gariep Rocky Desert. In contrast, the Middle Dam was built within a zone of Eastern Gariep Rocky Desert. The Middle Dam is square and has a capacity 8064m³, with a depth of 3m, width of 60m and length of 60m. It would thus have required clearance of 3600m² of vegetation. The Pakstoor Dam is rectangular and has a length of 100m, a width of 44m and a depth of 3m; total capacity is 10500m³. A total area of 4400m² would have been cleared to make way for this dam.</i></p> <p><i>The pack shed or pack house covers approximately 1 ha, but it was built in an area that was disturbed. The site would originally have supported Eastern Gariep Plains Desert.</i></p>
Extent and duration of impact:	Local extent and Long-term duration
Probability of occurrence:	High
Degree to which the impact can be reversed:	Low

Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	<i>There is no doubt that the development of vineyards in the area under investigation at 'Norriseep' has had a negative impact on the vegetation and more specifically on areas seasonal sheet wash of Eastern Gariep Plains Desert. However, due to the sparseness of the vegetation, it is difficult to retrospectively determine the intensity of the negative impact. Owing to the limited extent of the vineyards in relation to the total area of sheet wash on the farm, the impact is considered to be Medium Negative.</i>
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:	None
Proposed mitigation:	No mitigation is available for the activity already which has already taken place.
Cumulative impact post mitigation:	Medium
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative

Impacts on geographical and physical aspects:	
Nature of impact:	Loss of non-perennial drainage lines: Impeding the flow of water in a watercourse and altering the beds, banks, course and characteristics of the watercourses within the project area through cultivation of vineyards. From the Botanical Assessment included in Appendix H2: Botanical Report: <i>Of concern is the large amount of rock rubble (>5 m³) that has been deposited in seasonal watercourses. This has had and will continue to have a high negative impact since apart from a few shrubs, the area covered with rock rubble is essentially barren.</i>
Extent and duration of impact:	Local extent and Long-term duration
Probability of occurrence:	High
Degree to which the impact can be reversed:	Impact cannot be reversed.
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	High
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be mitigated:	None
Proposed mitigation:	<i>The area where the rock rubble has been deposited has experienced a High Negative impact since the natural seasonal stream flow would be impeded. However, it is recommended that the rock rubble should be left in situ now to limit any further damage due to re-excavation and removal of the rock rubble.</i>

	An Application will be lodged with DWS for Section 21 c and i authorization.
Cumulative impact post mitigation:	High
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	High negative

Impacts on geographical and physical aspects:	
Nature of impact:	Loss of non-perennial drainage lines: Impeding the flow of water in a watercourse and altering the beds, banks, course and characteristics of the watercourses within the project area through the development of a river pump at the bank of the Orange River.
Extent and duration of impact:	Local extent and Long-term duration
Probability of occurrence:	High
Degree to which the impact can be reversed:	Impact cannot be reversed.
Degree to which the impact may cause irreplaceable loss of resources:	Medium
Cumulative impact prior to mitigation:	Medium
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:	None
Proposed mitigation:	No mitigation is available for the activity which has already taken place. An Application will be lodged with DWS for Section 21 c and i authorization.
Cumulative impact post mitigation:	Medium
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative

Impacts on socio-economic aspects:	
Nature of impact:	Job creation
Extent and duration of impact:	Local extent and short-term duration are dependent of the lifespan of the agricultural activities (some will be long term and other will be seasonally linked).
Probability of occurrence:	High
Degree to which the impact can be reversed:	The impact is positive
Degree to which the impact may cause irreplaceable loss of resources:	None
Cumulative impact prior to mitigation:	Job creation to local communities.
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium negative prior to job creation
Degree to which the impact can be mitigated:	The activity is mitigation
Proposed mitigation:	The activity is mitigation
Cumulative impact post mitigation:	Job creation to local communities.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium positive with job creation

Impacts on cultural-historical aspects:	
Nature of impact:	<i>No archaeological resources were recorded in the illegally developed vineyards on the Farm Norriseep. Combined, the 56ha of cultivated vineyards constitute a highly transformed and modified landscape. No archaeological resources were recorded in the surrounding area.</i>
Extent and duration of impact:	Permanent site-specific impact.
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	High
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	None
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:	Not applicable.
Proposed mitigation:	<i>With regard to an illegal agricultural development on the Farm Norriseep, no further archaeological mitigation is required.</i>
Cumulative impact post mitigation:	Low negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Impacts on cultural-historical aspects:	
Nature of impact:	<i>The unauthorized agricultural developments on the farm Norriseep are not considered to pose a significant threat to local palaeontological heritage. Substantial, potentially fossiliferous older alluvial deposits of the Orange River are not mapped here.</i>
Extent and duration of impact:	Permanent site-specific impact.
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	High
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	None
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:	Not applicable
Proposed mitigation:	<i>Pending any significant new fossil discoveries in the area, no further specialist studies or mitigation are considered necessary for this agricultural project. Should any substantial fossil remain (e.g., vertebrate bones and teeth, shells, calcretised burrows) be encountered during excavation, however, these should be reported to SAHRA for possible mitigation by a professional palaeontologist (Contact details: Dr Ragna</i>

	<p><i>Redelstorff, SAHRA, P.O. Box 4637, Cape Town 8000. Tel: 021 202 8651. Email: rredelstorff@sahra.org.za.</i></p> <p><i>A tabulated Chance Fossil Finds Procedure is appended to this report. (Attached in Error! Reference source not found.)</i></p> <p><i>Please note that:</i></p> <ul style="list-style-type: none"> <i>All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency.</i> <i>The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from SAHRA (N. Cape) and any material collected would have to be curated in an approved depository (e.g., museum or university collection).</i> <p><i>All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g., data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by HWC (2016) and SAHRA (2013).</i></p>
Cumulative impact post mitigation:	Low negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Noise impacts:	
Nature of impact:	General noise associated with clearing of land.
Extent and duration of impact:	Local extent, long term duration.
Probability of occurrence:	High
Degree to which the impact can be reversed:	Low
Degree to which the impact may cause irreplaceable loss of resources:	None
Cumulative impact prior to mitigation:	Noise pollution of low impact, as area is agricultural with no adjacent neighbours in close proximity. The area falls within an agricultural active area and the impact will not be very big.
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:	Low
Proposed mitigation:	Restrict working hours from 06:00 to 20:00. The area falls within an agricultural active area and the impact will not be low due to lack of receptors (people).
Cumulative impact post mitigation:	Noise of short-term duration during construction phase with negligible cumulative impact.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

Visual impacts / Sense of Place:	
Nature of impact:	The removal of vegetation for the establishing of the vineyards.
Extent and duration of impact:	Local extent, Long term duration.
Probability of occurrence:	High
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:	None, the cleared areas although visible to passing traffic from the main road would be temporary during construction phase.
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, the activity already took place.
Proposed mitigation:	None, the activity already took place
Cumulative impact post mitigation:	None, the cleared areas although visible to passing traffic from the main road would be temporary during construction phase.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

Preliminary Impacts that result from the Operational Phase:

Impacts on the geographical and physical aspects:	
Nature of impact:	Vegetation has been cleared for the vineyards, and drainage lines cultivated, therefore this impact is not rated further.
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)	

Impacts on the socio-economic aspects:	
Nature of impact:	Job creation
Extent and duration of impact:	Local extent and duration are dependent of the lifespan of the agricultural activities (some will be long term and other will be seasonally linked).
Probability of occurrence:	High

Degree to which the impact can be reversed:	The activity is positive
Degree to which the impact may cause irreplaceable loss of resources:	None
Cumulative impact prior to mitigation:	Additional job opportunities created for new agricultural activity.
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	None
Degree to which the impact can be mitigated:	None
Proposed mitigation:	None, the activity is positive.
Cumulative impact post mitigation:	None
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	None

Impacts on socio-economic aspects:	
Nature of impact:	Financial income to Valam Boerdery (Pty) Ltd and region.
Extent and duration of impact:	Region
Probability of occurrence:	High
Degree to which the impact can be reversed:	None, the impact is positive.
Degree to which the impact may cause irreplaceable loss of resources:	None, the impact is positive.
Cumulative impact prior to mitigation:	Financial income to the company and the country by selling of produce nationally and internationally.
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	None
Degree to which the impact can be mitigated:	None, the impact is positive.
Proposed mitigation:	None
Cumulative impact post mitigation:	Financial income to the company and the country by selling of produce nationally and internationally.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	None

Impacts on the cultural-historical aspects:	
Nature of impact:	Archaeology and Palaeontology
Extent and duration of impact:	Permanent site-specific impact
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	High
Degree to which the impact may cause irreplaceable loss of resources:	Low
Cumulative impact prior to mitigation:	None
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be mitigated:	High
Proposed mitigation:	Attached in Error! Reference source not found.: <i>“Should substantial fossil remain - such as vertebrate bones and teeth, or petrified logs of fossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably in situ. They should then alert the relevant provincial heritage</i>

	<p><i>management authority as soon as possible - i.e., SAHRA (contact details: Dr Ragna Redelstorff, SAHRA, P.O. Box 4637, Cape Town 8000. Tel: 021 202 8651; e-mail: rredelstorff@sahra.org.za).</i></p> <p><i>This is to ensure that appropriate action (i.e., recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer's expense. A tabulated Chance Fossil Finds Procedure is appended to this report."</i></p>
Cumulative impact post mitigation:	Low
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low

Noise impacts:	
Nature of impact:	General noise associated with agricultural activities.
Extent and duration of impact:	Local extent, long term duration.
Probability of occurrence:	High
Degree to which the impact can be reversed:	Low
Degree to which the impact may cause irreplaceable loss of resources:	None
Cumulative impact prior to mitigation:	Localised noise pollution. The area falls within an agricultural active area and any noise generation is generally seasonal when the entire area is busy with harvesting.
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:	Low
Proposed mitigation:	The area falls within an agricultural active area and any noise generation is generally seasonal when the entire area is busy with harvesting. No mitigation necessary.
Cumulative impact post mitigation:	The area falls within an agricultural active area and any noise generation is generally seasonal when the entire area is busy with harvesting.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

Visual impacts / Sense of Place:	
Nature of impact:	The new vineyards have changed the sense of place, but the nature of impact is limited within the existing established agricultural landscape of the region.
Extent and duration of impact:	Local extent, Long term duration.
Probability of occurrence:	High
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:	The new vineyards have changed the sense of place, but the nature of impact is limited within the existing established agricultural landscape of the region.
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, the activity already took place.
Proposed mitigation:	None, the activity already took place.
Cumulative impact post mitigation:	The new vineyards have changed the sense of place, but the nature of impact is limited within the existing established agricultural landscape of the region.
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

Impacts that may result from the decommissioning and closure phase:

The agricultural activities will not be decommissioned in the near future and impacts associated with this phase have not been assessed.

Rehabilitation of the site would include the removal of all newly planted vineyards to make way for the rehabilitation of the 58ha with indigenous vegetation present at surrounding areas. This would result in a major financial loss for the applicant as well as the loss of employment opportunities for employees currently working for the applicant. Water that would have been used for the vineyards would now have to be used to water the rehabilitated vegetation until the area is self-sustainable. The water rights are for irrigation only.

Impacts on geographical and physical aspects:	
Nature of impact:	No decommissioning impacts.
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)	

ASSESSMENT CRITERIA:

The criteria for the description and assessment of environmental impacts were drawn from the National Environmental Management Act, 1998 (Act No.107 of 1998).

The level of detail was somewhat fine-tuned by assigning specific values to each impact. In order to establish a coherent framework within which all impacts could be objectively assessed it is necessary to establish a rating system, which is consistent throughout all criteria. For such purposes each aspect was assigned a value, ranging from 1-5, depending on its definition.

H-2.1 Potential Impact

This is an appraisal of the type of effect the proposed activity would have on the affected environmental component. Its description should include what is being affected and how it is being affected.

H-2.2 Extent

The physical and spatial scale of the impact is classified as:

Local

The impacted area extends only as far as the activity, e.g., a footprint.

Site

The impact could affect the whole, or a measurable portion of the site.

Regional

The impact could affect the area including the neighbouring erven, the transport routes and the adjoining towns.

H-2.3 Duration

The lifetime of the impact, which is measured in relation to the lifetime of the proposed base?

Short term

The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than any of the phases.

Medium term

The impact will last up to the end of the phases, where after it will be entirely negated.

Long term

The impact will continue or last for the entire operational lifetime of the Development but will be mitigated by direct human action or by natural processes thereafter.

Permanent

This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

H-2.4 Intensity

The intensity of the impact is considered here by examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning, or slightly alters the environment itself. These are rated as:

Low

The impact alters the affected environment in such a way that the natural processes or functions are not affected.

Medium

The affected environment is altered, but functions and processes continue, albeit in a modified way.

High

Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

H-2.5 Probability

This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

Improbable

The possibility of the impact occurring is none, due either to the circumstances, design or experience.

Possible

The possibility of the impact occurring is very low, due either to the circumstances, design or experience.

Likely

There is a possibility that the impact will occur to the extent that provisions must therefore be made.

Highly Likely

It is most likely that the impacts will occur at some stage of the Development. Plans must be drawn up before carrying out the activity.

Definite

The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on.

H-2.7 Determination of Significance – With Mitigation

Significance is determined through a synthesis of impact characteristics. It is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. In this case the prediction refers to the foreseeable significance of the impact after the successful implementation of the suggested mitigation measures. Significance with mitigation is rated on the following scale:

No significance

The impact will be mitigated to the point where it is regarded to be insubstantial.

Low

The impact will be mitigated to the point where it is of limited importance.

Low to medium

The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels.

Medium

Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.

Medium to high

The impact is of great importance. Through implementing the correct mitigation measures the negative impacts will be reduced to acceptable levels.

High

The impact is of great importance. Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and taken within the overall context of the project, is considered to be a fatal flaw in the project proposal. This could render the entire development option or entire project proposal unacceptable.

SECTION E: LANDFILL PARAMETERS (WHERE APPLICATION RELATES TO A WASTE MANAGEMENT ACTIVITY)

THIS SECTION IS NOT APPLICABLE TO THIS APPLICATION

1. THE METHOD OF DISPOSAL OF WASTE:

Land-building Landfilling Both

2. THE DIMENSIONS OF THE DISPOSAL SITE IN METRES

	At commencement	After rehabilitation
Height/Depth		
Length		
Breadth		

3. THE TOTAL VOLUME AVAILABLE 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		

4. THE TOTAL VOLUME ALREADY USED FOR WASTE DISPOSAL:

(a) Will the waste body be covered daily	YES	NO
(b) Is sufficient cover material available	YES	NO
(c) Will waste be compacted daily	YES	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?

5. THE SALVAGE METHOD

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

At source	
Recycling installation	
Formal salvaging	
Contractor	
No salvaging planned	

6. 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 an area with shallow and/or visible water table	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	_____metres	
Indicate the distance to the boundary of the industrial area	_____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 A-pan evaporation for 6 months	Climatic water balance
For the 1 st wettest year			
For the 2 nd wettest year			
For the 3 rd wettest year			
For the 4 th wettest year			
For the 5 th wettest year			
For the 6 th wettest year			
For the 7 th wettest year			

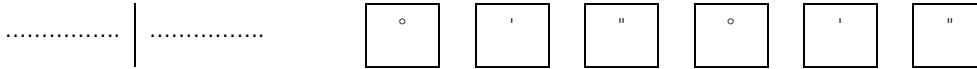
For the 8 th wettest year		
For the 9 th wettest year		
For the 10 th wettest year		

7. LOCATION AND DEPTH OF GROUND WATER MONITORING BOREHOLES:

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

8. LOCATION AND DEPTH OF LANDFILL GAS MONITORING TEST PIT:

Codes of boreholes	of	Borehole locality	Latitude			Longitude		
			°	'	''	°	'	''
.....		°	'	''	°	'	''
.....		°	'	''	°	'	''
.....		°	'	''	°	'	''
.....		°	'	''	°	'	''
.....		°	'	''	°	'	''
.....		°	'	''	°	'	''
.....		°	'	''	°	'	''



SECTION F: PROPOSED PUBLIC PARTICIPATION

7.1. PUBLIC PARTICIPATION PROCESS

The person conducting the public participation process must fulfil the requirements outlined in Chapter 6 of the 2014 NEMA EIA Regulations and must take into account any applicable guidelines published in terms of Section 24J of NEMA, as well as any other guidance provided by the Department.

Please highlight the appropriate box below to indicate the public participation process that has been or is proposed to be undertaken, including exemptions that have been/will be applied for:

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	EXEMPTION	
(ii) any alternative site	YES	EXEMPTION	
(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	EXEMPTION	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	EXEMPTION	
(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	EXEMPTION	
(iv) the municipality (Local and District Municipality) which has jurisdiction in the area;	YES	EXEMPTION	
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	YES	EXEMPTION	
(vi) any other party as required by the Department;	YES	EXEMPTION	N/A
(c) placing an advertisement in -			
(i) one local newspaper; or	YES	EXEMPTION	
(ii) any official <i>Gazette</i> that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	YES	EXEMPTION	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	EXEMPTION	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	EXEMPTION	N/A
If you have indicated that “EXEMPTION” applies to any of the above, then a separate Application for Exemption must be submitted.			
2. The NEM: AQA and NEM: WA requires that a notice must be placed in at least two newspapers. NOT APPLICABLE			
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.			

Note: It is no longer possible to obtain permission to deviate from the requirements to give notice to potential interested and affected parties. Unless exemption has been granted from a particular requirement, the requirement must be met. If an application for exemption is refused, the requirement in question must be met.

7.2. PUBLIC PARTICIPATION UNDERTAKEN PRIOR TO THE SUBMISSION OF THE NOTICE OF INTENT

<p>Where public participation in terms of Regulations 40(3) and 41 was undertaken prior to submission of this Notice of Intent, please provide a summary of the steps followed to date.</p> <p>Pre-application public participation:</p> <p>An advertisement was placed in the Local Newspaper, the Gemsbok, and was advertised for at least 20 days as per the prescribed legislation. The advertisement was placed on 24 January 2020. See proof included in Appendix F2: Advertisement.</p> <p>Public Participation (all details and proof included in APPENDIX F: PUBLIC PARTICIPATION):</p> <p>The following steps will be followed:</p> <ol style="list-style-type: none"> 1. The S24G Report will go out for a 30-day commenting period. As far as possible all I&AP’s will be notified of the commenting period and indication given of where to access the information electronically. 2. As part of this 30-day commenting period an advertisement will be placed in the Gemsbok Newspaper. As part of the prescribed timeframes for the water use license a 60-day notification will be placed in the Gemsbok Newspaper. 3. The final S24G report will be submitted for final approval and consideration. <p>Further details will be provided within the public participation process and agreed with the case officer.</p>
--

7.3. LIST OF STATE DEPARTMENTS CONSULTED/TO BE CONSULTED

Provide a list of all the State departments that will be/have been consulted, including the name and contact details of the relevant official.

	Surname	Initials	Representing	Tel	Fax	email	Post Box	Town	Code
1	Municipal Manager		Khai Ma Municipality: Municipal Manager	054 933 1000	054 933 0252	mmsecretary@khaima.gov.za	P. O. Box 108	Pofadder	8890
2			Khai Ma Municipality: Ward Councillor	054 933 1000	054 933 0252	mmsecretary@khaima.gov.za	P. O. Box 108	Pofadder	8890
3	Fortuin	C	Namakwa District Municipality	027 712 800	027 712 8040	info@namakwa-dm.gov.za	Private Bag X20	Springbok	8240
4	October	L	Department of Agriculture and Land Reform	054 461 6700	054 461 6401		P. O. Box 18	Springbok	8240
5	White	C	Department of Water Affairs	082 887 8866/ 054 338 5819		SchwartzC@dws.gov.za	Private Bag X5912	Upington	8800
6	De la Fontaine	S	Nature Conservation	054 338 4800		sdelafontaine@gmail.com	Evelina De Bruin (former Provincial) Building, Corner of Rivier & Nelson Mandela Road	Upington	8800
7	Mans	J	Department of Agriculture Forestry and Fisheries	054 338 5909		jacolinema@daff.gov.za	Olien street 26, Louisvale Road	Upington	8800
8	Le Roux		Onseepkans Irrigation Board	054 9510002		onseepkansmission@gmail.com			
9	Lekwene	T	DENC: S24G Section	0798744244		LekweneT@ncpg.gov.za	90 Long Street Sasko, Building	Kimberley	8301

Note: A State department consulted in terms of Section 240 (2) of NEMA and Regulations 3(4) and 43(2) must within 30 days from the date of the Department'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 Basic Assessment Report / Scoping Report / Environmental Impact Assessment Report is submitted to the relevant State Departments. Upon receipt of this confirmation, this Department will in accordance with Section 240 (2) & (3) of the NEMA (as amended), inform the relevant State Departments of the commencement date of the 30-day commenting period.

SECTION G: ALTERNATIVES

As part of this report, consideration must be given to alternatives that are/may have been possible had an environmental impact assessment been undertaken prior to the commencement of the activity. Please provide a detailed description of the alternatives (whether location, technology or environmental) that were/are possible in terms of this application.

Alternative 1: Removal of vegetation for cultivation of vineyards on Remainder of Farm Afstof No. 421 (Preferred alternative).

The applicant removed 58 ha of indigenous vegetation to establish vineyards for table grape cultivation for export as well as cultivation across small streams, as shown in Appendix B and below as Figure 20:

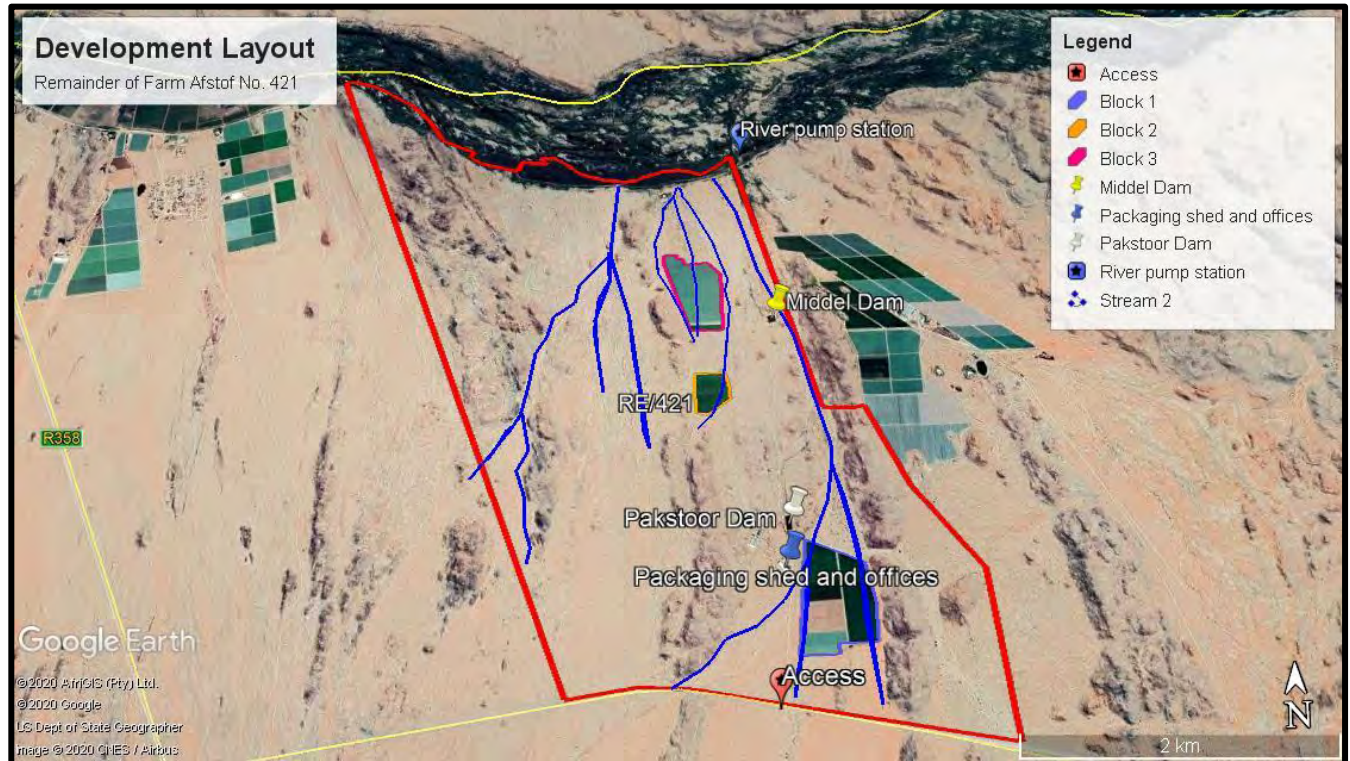


Figure 20: Site Development Master Plan

As the activity has already taken place and rehabilitation will be too costly, this option is the only feasible and preferred alternative.

As outlined in the Botanical Assessment included in **Appendix H2: Botanical Report**, the rehabilitation of the rocks within the sheet flow areas will have a higher negative impact on the surrounding systems, as it has already been established and removal will have a higher negative impact.

The financial implication of rehabilitation of the existing site to re-establish vineyards on an alternative area is not viable.

Alternative 2: Removal of vegetation for cultivation of vineyards on Remainder of Farm Afstof No. 421 (Not Preferred alternative).

This alternative 2, see Figure 21 provides an alternative area for possible cultivation of vineyards, the is however, not preferred for the following reasons:

- The financial implication of rehabilitation of the existing site to re-establish vineyards on an alternative area is not viable.
- From a botanical perspective the new impact of removal of vegetation within a CBA will have a higher impact than the positives from rehabilitation.
- From a freshwater perspective a new additional section of the farm will be impacted on.

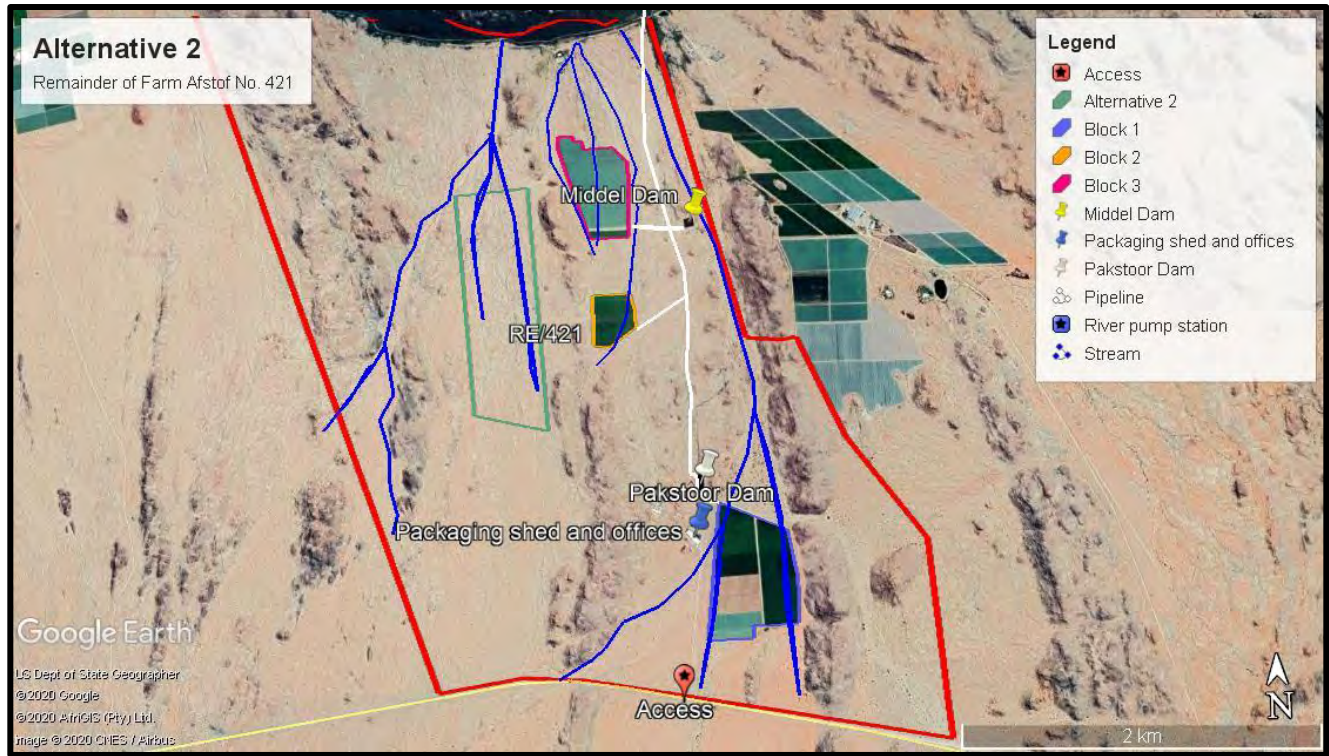


Figure 21: Alternative 2

Alternative 3: Removal of vegetation for the cultivation of table grapes after obtaining environmental authorisation.

Alternative 3 would have been the preferred alternative, by receiving environmental authorisation before any vegetation were removed.

This would have included comment and input from authorities and I&APs to design the best feasible alternative for the property.

No-Go Option

The No-Go Option would have meant that vegetation would not have been removed from the property. Not cultivation of the land would mean that there were no additional table grapes grown for export, with no associated employment creation, and an opportunity lost for the landowners with their land zoned for agricultural use. This would have resulted in no additional job opportunities for local communities and no income to the business and country’s economy.

Rehabilitation of the site would include the removal of all newly planted vineyards to make way for the rehabilitation of the 58ha with indigenous vegetation present at surrounding areas. This would result in a major financial loss for the applicant as well as the loss of employment opportunities for employees currently working for the applicant. Water that would have been used for the vineyards would now have to be used to water the rehabilitated vegetation until the area is self-sustainable.

The removal of infilling of the sheet flow areas, would result in a much higher impact on the vegetation in these areas, as they have already re-established.

SECTION H: APPENDICES

The following appendices must be attached where appropriate:

Appendix	Cross out (“☒”) the box if Appendix is attached
Appendix A: Location map	X
Appendix B: Site plan(s)	X
Appendix C: Owner(s) consent(s)	N/A
Appendix D: Photographs <ul style="list-style-type: none"> • Appendix D1: Historic aerial photographs (Figures 1 to 5) • Appendix D2: Site photographs • Appendix D3: CBA 2 and ESA located on Remainder of Farm Afstof No. 421. 	X
Appendix E: Permit(s) / license(s) from any other organ of state including service letters from the municipality. <ul style="list-style-type: none"> • Appendix E1: Irrigation rights from the Department of Water Affairs 	X
Appendix F: Additional Impact Assessment Information <ul style="list-style-type: none"> • Appendix F: Public Participation 	Not yet completed/ Included in the Assessment Report
Appendix G: Report on alternatives	N/A
Appendix H: Any Other (describe) <ul style="list-style-type: none"> • Appendix H1: Archaeology Report • Appendix H2: Botanical Report • Appendix H3: WULA • Appendix H4: EMP 	Completed

ANNEXURE A TO THE SECTION 24G APPLICATION FORM**SECTION A: DIRECTIVE**

Section 24G(1) of the National Environmental Management Act, 1998 (Act 107 of 1998) ("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 Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) ("NEM:WA") the Minister, Minister responsible for mineral resources or 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	
ii	investigate, evaluate and assess the impact of the activity on the environment	
iii	remedy any adverse effects of the activity on the environment	
iv	cease, modify or control any act, activity, process or omission causing pollution or environmental degradation	
v	contain or prevent the movement of pollution or degradation of the environment	
vi	eliminate any source of pollution or degradation	
vii	compile a report containing-	
	aa	a description of the need and desirability of the activity
	bb	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
	cc	a description of mitigation measures undertaken or to be undertaken in respect of the consequences for or impacts on the environment of the activity
	dd	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
	ee	an environmental management programme
viii	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.	

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 representations into account, a final directive may be issued.

SECTION B: DEFERRAL

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:

Are you, the applicant, being investigated for the 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?	YES	NO	UNCERTAIN
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.			
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?	YES	NO	UNCERTAIN
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.			
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>	YES	NO	UNCERTAIN
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.			

If you have answered yes 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

Section 24G (4) of the NEMA makes it 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 *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.

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 socio-economic impacts.	

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	X
	The activity is not giving, has not given and could give rise to localised biodiversity impacts	
	The activity is not giving, has not given and 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.	

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	

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.	

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 <u>not</u> previously taken against the applicant in respect of the abovementioned provisions.	X

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; 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 sections 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.	X
Explanation in respect of all previous applications submitted in terms of section 24G:		

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: Valam Boerdery (PTY) Ltd falls under CapeSpan Group. <u>History of company:</u> With headquarters in Antwerp, Belgium, Capespan Continent delivers fresh products and service solutions to continental European customers.		

We're a subsidiary of the global Capespan Group, with its headquarters in Cape Town, South Africa. With about 100 employees, our other offices are located in Hamburg, Paris, Vienna, and Zurich. Operating with our service providers from state-of-the-art warehousing and logistical facilities at maritime and hinterland terminals across Europe, every step of the operating process is computer controlled. Special refrigerated cold stores have a 50 000-pallet capacity for direct deliveries throughout Europe. Our logistics partners take care of forwarding and customs clearing, plus processing requirements such as netting and bagging of fruit.

Product development:

To exceed expectations from the increasingly diversified European consumers, we continue strengthening our position by developing new commercial varieties and devise innovative ideas on packaging and fresh fruit distribution. Therefore, comprehensive product development programmes involve both producer and international business partners. These programmes are already improving the range of sought-after varieties and exciting new cultivars.

Global Procurement:

New origins are continuously being integrated into Cape span's portfolio. Confident about these important supply sources, we allow our brand names to be used on products that fulfil our quality specifications. The year-round offering includes deciduous, citrus and exotic fruit from production areas throughout the world.

Capespan Continent is particularly active in a number of developing economies where substantial export growth is predicted in coming years - countries such as China, Peru and India. Meanwhile, we also have an established network of high-quality, like-minded producer partners in traditional supply origins such as Brazil, Chile, New Zealand, South Africa, and Egypt.

During production, Cape span's technical teams work extensively with producer partners. We also work with the technical staff of our major business partners to guarantee consistently top standards at retail level.

Information Technology:

Our advanced systems allow us to access logistical, quality and traceability information of all fruit at any given time. And to service our customers, we've developed applications to support a variety of services: a data warehouse for information on product flow; a logistical traceability system to certify logistical efficiencies, food safety coverage, cost control and efficient selling; and a personalised extranet portal for our suppliers and customers.

CapeSpan Group Empowerment within the company:

The primary goal of Capespan Farms is to provide synergies within Cape span's global fruit procurement and marketing footprint. All the farms are strategically positioned to enhance Capespan Group's service and product offering to all our third-party growers and our retail customers across the globe. At group level, Capespan enhances and adds to its significant third-party grower product basket through its own production in order to ensure a sustainable twelve-month supply of quality fresh produce.

Capespan Farms owns and controls 14 production units (including Novo Packhouse) throughout Southern Africa, producing respectively grapes, citrus, pome and stone fruit. All the farms have industry accredited certifications including Global GAP, HACCP, Nurture (where necessary), Leaf and Field to Fork.

Our employees' wellbeing is imperative for Cape span's continued sustainability and the employment relationship is regulated through comprehensive employment service agreements. Therefore, it's imperative that continuous engagement with our employees is fostered on a range of issues that affect them and we recognise that our employees can have the following expectations: an inspiring climate and safe, healthy and congenial working conditions, a clear understanding of their jobs and related performance standards required, to be rewarded at market-related remuneration, job satisfaction, recognition and opportunities for skills acquisition, career development and empowerment.

Capespan manages these expectations through the Capespan Group's Code of Business Conduct and Ethics, the board-approved Employment Equity Policy and broad-based black economic empowerment (B-BBEE) targets. We conduct regular organisational culture surveys and compliance with relevant employment legislation and B-BBEE codes in the regions in which we operate.

Employee engagement also takes place through electronic newsletters, employee publications, intranet, employee feedback forums, performance management systems and climate surveys.

The Capespan Foundation is funded by the Capespan group to drive its corporate social investment (CSI) mandate - to add value to the lives of communities in which Capespan operates - by implementing various Blue Hand social, health and educational development programmes. The Foundation raises additional funding for projects, where possible, through joint ventures, staff volunteering and strategic leveraging of funding and projects.

The Blue Hand project goals include, but are not limited to:

- developing/empowering communities in which the company operates for sustainable growth of company business.
- making a positive, sustainable impact on communities through improving quality of life
- building and improving relationships with existing/potential stakeholders by forming mutually beneficial partnerships
- maintaining the company's image and CSI reputation - strategic positioning as a leading contributor to social development in the industry
- enhancing loyalty and pride and attracting quality socially responsible staff
- improving the company's brand identity in the communities
- increasing visibility of customer goodwill towards communities.

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: ADVERTISEMENT – SEE APPENDIX F

When submitting this application form, the applicant must submit proof that the application has been advertised in at least one local newspaper in circulation in the area in which the activity was commenced, in the relevant provincial gazette 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 submit their comment and/or register as an interested and affected party. 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).

SECTION A: DECLARATIONS

A1: DECLARATIONS OF THE EAP

1. The Independent Environmental Assessment Practitioner

I, _____ do hereby make oath and say that I –

- a. act as the independent environmental assessment practitioner in this application.
- b. 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 S24G of the National Environmental Management Act, read together with the relevant Environmental Impact Assessment Regulations.
- c. do not have, and will not have, a vested interest in the proposed activity proceeding.
- d. have no, and will not engage in, conflicting interests in the undertaking of the activity.
- e. undertake to disclose to the competent authority any material information that has, 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 S24G of the National Environmental Management Act, read together with the Environmental Impact Assessment Regulations, 2006.
- f. will ensure that all documents contain all relevant facts in respect of the application and that all documentation is timeously distributed or made available to interested and affected parties. I will ensure that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced for this application.
- g. will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report.
- h. will keep a register of all interested and affected parties that participated in a public participation process; and
- i. will provide the competent authority with access to all information at my disposal regarding the application, whether or not such information is favourable to the applicant.

Signature of the environmental assessment practitioner:

Name of company:

Date:

Signature of the Commissioner of Oaths:

Date:

Designation:

Official stamp (below)

A2: DECLARATIONS OF THE APPLICANT

2. The Applicant

I, _____ hereby make oath and say that: -

- a. I am the applicant in this application / duly authorised by the applicant to complete and submit this application.
- b. The information contained in Part 1 and Part 2 of this application form (including annexures thereto) is within my own personal knowledge and is true.
- c. I appointed the environmental assessment practitioner as indicated under A1 above to act as the independent environmental assessment practitioner for this application.
- d. Undertake to provide the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application.
- e. Am responsible for complying with the directive or conditions of any environmental authorisation issued by the competent authority.
- f. Understand that I will be required to pay an administration fine in terms of S24G (4 of the Act and that a decision in this regard will only be forthcoming after payment of such a fine and deferral (where applicable); and
- g. Hereby indemnify, the government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which the applicant or environmental assessment practitioner is responsible in terms of the Act.

Signature of the applicant:

Name of company:

Date:

Signature of the Commissioner of Oaths:

Date:

Designation:

Official stamp (below):

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. Upon request, any interested and affected party must be provided with the information contained in and attached to this application form.

ANNEXURE F

CONTACT DETAILS (NATIONAL AND PROVINCIAL S24G REGULATING DIRECTORATES)

Department	Telephone	Fax	Postal address & e-mail
National Department Environmental Affairs and Tourism	(012) 310 3230	(012) 320-7539	Private Bag X447 Pretoria South Africa 0001
Free State Department of Economic Development, Tourism and Environmental Affairs	(051) 400 9535 0827894468	(051) 400 9538	Private Bag X20801 BLOEMFONTEIN 9300 boing@dteea.fs.gov.za
Eastern Cape Department of			
Gauteng Department of Agriculture and Rural Development	(011) 355 1885 (011) 355 1644	(011) 355 1850 (011) 355 1000	P.O. Box 8769 JOHANNESBURG 2000 Green.scorpions@gauteng.gov.za
Kwazulu-Natal Department of Agriculture & Environmental Affairs	(033) 3559427	(033) 355 9614	Private Bag X9059 PIETERMARITZBURG 3200 Christian.Tham@kzndae.gov.za
Limpopo Department of Economic Development, Environment and Tourism	(015) 290 7000 (015) 295 4013	(015) 295 5015	P O Box 55464 POLOKWANE 0700
Mpumalanga Department of Economic Development, Environment and Tourism	(013) 766 6059 082 054 349	(013) 766 8243	Private Bag X 11219 NELSPRUIT 1200
Northern Cape Department of Environment & Nature Conservation	(053) 807 7430	053 831 3530	Private Bag X6102 KIMBERLEY 8300
North West Dept. of Agriculture, Conservation, Environment & Rural Development	(018) 389 5995 (082) 901 8362	(018) 389 5006	Private Bag X2039 MMABATHO 2735 mnkosi@nwpg.gov.za
Western Cape Dept of Environmental Affairs & Development Planning	(021) 483 4093 (021) 483 3722 (044) 805 8781	(021) 483 4372 (021) 483 3633 (044) 874 2423	Private Bag X 9086 CAPE TOWN 8000

ANNEXURE G

CONTACT DETAILS (NATIONAL AND PROVINCIAL ENVIRONMENTAL MANAGEMENT INSPECTORATE)

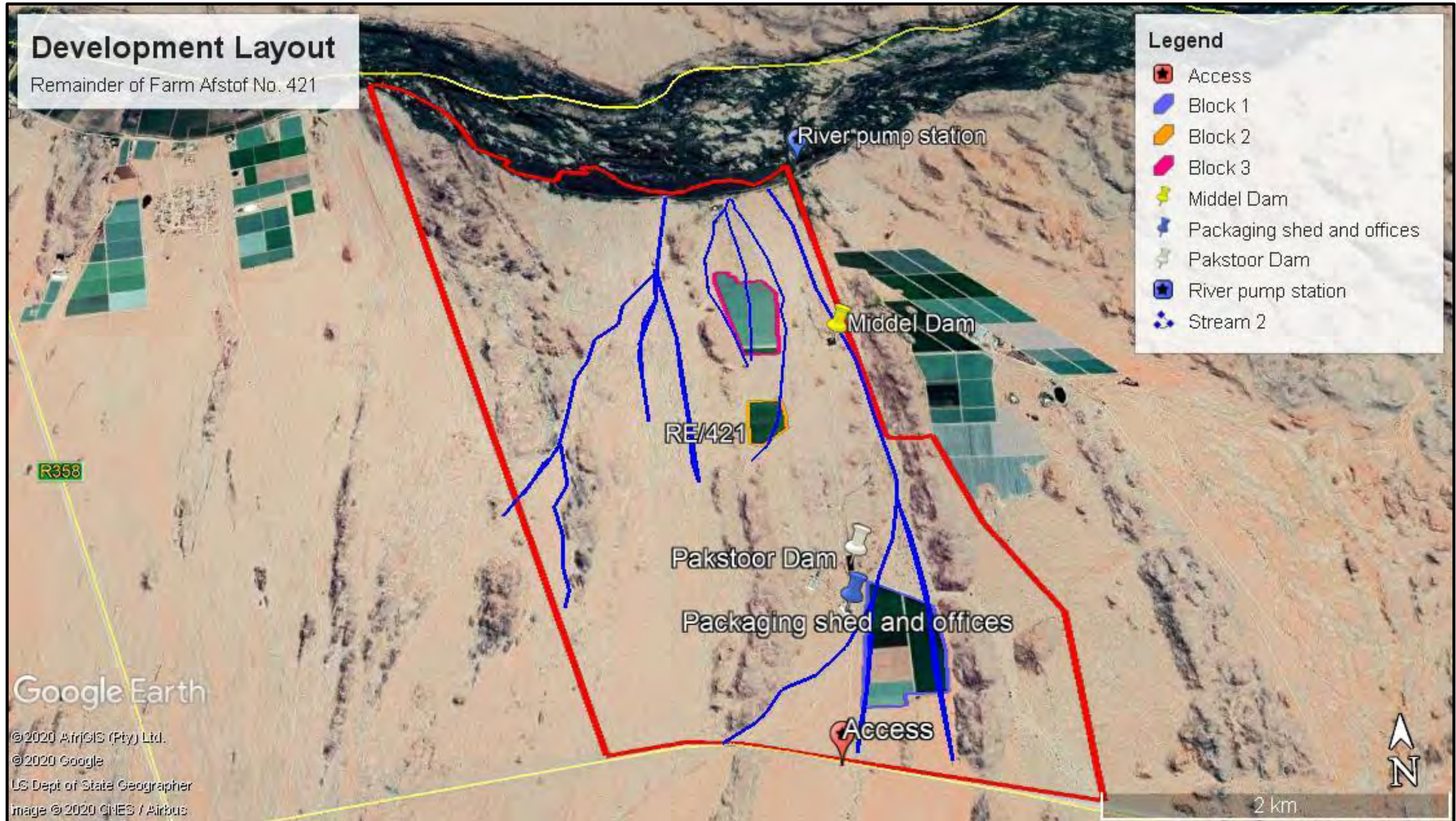
Department	Telephone	Fax	Postal address
National Department Environmental Affairs and Tourism	0800 205 005	(031) 560 7995	Private Bag X447 Pretoria South Africa 0001 pi@toanon.co.za
Eastern Cape Department	082 417 0155		
Free State Department of Tourism, Environmental and Economic Affairs	082 789 4468	(051) 400 4772	Private Bag X20801 BLOEMFONTEIN 9300
Gauteng Department of Agriculture and Rural Development	(011) 355 1440	(011) 355 1850	P.O. Box 8769 JOHANNESBURG 2000 Green.scorpions@ga uteng.gov.za
Kwazulu-Natal Department of Agriculture & Environmental Affairs	(033) 355 9427	(033) 355 9614	Private Bag X9059 PIETERMARITZBURG 3200 Christian.Tham@kznd ae.gov.za
Limpopo Department of Economic Development, Environment and Tourism	015 295 3980	015 295 4869	P O Box 55464 POLOKWANE 0700
Mpumalanga Department of Economic Development, Environment and Tourism	013 766 6077 084 520 3680	(013) 766 8243	Private Bag X 11219 NELSPRUIT 1200
Northern Cape Department of Environment & Nature Conservation	(053) 807 7430 (053) 807 7300		Private Bag 6102 KIMBERLEY 8300
North West Dept. of Agriculture, Conservation, Environment & Rural Development	(018) 389 5995 (018) 389 5698	018 389 5006	Private Bag X2039 MMABATHO 2735 mnkosi@nwpg.gov.za v.za cwessels@nwpg.gov.za
Western Cape Dept of Environmental Affairs & Development Planning	(021) 483 3197 (021) 483 4363	(021) 483 4440	Private Bag X 9086 CAPE TOWN 8000

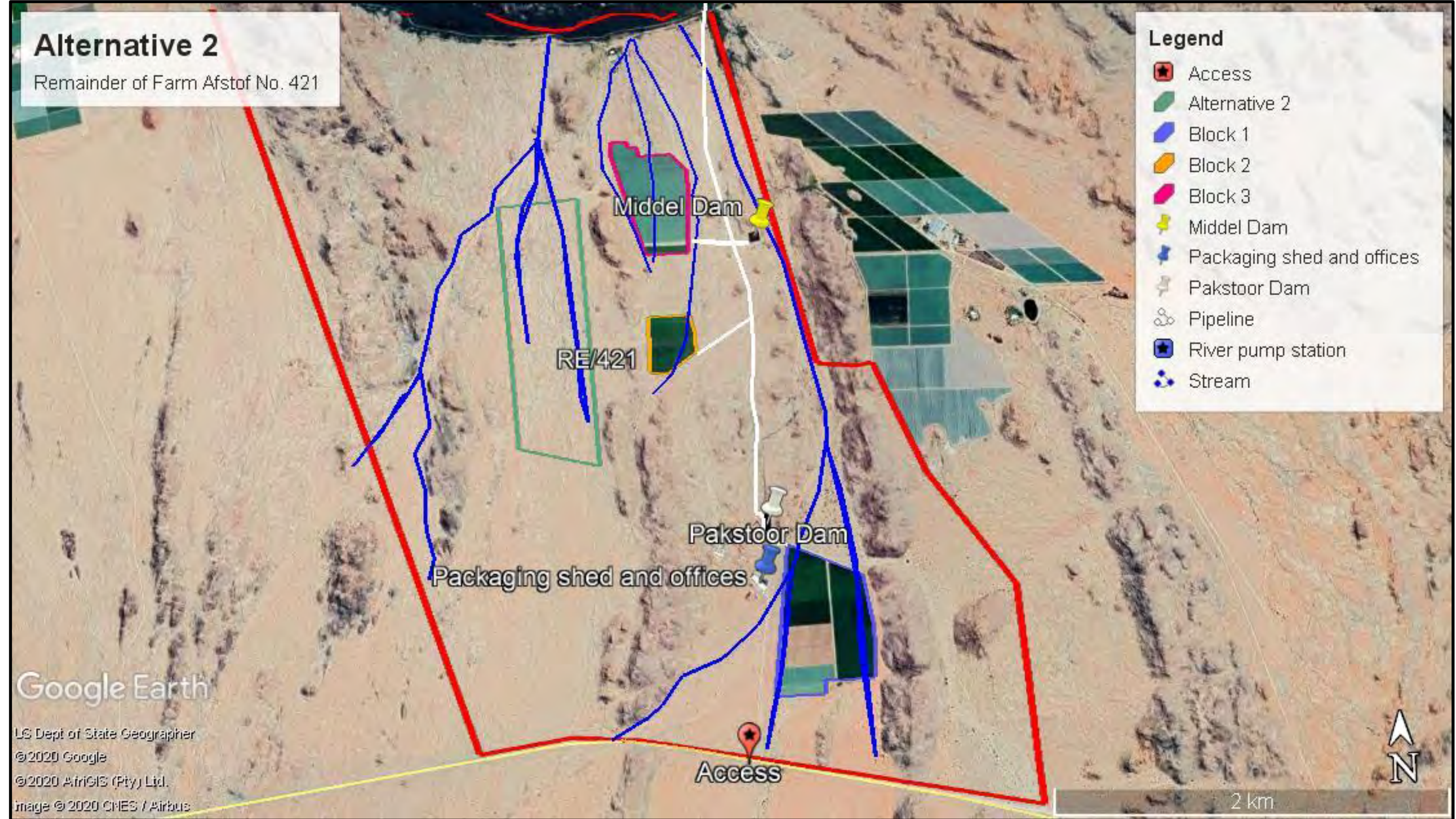
APPENDIX A: LOCALITY MAP



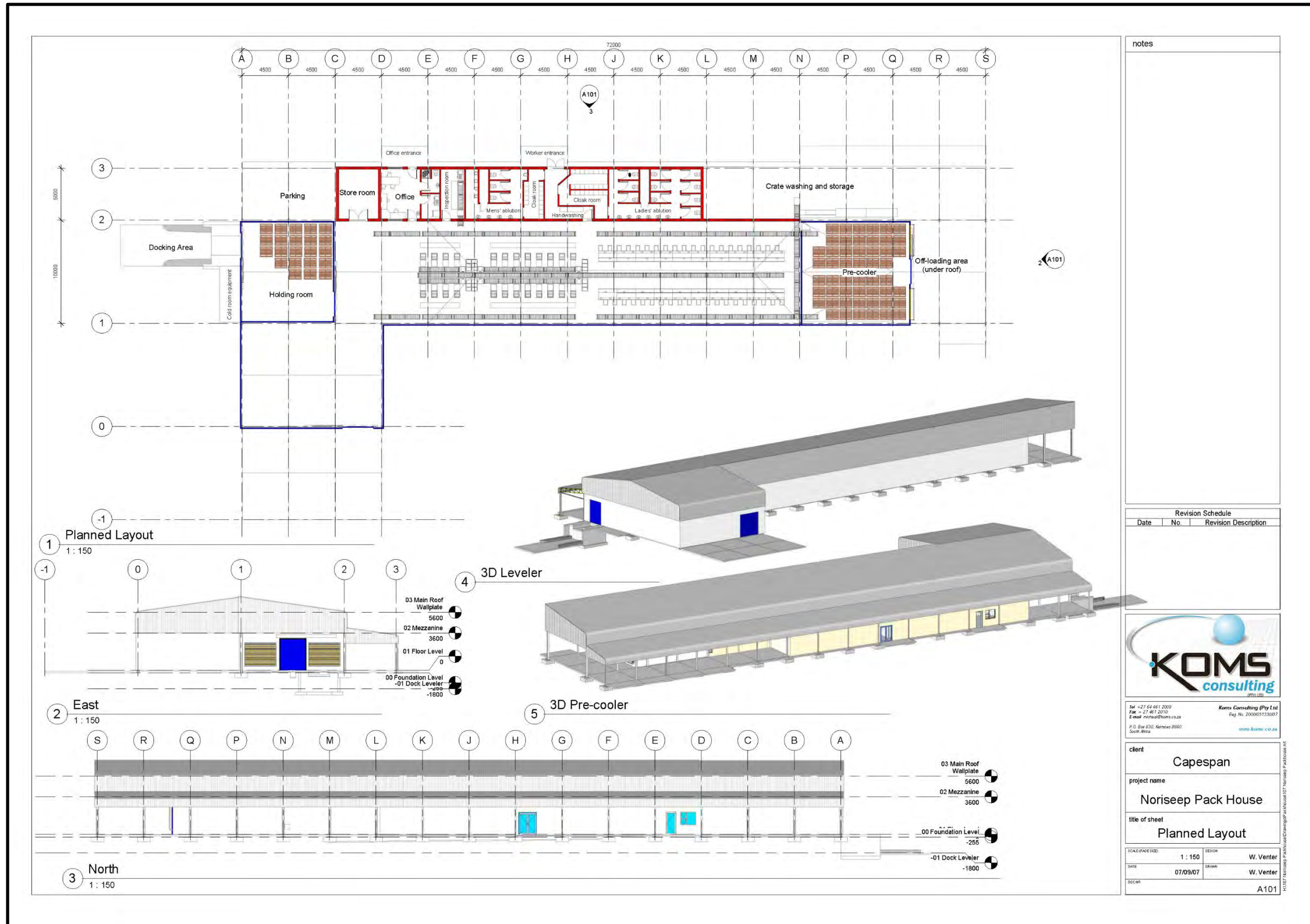
APPENDIX B: SITE PLANS

APPENDIX B1: PREFERRED DEVELOPMENT LAYOUT





APPENDIX B3: PACK HOUSE DESIGN



notes

Revision Schedule		
Date	No.	Revision Description



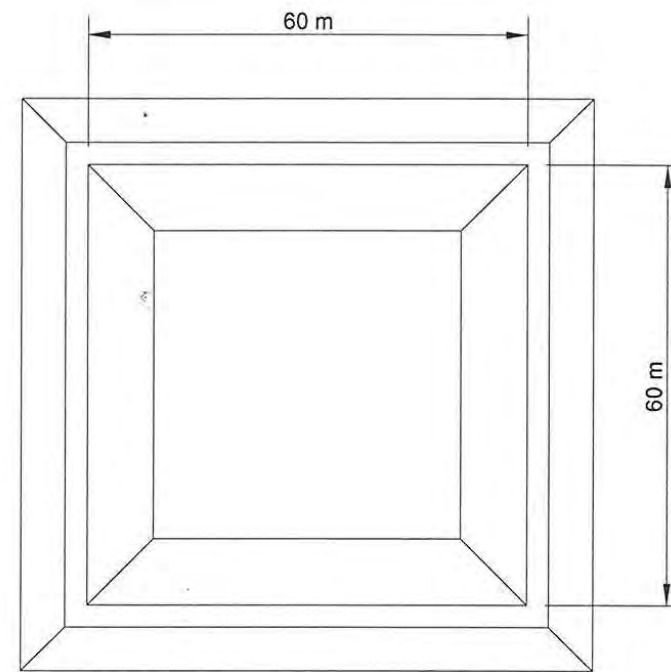
tel +27 64 661 2009
 fax +27 661 2010
 Email: info@koms.co.za
 P.O. Box 630, Kermooie 6660
 South Africa
 www.koms.co.za

client	Capespan
project name	Noriseep Pack House
title of sheet	Planned Layout
SCALE (PAGE SIZE)	1 : 150
DATE	07/09/07
DESIGN	W. Venter
DRAWN	W. Venter
DRAWN	A101

APPENDIX B4: DAM 1 DESIGN

CAPE SPAN NORRISEEP DAM 1

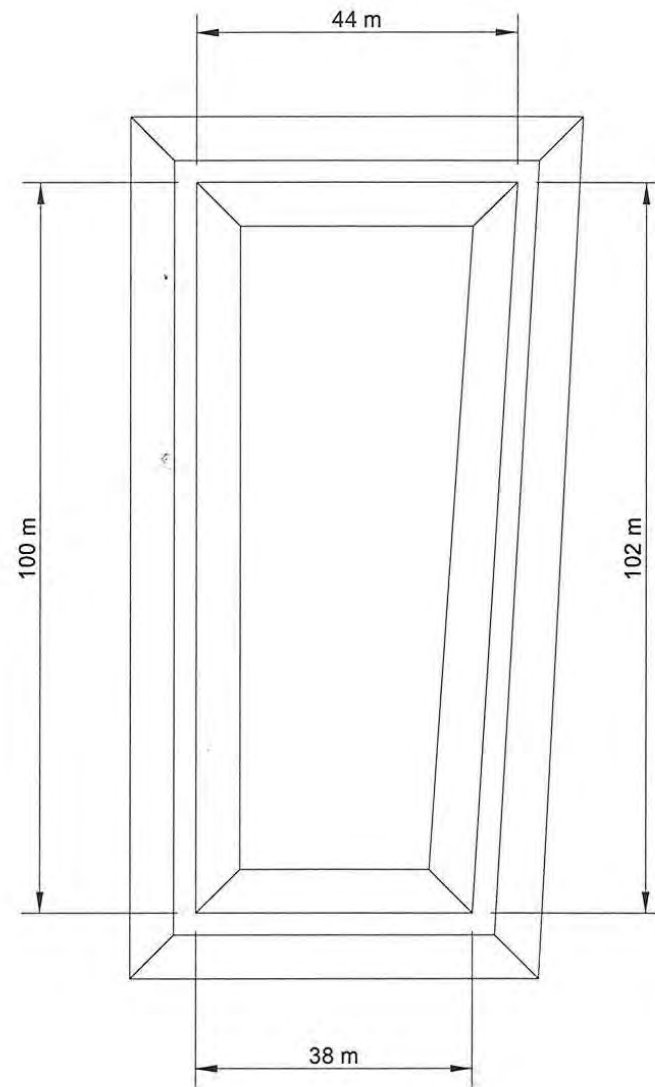
Dam depth: 3m
Dam length: 60m
Dam width: 60m
Dam water capacity: 8046 m³



APPENDIX B4: DAM 2 DESIGN

CAPE SPAN NORRISEEP DAM 2

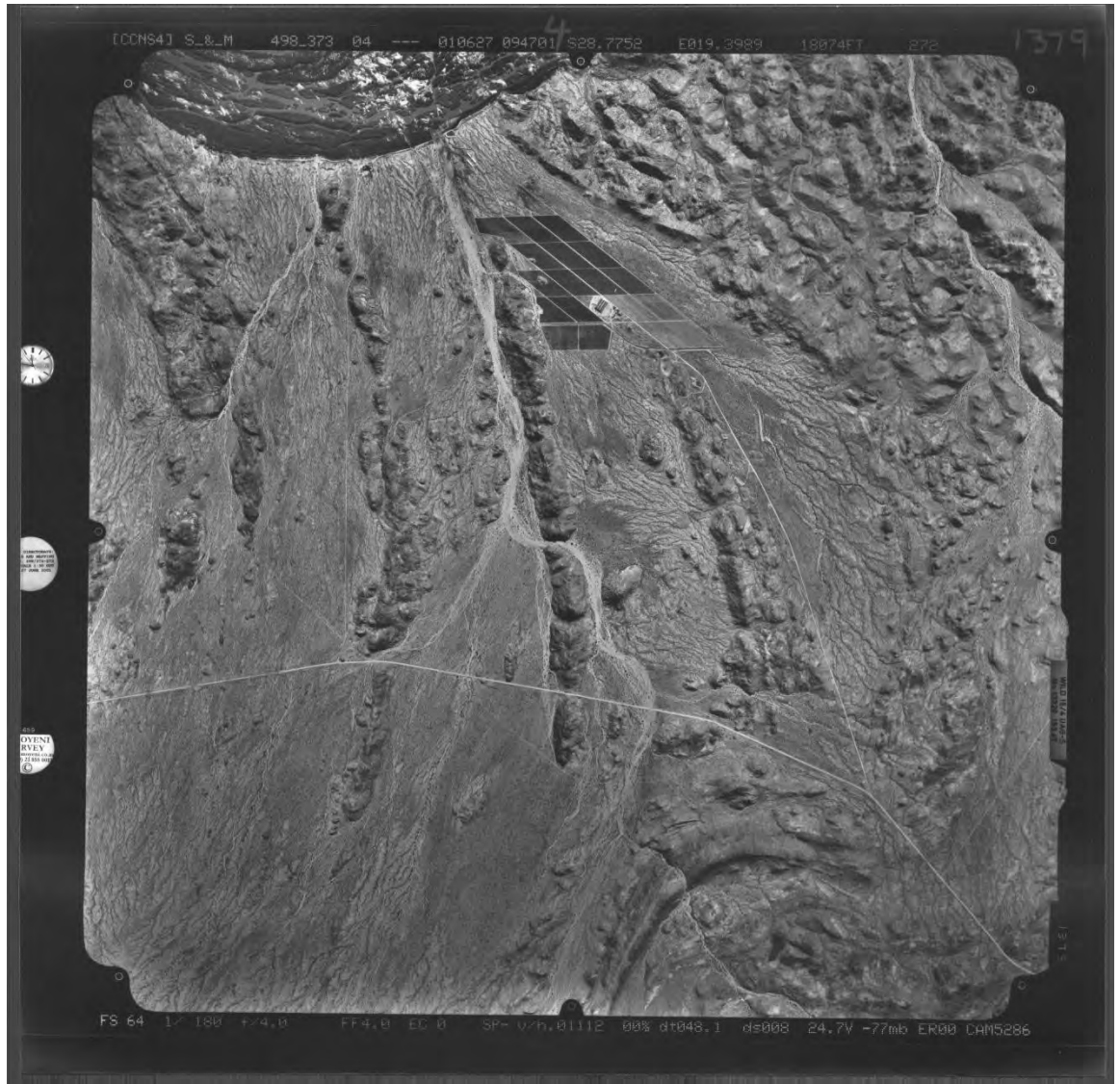
Dam depth: 3m
Dam lenth: 100m
Dam with: 44m
Dam water capacity: 10500 m3



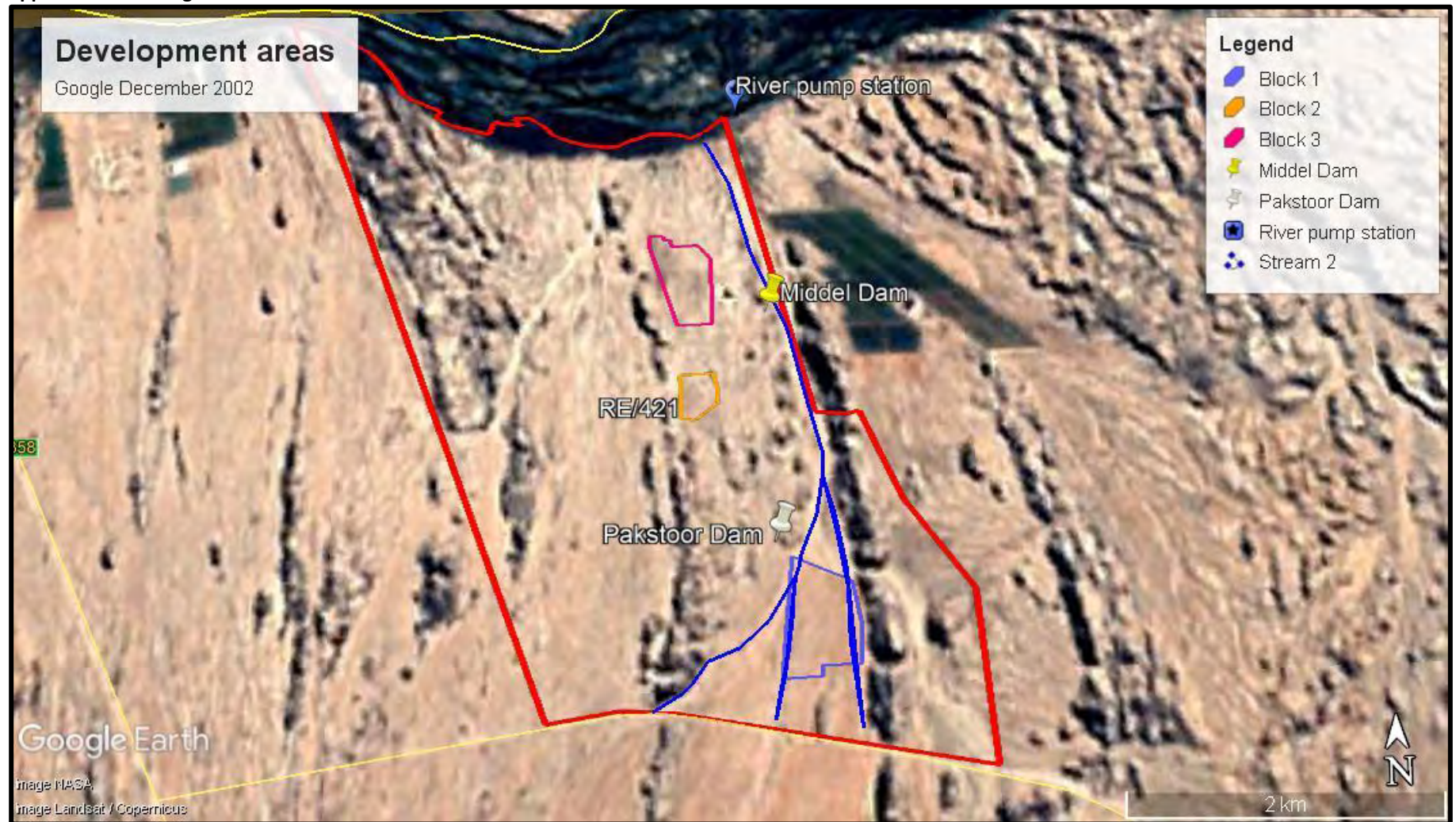
APPENDIX D: PHOTOGRAPS, IMAGERY AND MAPS

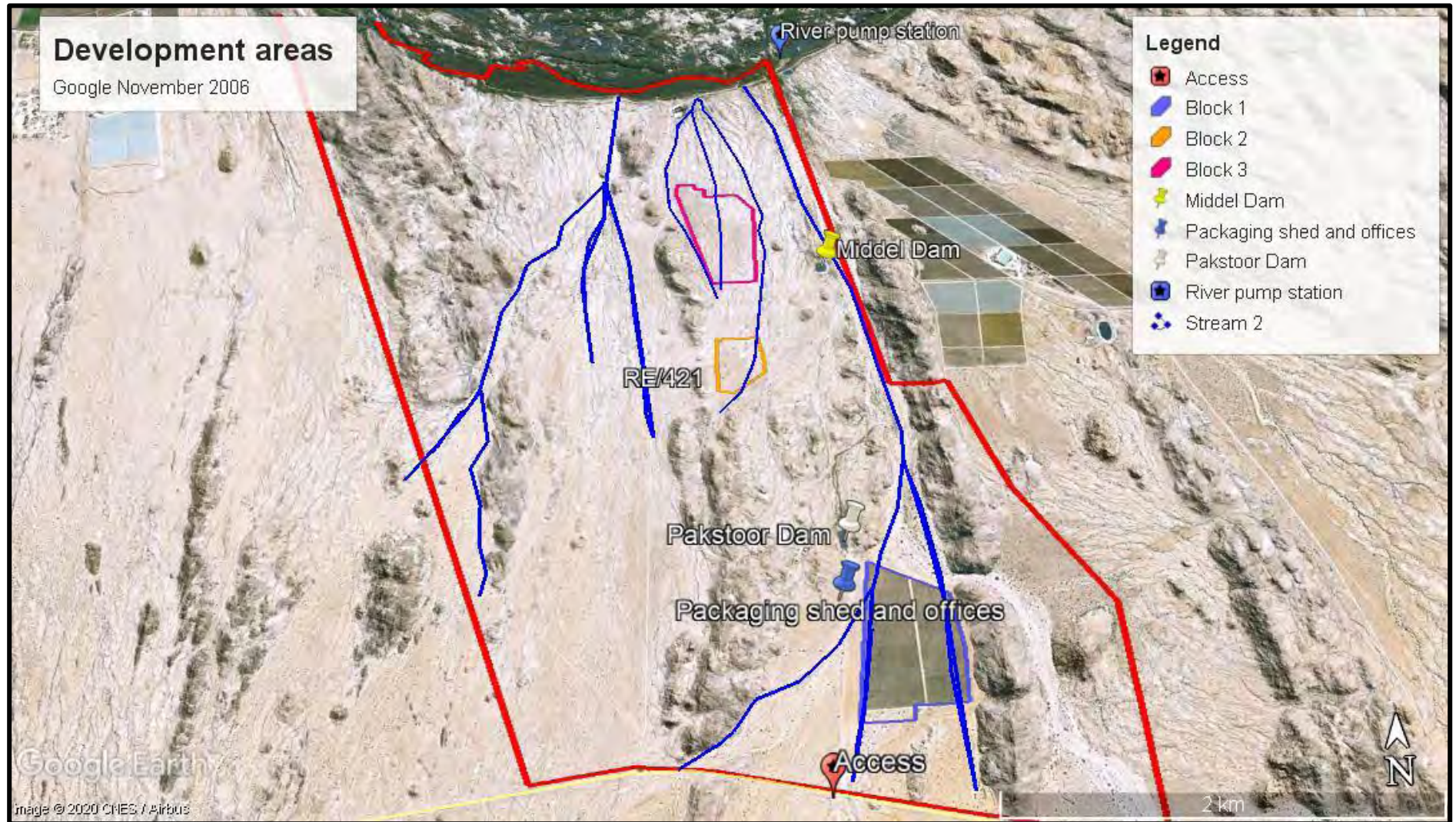
APPENDIX D1: HISTORICAL PHOTOGRAPHIC IMAGERY

Appendix D1.1: Historical Imagery 2001

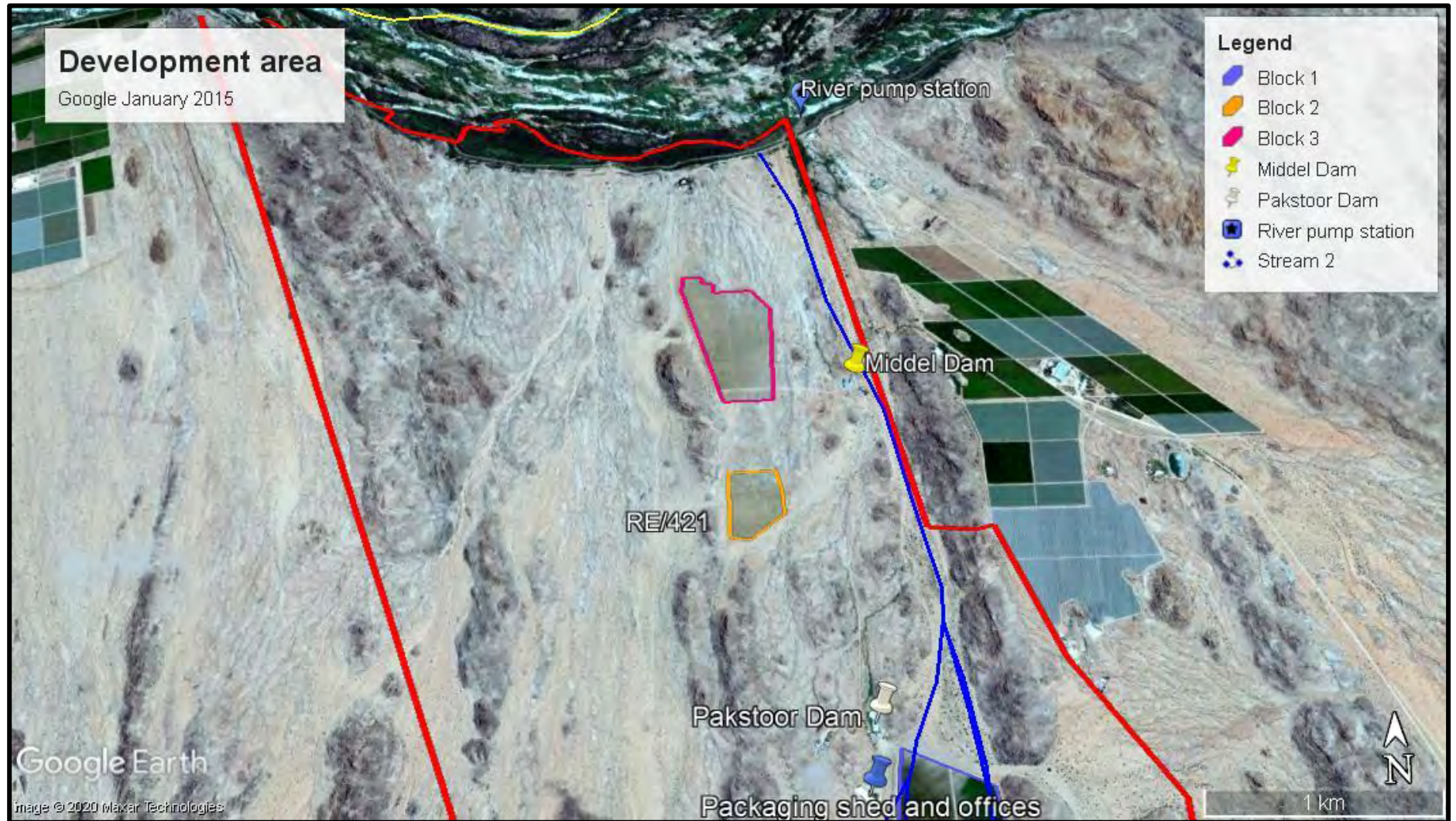


Appendix D1.2: Google 2002





Appendix D1.4: Google January 2015



APPENDIX D2: SITE PHOTOGRAPHS



River pump station



Block 3



Pack house and offices



Pakstoor Dam

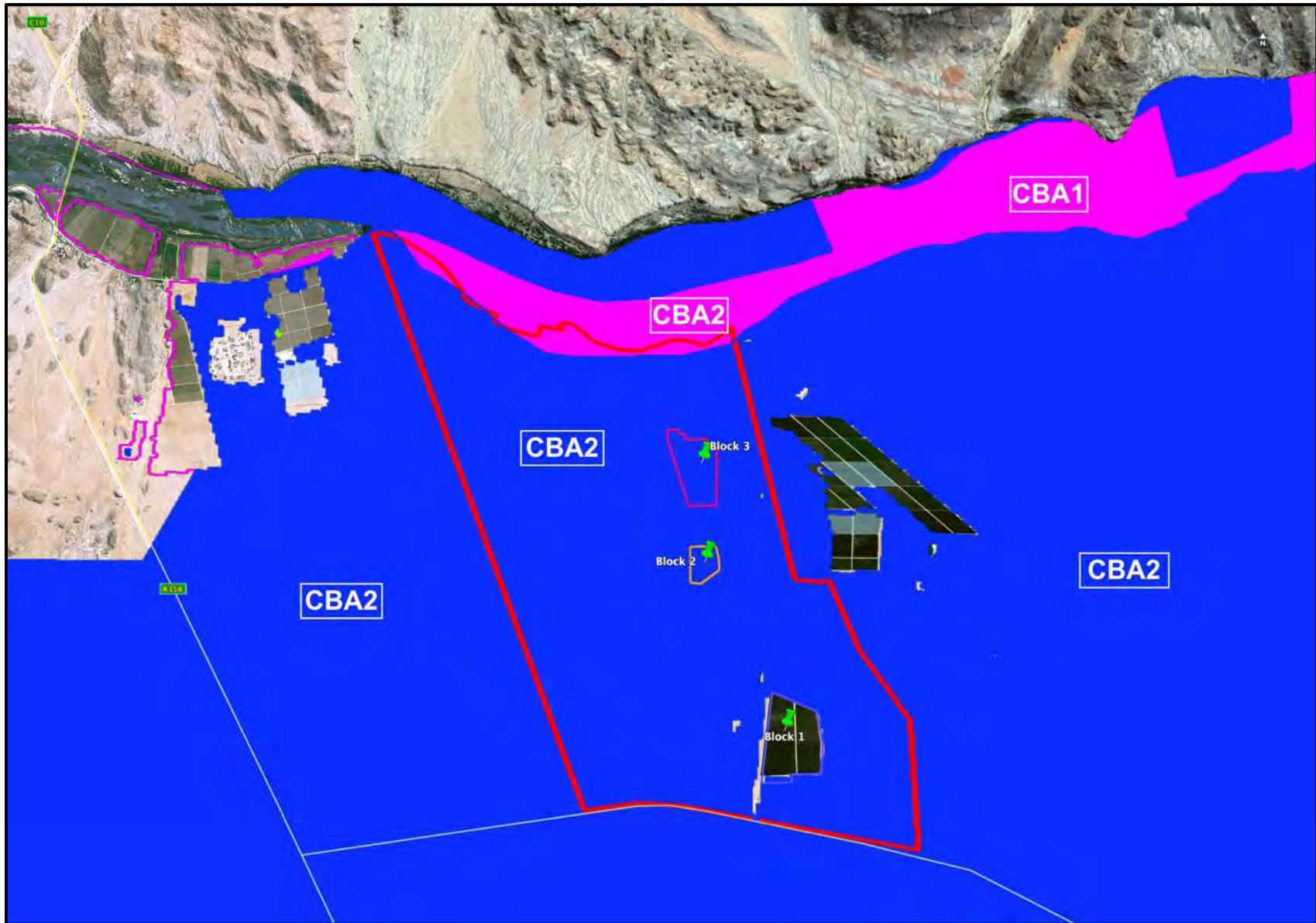


Middle Dam



Block 1

APPENDIX D3: CBA 2 AND NO-NATURAL AREAS LOCATED ON REMAINDER OF FARM AFSTOF NO. 421.



APPENDIX E: LICENSING AND APPROVALS

APPENDIX E1: WUL



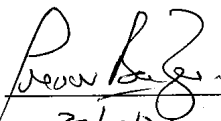
water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria 0001, 185 Francis Baard Street, Sedibeng Building, Pretoria,
Tel: 012 336 7500, Fax (012) 323 4472/ (012) 326 2715. www.dws.gov.za

**LICENCE IN TERMS OF CHAPTER 4 OF THE
NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998)**

I, **Trevor Balzer**, in my capacity as Deputy Director-General: Special Projects in the Department of Water and Sanitation; and acting under authority of the powers sub-delegated to me by the Acting Director-General of Water and Sanitation, hereby authorizes the following water uses in respect of this licence.

SIGNED: 
DATE: 27/05/2019

LICENCE NO: 10/D81A/ACI/8908
FILE NO: 27/2/1/D181/28/1

1. **Licensee:** **Valam Boerdery Pty Ltd**
Postal Address P.O Box 21
Kakamas
8870
2. **Water Uses**
 - 2.1 Section 21(a) of the Act: Taking water from a water resource; subject to the conditions set out in Appendices I and II.
 - 2.2 Section 21(c) of the Act: Impeding or diverting the flow of water in a watercourse; subject to the conditions set out in Appendices I and III.
 - 2.3 Section 21 (i) of the Act: Altering the bed, banks, course or characteristics of a watercourse; subject to the conditions set out in Appendices I and III.
3. **Properties in respect of which the licence is issued**
 - 3.1 Kakamas North Settlement no 341



 **B08996** 

Table 1: Registered owners of the Property

Property from	Property to	Registered Owner	Area (ha)	River / Canal	Quota	Volume
Farm Afstof No 421, Portion 0 (Remainder)	Kakamas North Settlement Farm no 341 (a portion of 335)	Valam Boerderye PTY Ltd	22.59	River	15000	338 850

4. Licence and Review Period.

- 4.1 This licence is valid for a period of 20 years from the date of issuance and may be reviewed every five (5) years.

5. Definitions

Any terms, words and expressions as defined in the National Water Act, 1998 (Act 36 of 1998) shall bear the same meaning when used in this licence.

"The Provincial Head"- means the Head of Provincial Operations: Northern Cape, Department of Water and Sanitation, Private Bag X6101, Kimberley, 8300.

"The Department" means the Department of Water and Sanitation.

"Responsible Authority" means the Department of Water and Sanitation or Catchment Management Agency.

"Extent of the watercourse" means the outer edge of the 1:100 year flood line or the delineated riparian habitat, whichever is the greatest.

"The characteristics of a watercourse/s" mean the flow regime, water quality, habitat (including the physical structure of the watercourse/s and associated vegetation) and biota found within the extent of the watercourse/s.

"Report" refers to the reports entitled:

1. Integrated Water Use License Application Report prepared by Pieter Badenhorst Professional Services dated June 2018.
2. Risk Matrix For Water Uses As Defined In Section 21(C) & Section 21(I) Of The National Water Act, 1998 (Act 36 Of 1998) dated prepared by Pieter Badenhorst Professional Services dated June 2018.
3. S24G Assessment Report prepared by Pieter Badenhorst Professional Services dated June 2018.
4. Storm Water Management Plan prepared by Pieter Badenhorst Professional Services dated March 2018.

6. Description of the activity

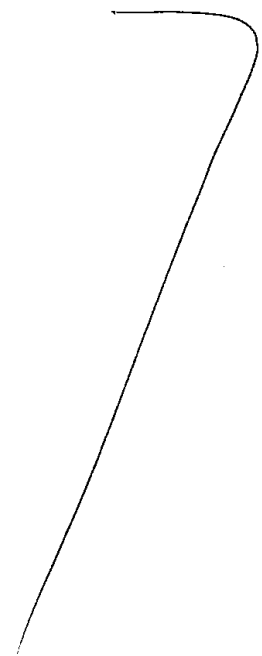
The applicant Valam Boerdery (Pty) Ltd seeks a Permanent Transfer of water use entitlements, which is facilitated in terms Section 25(2) of the National Water Act. Water will be abstracted from the Orange River for irrigation purposes. The applicant submitted the water use licence application forms and other supporting documents on the 22nd of June 2018 for review by the Department of Water and Sanitation (DWS).

The applicant, Valam Boerdery (Pty) Ltd, wishes to transfer 338 850m³/a of water from Remainder of Farm Afstof No 421 which are currently fully utilised with additional water allocations, to Kakamas North Settlement no 341, all owned by Valam Boerdery (Pty) Ltd, to rectify the water allocations to the above mentioned properties. Approval is also necessary for the development of agricultural areas across small ephemeral streams/drainage areas has already took place

The existing rights has already been confirmed by the Kakamas WUA that the transfer of water falls outside the Water Users Association zones and falls under the jurisdiction of DWS: Upington, therefore no objections to the transfer from the water users association forms part of this application. The additional water will have little or no effect on the quantity of available water from the water resources within the immediate vicinity.

The establishment of the vineyards on Kakamas North Settlement no 341 (Oorkant) took place across small sections of the unnamed drainage system that is located on site. The drainage system is classified as an ephemeral course as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern.

The drainage channel system is located in a sub-catchment that is unnamed, D81A-03245. The unnamed sub-catchment is not really a river, but more fits the description of a mostly dry drainage line. The sub-catchment is about 28 km long.



APPENDIX I

GENERAL CONDITIONS

1. This licence is subject to all provisions of the National Water Act, 1998 (Act 36 of 1998).
2. The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.
3. The Licensee shall immediately inform the Responsible Authority of any change of name, address, premises and/or legal status.
4. If the properties mentioned in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the properties to the Responsible Authority within sixty (60) days of the said change taking place.
5. If a water user association is established in the area to manage the resources, membership of the Licensee to this association is compulsory.
6. The Licensee shall be responsible for any water use charges or levies imposed by a responsible authority.
7. While effect must be given to the Reserve as determined in terms of the Act, where a desktop determination of the Reserve has been used in issuance of a licence, when a comprehensive determination of the Reserve has finally been made; it shall be given effect to.
8. The licence shall not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.
9. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other applicable provisions of the Act, as amended from time to time.
10. The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence; the audit report must be submitted to the Responsible Authority for review on an annual basis.
11. Flow metering, recording and integrating devices shall be maintained in a sound state of repair and calibrated by a competent person at intervals of not more than two (2) years. Calibration certificates shall be available for inspection by the Responsible Authority or his/her representative upon request.
12. Any incident that causes or may cause water pollution must be reported to the Responsible Authority or his/her designated representative within twenty four (24) hours.
13. Notices prohibiting unauthorized persons from entering water use premises must be displayed.

14. The water use authorized by this licence may only be exercised by Valam Boerdery Pty Ltd on the properties stipulated in this licence and may not be transferred or leased temporarily or permanently without prior permission of the Responsible Authority.
15. The Licensee shall use water efficiently to minimize total water intake, void usage of water where possible, implement good housekeeping and operating practices, and maximize the re-use /recycling of contaminated water.
16. If the Licensee is not the end user/beneficiary of the water use related infrastructure and will not be responsible for long term maintenance and management of the infrastructure, the Licensee must provide a programme for hand over to the successor-in-title including a brief management/maintenance plan and the agreement for infrastructure along with allocation of responsibilities, within six (6) month of this Licence issuance.
17. Notices prohibiting unauthorised persons from entering the certain areas, as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.
18. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of / amongst other things:
 - 18.1 inundation or flood;
 - 18.2 any force majeure event;
 - 18.3 siltation of the river or dam basin.

APPENDIX II

Section 21 (a) of the Act: Taking water from a water resource

1. This licence authorises the abstraction of 338850 m³/a of water from a surface-water resource as indicated in Table 2 below.

Table 2: Authorised water use

Water use(s)	Purpose	Capacity, Dimensions & Volume (m ³ /annum, m ³ & tonnes/annum)	Property Description	Co-ordinates
Section 21(a)				
Abstraction of water from Orange River	Irrigation of vineyards	338850 m ³ /a	Kakamas North Settlement Farm no 341 (a portion of 335)	S28°39'17.5" E20°26'49.3"

2. This licence does not imply any guarantee that the said quantities and qualities of water will be available at present or at any time in the future.
3. Due to possible over-allocation of water in this water resource, when compulsory licensing is required in future in terms of Chapter 4 of the Act, this licence will be subject to a reduction of the allocated volume in order to comply with the requirements of the Act.
4. The above-mentioned volume may be reduced when the licence is reviewed.
5. The Licensee must continually investigate new and emerging technologies and put into practice water efficient devices or apply technique for the re-use of water containing waste, in an endeavour to conserve water at all times.
6. All water taken from the resource must be measured as follows:
 - 6.4 the daily quantity of water taken must be metered or gauged and the total recorded at the last day of each month; and
 - 6.5 the licensee must keep record of all water taken and a copy of the records must be forwarded to the Provincial Head on or before 25 January and 25 July of each year.
7. No water taken may be pumped, stored, diverted, or alienated for purposes other than intended in this licence, without written approval by the Responsible Authority.
8. The Licensee must install and monitor appropriate water measuring devices to measure the amount of water abstracted, received and/or consumed, as applicable to the infrastructure.
9. The Licensee will be responsible for any water use charges or levies, which may be imposed from time to time by the Department in terms of the Department's Raw Water Pricing Strategy.

10. The Licensee must establish a programme of formal Information Management System, which maintains a database on water supply, distribution and delivery infrastructure.
11. The Licensee must establish and implement a continual process of raising awareness amongst itself, its workers and stakeholders with respect to water conservation/water demand management initiatives.
12. The Licensee must consider the principles of integrated resource planning (IRP) in development of all new infrastructure, with water, waste and energy demand management being central considerations.
13. The Licensee must optimize water use and design new infrastructure to ensure optimal layout of building and equipment to support reduced water consumption.

APPENDIX III

**Section 21(c) of the Act: Impeding or diverting the flow of water in a watercourse
 And
 Section 21(i) of the Act: Altering the bed, banks, course or characteristics of a watercourse**

1. GENERAL

1.1 This licence authorises for Section 21(c) & (i) water use activities for the construction of vineyards across small ephemeral streams on Farm Kakamas North Settlement Farm no 341 (a portion of 335) as indicated in Table 3.

Table 3: Water Uses Authorised

Water use(s)	Purpose	Dimensions (m)	Property Description	Co-ordinates	
				Start	End
Section 21(c) & (i)					
Section 21(c)&(i)	Construction of vineyards across streams(Stream 1)	Height: 50 m Width: across the stream Length: 370 metres	Kakamas North Settlement Farm no 341 (a portion of 335)	S 28°38'15.78" E 20°27'40.37"	S 28°38'22.61" E 20°27'29.43"
Section 21(c)&(i)	Construction of vineyards across streams(Stream 2)	Height: 50 m Width: across the stream Length: 365 metres	Kakamas North Settlement Farm no 341 (a portion of 335)	S 28°38'25.02" E 20°27'38.45"	S 28°38'31.66" E 20°27'27.42"
Section 21(c)&(i)	Construction of vineyards across streams(Stream 3)	Height: 50 m Width: across the stream Length: 365 metres	Kakamas North Settlement Farm no 341 (a portion of 335)	S 28°38'27.46" E 20°27'37.85"	S 28°38'31.04" E 20°27'30.98"
Section 21(c)&(i)	Construction of vineyards across streams(Stream 4)	Height: 50 m Width: across the stream Length: 33 metres	Kakamas North Settlement Farm no 341 (a portion of 335)	S 28°38'31.57" E 20°27'37.13"	S 28°38'34.84" E 20°27'34.12"
Section 21(c)&(i)	New River Crossing	Length: 50 metres	Kakamas North Settlement Farm no 341 (a portion of 335)	S 28°38'37.45" E 20°27'35.16"	N/A

- 1.2 The Licensee must carry out and complete all the activities listed under condition 1.1 according to the following:
- 1.2.1. Reports submitted to the Provincial Head or Responsible Authority
 - 1.2.2. Reserve Determination
 - 1.2.3. Conditions of this licence; and
 - 1.2.4. Any other written direction issued by the Provincial Head or Responsible Authority in relation to this licence.
 - 1.2.5. Environmental Management Programme.
- 1.3 No activity must take place within the 1:100 year flood line or the delineated riparian habitat, whichever is the greatest, or within 500 m radius from the boundary of any wetland unless authorised by this licence.
- 1.4 A copy of the water use licence and reports set out under condition 1.2 must be on site during the construction.
- 1.5 A suitably qualified person(s), appointed by the Licensee, must be responsible for ensuring that the activities are undertaken in compliance with the specifications as set out in reports submitted to the Department or the Responsible authority and the conditions of this licence.

2. FURTHER STUDIES AND INFORMATION REQUIREMENTS

- 2.2.1 Work method statements, site plan(s) must indicate the regulated activities, marking the limits of disturbance in relation to the impacted watercourses; morphology of the watercourses; site specific impacts; and environmental management, particularly erosion and sediment, controls and measures;
- 2.2.2 No fundamental alterations of the work method statements, site plan(s) and drawings are allowed, unless a modification is requested and granted by the Provincial Head or Responsible Authority in writing.
- 2.2.3 No site activities must occur beyond the proposed site location of the erosion and sedimentation controls and marked limits of disturbance.
- 2.2.4 Storm-water Management Plan to be drawn up
- 2.2.5 Monitoring Plan should be submitted within 6 months from the date of issuance of this licence;

3. Riparian Habitat

- 3.1 Activities (including spill clean-up) must start up-stream and proceed into a down-stream direction, so that the recovery processes can start immediately, without further disturbance from upstream works.
- 3.2 Operation and storage of equipment must not take place within the Extent of the watercourse unless authorised in this license.
- 3.3 Activities must not occur in sensitive riffle habitats.
- 3.4 Indigenous riparian vegetation, including dead trees, outside the limits of disturbance indicated in the site plans must not be removed from the area.



- 3.5 Alien and invader vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be sustainably eradicated or controlled within a 50m radius around all authorised.
- 3.6 All reasonable steps must be taken to minimise noise and mechanical vibrations in the vicinity of the watercourses.
- 3.7 Stockpiling of removed soil and sand must be stored outside of the Extent of the watercourse, to prevent being washed into the river and must be covered to prevent wind and rain erosion.
- 3.8 As much indigenous vegetation growth as possible should be promoted within the proposed development area in order to protect soil and to reduce the percentage of the surface area which is paved.

4. Biota

- 4.1 All reasonable steps must be taken not to disturb the breeding, nesting and/or feeding habitats and natural movement patterns of aquatic biota.

5. REHABILITATION AND MANAGEMENT

- 5.1 A habitat assessment study must be undertaken annually for three (3) years to ensure that rehabilitation is stable; if not; remedial action must be taken to rectify impacts.
- 5.2 The Licensee must embark on a systematic long-term rehabilitation programme to restore the watercourse(s) to environmentally acceptable and sustainable conditions after completion of the activities, which must include, but not be limited to the rehabilitation of disturbed and degraded riparian areas to restore and upgrade the riparian habitat integrity to sustain a bio-diverse riparian ecosystem.
- 5.3 All disturbed areas must be re-vegetated with an indigenous seed mix in consultation with an indigenous plant expert, ensuring that during rehabilitation only indigenous shrubs, trees and grasses are used in restoring the biodiversity.
- 5.4 An active campaign for controlling invasive species must be implemented within disturbed zones to ensure that it does not become a conduit for the propagation and spread of invasive exotic plants.
- 5.5 Rehabilitation of disturbed regulated areas must occur during and after completion of construction. Any material removed from the extent of the watercourses(s) must be returned and bedded in their original position as far as practicably possible.
- 5.6 Topsoil must be stripped and redistributed.
- 5.7 Stockpiles and overburden must be removed or rehabilitated after construction.
- 5.8 Compacted and disturbed areas must be shaped to natural forms and to follow the original contour. In general cut and fill slopes and other disturbed areas must not exceed 1:3 (v:h) ratio, it must be protected, vegetated, ripped and scarified parallel with the contour.



- 5.9 A botanist familiar with the vegetation of the area must monitor the rehabilitation success and alien plant removal on annual basis.
- 5.10 The Provincial Head must sign a release form indicating that rehabilitation was done satisfactory according to specifications as per this licence.
- 5.11 A photographic record must be kept as follows and submitted with reports as set out in section 5:
- 5.11.1. Dated photographs of all the sites to be impacted before construction commences;
 - 5.11.2. Dated photographs of all the sites during construction on a monthly basis; and
 - 5.11.3. Dated photographs of all the sites after completion of construction, seasonally.
- 5.12 A comprehensive and appropriate rehabilitation and management programme to restore the watercourse(s) to environmentally acceptable and sustainable conditions after construction must be developed and submitted to the Provincial Head or Responsible Authority for written approval before construction commences.

6. MONITORING AND REPORTING

- 6.1 The Provincial Head must be notified in writing one week prior to commencement of the licensed activity(ies) and again upon completion of the activity(ies).
- 6.2 A comprehensive and appropriate environmental assessment and monitoring programme to determine the impact, change, deterioration and improvement of the aquatic system associated with the activities listed under Table 3 as well as compliance to these water use licence conditions must be developed and submitted to the Provincial Head or Responsible Authority for a written approval before commencement and must subsequently be implemented as directed.
- 6.3 Six (6) monthly monitoring reports must be submitted to the Provincial Head until otherwise agreed in writing with the Provincial Head or Responsible Authority
- 6.4 A qualified and responsible scientist must be appointed by the Licensee who must give effect to the various licence conditions and to ensure compliance thereof pertaining to all activities impeding and/or diverting flow of watercourses as well as alterations to watercourses on the property(ies) as set out in condition 1.1.
- 6.5 Internal and external audit must be done as per condition 10 and 11 of Appendix 1.
- 6.6 The audit reports must include but are not limited to:
- 6.6.1. Reporting in respect of the monitoring programme referred to in condition 6.2;
 - 6.6.2. A record of implementation of all mitigation measures including a record of corrective actions; and
 - 6.6.3. Compensation measures for damage where mitigation measures have failed to adequately protect the in-stream and riparian habitat or any other characteristic of the watercourses.
- 6.7 The Licensee must apply in writing to the Provincial Head or Responsible Authority for alternative reporting arrangements for which written approval must be provided.



6.8 An environmental officer must be appointed for the lifespan of the project and for the period after that until the department is satisfied that the rehabilitation and monitoring program had been implemented successfully and the primary and secondary impacts are managed adequately.

7. OTHER WATER USERS

7.1 The Licensee must attempt to prevent adverse effects on other water users. All complaints must be investigated by a suitable qualified person and if investigations prove that the Licensee has impaired the rights of other water users, the Licensee must initiate suitable compensative measures.

8. POLLUTION PREVENTION, INCIDENTS AND MALFUNCTIONS

8.1 Pollution incidents must be dealt with in accordance with Section 19 and 20 of the Act.

8.2 Any incident that may cause pollution of any water resource must immediately be reported to the Provincial Head or Responsible Authority.

8.3 If surface and/or groundwater pollution has occurred or may possibly occur, the Licensee must conduct, and/or appoint specialists to conduct the necessary investigations and implement additional monitoring, pollution prevention and remediation measures to the satisfaction of the Provincial Head or Responsible Authority.

8.4 The possibility of spillages must be catered for in the design of the infrastructure where for example, attenuation ponds prior to the discharge of storm water could be employed or the storm water systems themselves could be designed in such a way that it can be easily sealed off after the occurrence of a spill. If a spill occurs during the operational phase of the infrastructure, a suitably qualified team of experts will need to be consulted and rehabilitation plan drawn up and implemented.

8.5 The Licensee must keep all records relating to the compliance or non-compliance with the conditions of this licence in good order. Such records must be made available to the Provincial Head within 14 (fourteen) days of receipt of a written request by the Department for such records.

8.6 The Licensee must keep an incident report and complaints register, which must be made available to any external auditors and the Department.

8.7 Applicant to identify all proximate existing water users within 5 km radius or within identified zone of impact

10 BUDGETARY PROVISIONS

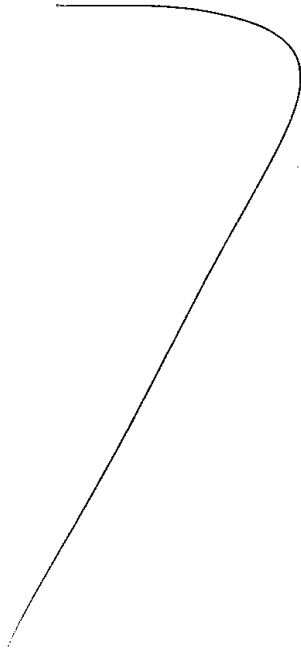
10.1.1 The Licensee must ensure that there is a budget sufficient to complete and maintain the water use and for successful implementation of the rehabilitation programme as set out in this licence.

10.1.2 The Department may at any stage of the process request proof of budgetary provisions for rehabilitation and closure of project.

11 SITE SPECIFIC CONDITIONS

- 11.1 A buffer of 15m around large streams must be maintained to ensure that most nutrients coming from fertilizers used will be absorbed by plants in order to minimize pollution of watercourses.
- 11.2 Erosion management measures must be developed and implemented within development areas to avoid sedimentation into watercourses.
- 11.3 Flow meters must be installed on the abstraction structures and pipelines and records of such must be provided to the Department upon written request.
- 11.4 All infrastructures situated within 1:100 year flood line must be protected against flood events.
- 11.5 The Department will not be held responsible when the abstraction structure and associated infrastructure are washed away by floods. The licence holder will be responsible and accountable to clean the river within 72 hours of floods.
- 11.6 Plough Certificate to be submitted by the applicant 6 months from issuance of this licence.

[END OF LICENCE]



APPENDIX E2: HERITAGE LETTER

APPENDIX E3: PROOF OF SEWERAGE TREATMENT

CAPESPAN FARMS Narriseep	SEWAGE DISPOSABLE RECORD	Doc. No: R41
		Rev: 0
Section: Records		Revision date: 01 August 2016
Composed by: Sophie Nouse		Page: 1 of 1
Approved by: Packhouse Manager		Initial: K.S
		Initial: P.I

	DATE	TIME	PLACE OF DISCHARGE	ENTRY MADE BY: (representative)	SIGNATURE	SIGNATURE BY EMPLOYER REPRESENTATIVE
1.	27/12/2018	14H20	KHAI-MA Sewage	Johannes	<i>JJano</i>	<i>Euburg</i>
2.	31/12/2018	15H15	KHAI-MA Sewage	Johannes	<i>JJano</i>	<i>Euburg</i>
3.	10/01/2019	16H00	KHAI-MA Sewage	Johannes	<i>JJano</i>	<i>Euburg</i>
4.						
5.						
6.						
7.						
8.						
9.						
10.						

CAPESPAN FARMS Norriseep	SEWAGE DISPOSABLE RECORD	Doc. No: R41
		Rev: 0
		Revision date: 01 August 2016
Section:	Records	Page: 1 of 1
Composed by:	Sophie Nouse	Initial: K.S
Approved by:	Packhouse Manager	Initial: PJ

	DATE	TIME	PLACE OF DISCHARGE	ENTRY MADE BY: (representative)	SIGNATURE	SIGNATURE BY EMPLOYER REPRESENTATIVE
1.	02/12/2018	9H40	KPAI - M4 Sewage	Johannes	99and	Eusburg
2.	02/12/2018	11H55	KPAI - M4 Sewage	Johannes	99and	Eusburg
3.	04/12/2018	8H25	KPAI - M4 Sewage	Johannes	99and	Eusburg
4.	04/12/2018	10H35	Khai - M4 Sewage	Johannes	99and	Eusburg
5.	06/12/2018	14H50	Khai - M4 Sewage	Johannes	99and	Eusburg
6.	09/12/2018	16H40	Khai - M4 Sewage	Johannes	99and	Eusburg
7.	10/12/2018	16H05	KPAI - M4 Sewage	Johannes	99and	Eusburg
8.	14/12/2018	14H20	Khai - M4 Sewage	Johannes	99and	Eusburg
9.	15/12/2018	15H25	Khai - M4 Sewage	Johannes	99and	Eusburg
10.	21/12/2018	11H05	KPAI - M4 Sewage	Johannes	99and	Eusburg

APPENDIX F: PUBLIC PARTICPATION

APPENDIX F1: I&AP DATABASE

AUTHORITIES

	Erf no	Surname	Initials	Representing	Tel	Fax	email	Post Box	Town	Code	Reg
1		Municipal Manager		Khai Ma Municipality: Municipal Manager	054 933 1000	054 933 0252	mmsecretary@khaima.gov.za	P. O. Box 108	Pofadder	8890	1
2				Khai Ma Municipality: Ward Councillor	054 933 1000	054 933 0252	mmsecretary@khaima.gov.za	P. O. Box 108	Pofadder	8890	2
3		Fortuin	C	Namakwa District Municipality	027 712 800	027 712 8040	info@namakwa-dm.gov.za	Private Bag X20	Springbok	8240	3
4		October	L	Department of Agriculture and Land Reform	054 461 6700	054 461 6401		P. O. Box 18	Springbok	8240	4
5		White	C	Department of Water Affairs	082 887 8866/ 054 338 5819		SchwartzC@dws.gov.za	Private Bag X5912	Upington	8800	5
6		De la Fontaine	S	Nature Conservation	054 338 4800		sdelafontaine@gmail.com	Evelina De Bruin (former Provincial) Building, Corner of Rivier & Nelson Mandela Road	Upington	8800	6
7		Mans	J	Department of Agriculture Forestry and Fisheries	054 338 5909		jacolinema@daff.gov.za	Olien street 26, Louisvale Road	Upington	8800	7
8		Le Roux		Onseepkans Irrigation Board	054 9510002		onseepkansmission@gmail.com				8
9		Lekwene	T	DENC: S24G Section	0798744244		LekweneT@ncpg.gov.za	90 Long Street Sasko, Building	Kimberley	8301	9

I&AP's

	Erf no	Surname	Initials	Representing	Tel	Fax	email	Post Box	Town	Code	Reg
1	Norriseep East 84 & Vrugbaar 422	Norriseep Boerdery PTY ltd		Lukas van Zyl	0722077241		lvz@lantic.net				L
2	Ptn 2 of Farm 421	W E J Boerdery CC		Willem Jannetjies	0782389890 0788504255			Protea street 87	Pella	8891	L
3	Remainder of Onseepkans Settlement 88	Khai Ma Municipality					mmsecretary@khaima.gov.za				L
4	Onseepkans 88	Khai Ma Municipality					mmsecretary@khaima.gov.za				L

APPENDIX F2: ADVERTISEMENT

Pre-Application Advert.

BLADSY 20

GEMSBOK

24 JANUARIE 2020



BLAAUWSKOP

Hulle is nou in die "groot" skool

Die Graad 1'tjies van die I/S Blaauwskop het sonder trane, met ywer en met baie trots, hul formele skoolloopbaan begin.

Graad 1B - onder die leiding van Juffrou Van Schalkwyk

Graad 1A - onder die leiding van Juffrou Springbok



PUBLIC PARTICIPATION PROCESS AS PART OF A SECTION 24G APPLICATION PROCESS

Rectification of the clearing of land and the construction of vineyards, a dam, pipelines and associated infrastructure on Erf 2125, Erf 1479, Erf 1178 and Erf 2261, Kakamas, Northern Cape Province

Notice is hereby given of a public participation process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Regulations relating to the procedure to be followed in terms of a Section 24G Application (July 2017)

The project consists of the unlawful clearing of land and the development of agricultural areas across small streams, the construction of a dam and pipelines.

The development commenced unlawfully and therefore a S24G Process is being undertaken. The following Environmental Impact Assessment (EIA) listed activities is applicable for the application for rectification:
NEMA, Amended 2018, GN 327, LN1: Activity 12, 19 and 27;
GN 325, LN 2: Activity 15 and
GN 324, LN 3: Activity 12 & 14

Additional to the Environmental process will also be a Water Use License Application (WULA), under Section 21 (a), (b), (c) and (d).
More information on the S24G Application and the WULA and work undertaken will be available in the Draft Assessment Report (S24G) which will be made available for comment on the website or the EAP in due course. This notification is for the opportunity to register as an Interested and Affected Party.

Date of this notice: 24 January 2020
In order to ensure that you are identified as an interested and/or affected party (I&AP) please submit your name, contact information and interest in the matter as well as any comment to the EAP before 17:00 on 14 February 2020.

Details of EAP
Elanie Kühn
GroenbërgEnwiro (Pty) Ltd
P.O. Box 1058, Wellington, 7654
Cell: 076 584 0822; Fax: 086 476 7134
E-mail: elanien@afica.com
Website: www.groenbergenwiro.co.za

Department of Water and Sanitation (DWS/Waterreë)
Lower Orange River Proto CMA
Mnr. Abe Abrahams
Private Bag X6101
Kimberley, 8300
Tel: 053 830 8800

PUBLIC PARTICIPATION PROCESS AS PART OF A SECTION 24G APPLICATION PROCESS

Rectification of the construction of vineyards and associated infrastructure on Portion 30 of Zeekoeskroon No. 89, Blouputs, Northern Cape Province

Notice is hereby given of a public participation process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Regulations relating to the procedure to be followed in terms of a Section 24G Application (July 2017)

The project consists of the unlawful development of approximately 88ha of vineyards, across natural vegetation and small streams, as well as the building of a dam.
The development commenced unlawfully and therefore a S24G Process is being undertaken. The following Environmental Impact Assessment (EIA) listed activities is applicable for the application for rectification:
NEMA, Amended 1998: Activity 2 (i)
NEMA, Amended 2018: GN R 544 - Activity 11 and 18; GN R 546 - Activity 12;
NEMA, Amended 2014: GN R983 - Activity 12, 19 and 27; GN R985 - Activity 12;

Additional to the Environmental process will also be a Water Use License Application (WULA), under Section 21 (a) and (b).
More information on the S24G Application and the WULA and work undertaken will be available in the Draft Assessment Report (S24G) which will be made available for comment on our website or the EAP in due course. This notification is for the opportunity to register as an Interested and Affected Party.

Date of this notice: 24 January 2020
In order to ensure that you are identified as an interested and/or affected party (I&AP) please submit your name, contact information and interest in the matter as well as any comment to the EAP before 17:00 on 14 February 2020.

Details of EAP
Elanie Kühn
GroenbërgEnwiro (Pty) Ltd
P.O. Box 1058, Wellington, 7654
Cell: 076 584 0822; Fax: 086 476 7134
E-mail: elanien@afica.com
Website: www.groenbergenwiro.co.za

Department of Water and Sanitation (DWS/Waterreë)
Lower Orange River Proto CMA
Mnr. Abe Abrahams
Private Bag X6101
Kimberley, 8300
Tel: 053 830 8800

PUBLIC PARTICIPATION PROCESS AS PART OF A SECTION 24G APPLICATION PROCESS

Rectification of the construction of vineyards, dams and associated infrastructure on Erf 2125, Erf 1478, Erf 2141 and Erf 2255, Kakamas, Northern Cape Province

Notice is hereby given of a public participation process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Regulations relating to the procedure to be followed in terms of a Section 24G Application (July 2017)

The project consists of the unlawful development of agricultural development across small streams. The development commenced unlawfully and therefore a S24G Process is being undertaken. The following Environmental Impact Assessment (EIA) listed activities is applicable for the application for rectification:
ECA Act No 43 of 1989, GN 1997, R 1182 & 1183 Activity 1(i);
NEMA, Amended 2009, GN R 380 Activity 1 (m).

Additional to the Environmental process will also be a Water Use License Application (WULA), under Section 21 (a), (b), (c) and (d).
More information on the S24G Application and the WULA and work undertaken will be available in the Draft Assessment Report (S24G) which will be made available for comment on the website or the EAP in due course. This notification is for the opportunity to register as an Interested and Affected Party.

Date of this notice: 24 January 2020
In order to ensure that you are identified as an interested and/or affected party (I&AP) please submit your name, contact information and interest in the matter as well as any comment to the EAP before 17:00 on 14 February 2020.

Details of EAP
Elanie Kühn
GroenbërgEnwiro (Pty) Ltd
P.O. Box 1058, Wellington, 7654
Cell: 076 584 0822; Fax: 086 476 7134
E-mail: elanien@afica.com
Website: www.groenbergenwiro.co.za

Department of Water and Sanitation (DWS/Waterreë)
Lower Orange River Proto CMA
Mnr. Abe Abrahams
Private Bag X6101
Kimberley, 8300
Tel: 053 830 8800

WIMPY UPINGTON/DEBONAIRS PIZZA MOTORFIETS DRYWER

VEREISTES:

- Ouër as 18 jaar.
- Moët 'n motorfiets leëring/bestuurisensie besit.
- Moët met kliënte kan werk.
- Hardwerkend en vriendelike persoonlikheid.
- Bereid wees om lang ure te werk.

'n Ulers mededingende vergoedingspakket word aangebied.

Aansoek en volledige CV met bewys van lisensie kan gelêks word na: 0865 758 519 / 086 737 3108
of ge-e-mail word na: upwimpym@lantic.net

Indien u nie binne 14 dae na die sluitingsdatum deur ons gekontak is nie, moët u aanvaar u aansoek was onsuksesvol.

Onthou om jou posbus te hernu, sê die poskantoor

GEMSBOK-UPINGTON: Die SA Poskantoor sê kliënte wat posbusse huur, moët hulle jaarliks huur voor die einde van Januarie 2020 betaal.

Hernuwing sal R40 meer kos van 1 Februarie 2020 af. "Daar is baie posbusse beskikbaar; dit hou jou pos veilig en jy kan jou pos uithaal as dit jou pas," sê Shu Xaba van die Poskantoor.

Hy noem ook dat kliënte nie by die tak hoët te betaal waar hulle posbusse huur nie. Posbusse en privatsakke kan by enige poskantoor landwyd betaal word, en dit kan met 'n bankkaart of kontant gedoen word.

Posbusse kan ook aanlyn by www.virtualpostoffice.co.za betaal word.

Die kos R55 om 'n posbus vir 'n jaar lank te huur. Pensioenarisse kry 'n afslagprys van slegs R340.

Kliënte met navrae of terugvoer oor posbusse is welkom om 'n epos aan customer.services@postoffice.co.za te stuur

PUBLIC PARTICIPATION PROCESS AS PART OF A SECTION 24G APPLICATION PROCESS

Rectification of the construction of vineyards and associated infrastructure on Remainder of Farm Aftelof No. 421, Onseepkans, Northern Cape Province

Notice is hereby given of a public participation process in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Regulations relating to the procedure to be followed in terms of a Section 24G Application (July 2017)

The project consists of the unlawful development of approximately 57ha of vineyards, across natural vegetation and small streams, as well as the building of a dam.
The development commenced unlawfully and therefore a S24G Process is being undertaken. The following Environmental Impact Assessment (EIA) listed activities is applicable for the application for rectification:
NEMA, Amended 2002, GN R 488 Activity 1(i), 1(k) and 1(i);
NEMA, Amended 2006: GN R 544 - Activity 1; GN R 546 - Activity 12;

Additional to the Environmental process will also be a Water Use License Application (WULA), under Section 21 (a) and (b).
More information on the S24G Application and the WULA and work undertaken will be available in the Draft Assessment Report (S24G) which will be made available for comment on our website or the EAP in due course. This notification is for the opportunity to register as an Interested and Affected Party.

Date of this notice: 24 January 2020
In order to ensure that you are identified as an interested and/or affected party (I&AP) please submit your name, contact information and interest in the matter as well as any comment to the EAP before 17:00 on 14 February 2020.

Details of EAP
Elanie Kühn
GroenbërgEnwiro (Pty) Ltd
P.O. Box 1058, Wellington, 7654
Cell: 076 584 0822; Fax: 086 476 7134
E-mail: elanien@afica.com
Website: www.groenbergenwiro.co.za

Department of Water and Sanitation (DWS/Waterreë)
Lower Orange River Proto CMA
Mnr. Abe Abrahams
Private Bag X6101
Kimberley, 8300
Tel: 053 830 8800

PRIMERE SKOOL FRANCOIS VISSER PRIMARY SCHOOL

TEACHING POST (Departmental post) POST DESCRIPTION

LSEN Post

QUALIFICATION
A qualified Foundation Phase Teacher
SACE Register
Diploma in Special Needs Education - ADE

DOCUMENTATION
Copies of original documentation
Curriculum Vitae and other relevant documents
SACE Certificate

MEDIUM OF INSTRUCTION

Afrikaans

CLOSING DATE

31 January 2020

APPLY TO:

The Principal, Tel: 054 933 0159/073 299 3971
Fax: 054 933 0159
email: francoisvisserprim@gmail.com

PLASE TE KOOP PER TENDER NOORDKAAP - HOTAZEL - VAN ZYLSRUS - OMGEWING

Tenders word ingewag vir die verkoping van die plase bekend as:

1. RESTANT VAN GEDEELTE 13, (ALMERIA) VAN PLAAS 704 GELEË IN DIE AFDELING KURUMAN GROOT 1629,6492 HEKTAAR
2. GEDEELTE 20, MERINOVALE, VAN PLAAS NR 703 GELEË IN DIE AFDELING KURUMAN GROOT 1289,1613 HEKTAAR

Die eiendomme is geleë aan die Riviërpad tussen Black Rock en Van Zylsrus. Die drahting is 13 ha per Grootvee-Eiendomme. Die eiendomme grens aan mekaar en kan gesamentlik of afsonderlik aangekoop word.

Tenders moet in Rand per hekaar plus BTW geleen word en moet ingehandig word in 'n verskeide koevert by die kantore van Duvenhage & Van der Merwe Ingeelyf, Besaerstraat 525, Kuruman voor of op Vrydag 14 Februarie 2020 om 12:00. Die suksesvolle tenderaar, indien enige, sal in kennis gestel word nie later as 21 Februarie 2020 nie. Die hoogte of enigste tender sal nie noodwendig aanvaar word nie. Volledige verkoopvoorwaardes en tenderdokumente is beskikbaar by Duvenhage & Van der Merwe Ingeelyf te Kuruman.

Navrae: Famie van Zyl (053) 030 0094/6 of 072 376 3143
Hans Kruger (053) 030 0094/5 of 081 406 5888

E-pos adres: marlene@dvmprok.co.za
Posbus 63 Kuruman 8460

Process Advertisement.

Will be included in the Final Assessment Report.

APPENDIX F3: NOTICE BOARDS

Will be included in the Final Assessment Report.

APPENDIX F4: PROOF OF NOTICES

Will be included in the Final Assessment Report.

APPENDIX F5: NOTICES SENT

Appendix F5.1: Proof of Notices to Authorities

Will be included in the Final Assessment Report.

Appendix F5.2: Letter to I&AP's

Will be included in the Final Assessment Report.

APPENDIX F6: PROOF OF NOTICES SENT

Appendix F6.1: Emails:

Will be included in the Final Assessment Report.

Appendix F6.2: Proof of reports and letters sent.
Will be included in the Final Assessment Report.

APPENDIX F7: COMMENTS RECEIVED

Will be included in the Final Assessment Report.

APPENDIX F8: COMMENTS AND RESPONSES SHEET

COMMENTS ON DRAFT ASSESSMENT REPORT				
Date	Comments from.	Comments received.	Response from.	Response received.

APPENDIX F9: RESPONSES TO COMMENTS FROM SPECIALISTS
Will be included in the Final Assessment Report.

APPENDIX G: MEETINGS HELD

APPENDIX G1: ATTENDANCE REGISTER OF MEETING HELD

APPENDIX H: SPECIALIST REPORTS

APPENDIX H1.1: ARCHAEOLOGY REPORT

ARCHAEOLOGICAL IMPACT ASSESSMENT

**S24G Application, illegal vineyard development on
Norriseep, Rem of the Farm Afstof No. 421, near
Onseepkans, Kai! Ma Municipality, Northern Cape**

Assessment conducted under Section 38 (3) of the National Heritage Resource Act
(No. 25 of 1999)

Prepared for:

GROENBERGENVIRO (PTY) LTD

PO Box 1058, Wellington, 7654

E-mail: Elaniem@africa.com

Applicant:

CAPESPAN FARMS (Pty) Ltd

By



ACRM

5 Stuart Road, Rondebosch, 7700

Mobile: 082 321 0172

E-mail: acm@wcaccess.co.za

**JULY
2020**

Executive summary

1. Introduction

ACRM was instructed by GroenbergEnviro to conduct an Archaeological Impact Assessment (AIA) for an illegal vineyard development on the farm Norriseep, (Rem of Farm Afstof No. 421) near Onseepkans, Kai! Ma Municipality, in the Northern Cape Province.

The illegal vineyards, totally about 56ha in extent, were established between 2006 and 2007 without environmental authorisation.

The AIA forms part of a Section 24G Application process which is designed to legally correct an unauthorised development.

2. Legal requirements

In terms of Section 38 (1) (c) (iii) of the National Heritage Resources Act 1999 (Act 25 of 1999), a Heritage Impact Assessment (HIA) of the proposed project is required if the footprint area of the development is more than 5000m² in extent.

A HIA of the agricultural development was not undertaken at the time.

3. Aim of the AIA

The overall purpose of the AIA is to determine the impacts that the unauthorised development had on archaeological resources.

4. Limitations

There were no limitations associated with the field study.

5. Findings

A field assessment of the agricultural development took place on 13th July 2020, in which the following observations were made:

No archaeological resources were recorded in the 56ha footprint area of the development. Combined, the three blocks of (illegal) vineyards constitute a highly transformed landscape.

No archaeological resources were encountered in the surrounding area, either. Previous archaeological assessments undertaken in Onseepkans, has noted the very low density of archaeological resources in the area.

6. Built environment

No old buildings, structures, features or equipment were recorded on the farm.

7. Graves

A small, graveyard is located on the farm, but the fenced off site is situated some distance from the vineyard development

No other graves or typical grave features were encountered during the study.

8. Impact statement

The results of the study suggest that the listed activity (i. e. an unauthorised vineyard development), has likely, not had an impact of great significance on archaeological resources.

9. Conclusion

The receiving environment (i. e. existing vineyards) comprises a severely transformed landscape.

The literature survey indicates that it is unlikely that significant archaeological resources would have been impacted by the development.

The impact significance of the illegally established vineyards on archaeological heritage is therefore assessed as LOW

10. Recommendations

1. With regard to the illegal establishment of vineyards on the Farm Norriseep (Rem. of Farm Afstof No. 421), no further archaeological mitigation is required.

Table of Contents

	Page
Executive summary	1
1. INTRODUCTION	4
2. HERITAGE LEGISLATION	5
3. TERMS OF REFERENCE	6
4. THE STUDY SITE	6
5. STUDY APPROACH	8
5.1 Method of survey	8
5.2 Constraints and limitations	9
5.3 Results of the desk top study	9
6. FINDINGS	9
6.1 Illegal vineyard development (S24G Process)	9
6.2 Built Environment	10
6.6 Graves	10
7. ASSESSMENT OF IMPACTS	10
8. CONCLUSION	10
9. RECOMMENDATIONS	11
10. REFERENCES	11

1. INTRODUCTION

ACRM was instructed by GroenbergEnviro, on behalf of CapeSpan Farms (Pty) Ltd to conduct an Archaeological Impact Assessment (AIA) for an illegal vineyard development on the Farm Norriseep (Rem of Farm Afstof 421) near Onseepkans, Kail Ma Municipality in the Northern Cape (Figures 1-3). The AIA forms part of a Section 24G Application. A S24G Application is a process in which to legally correct an unauthorised development.

The illegal vineyards, totalling 58ha, were established between 2006 and 2007 without environmental authorisation (Kühn 2019).

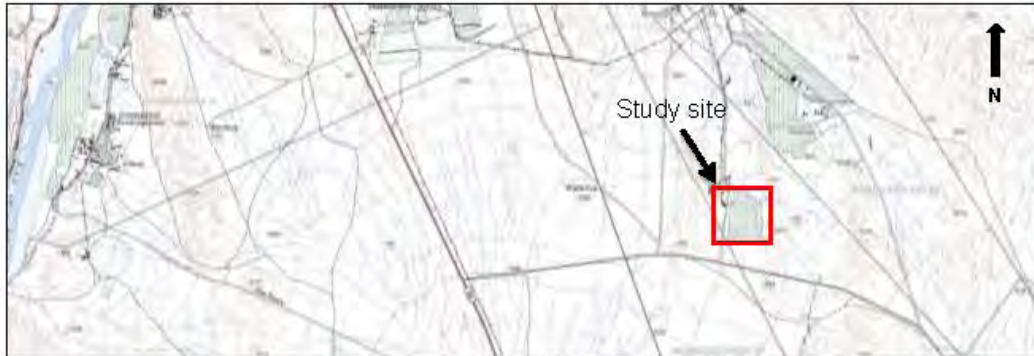


Figure 1. Locality Map (2819CB Augrabies). Red polygon illustrates the location of the study area

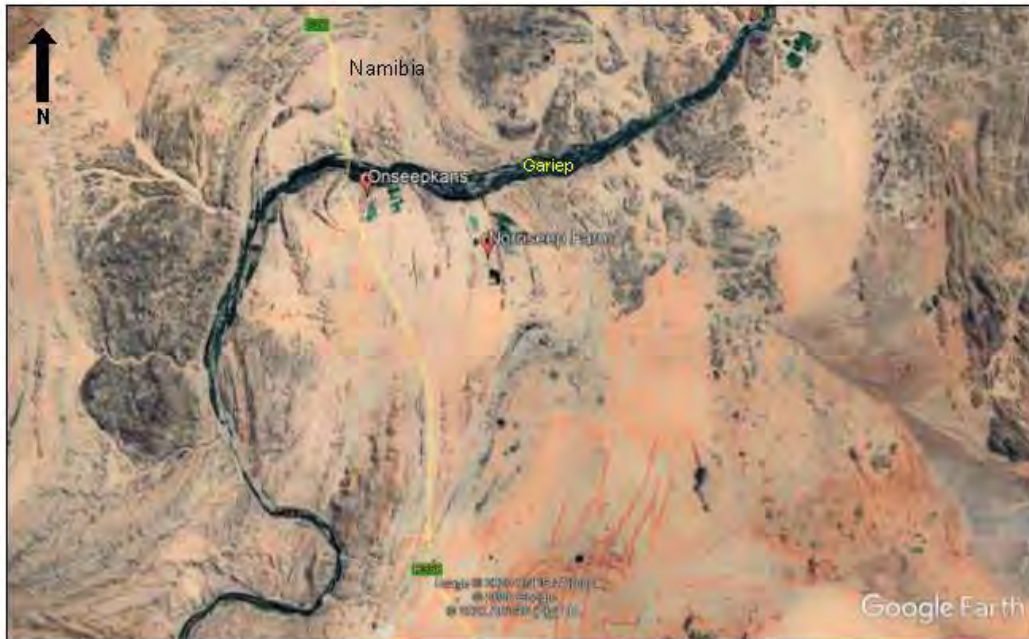


Figure 2. Google satellite map illustrating the location of the study site in relation to Onseepkans.

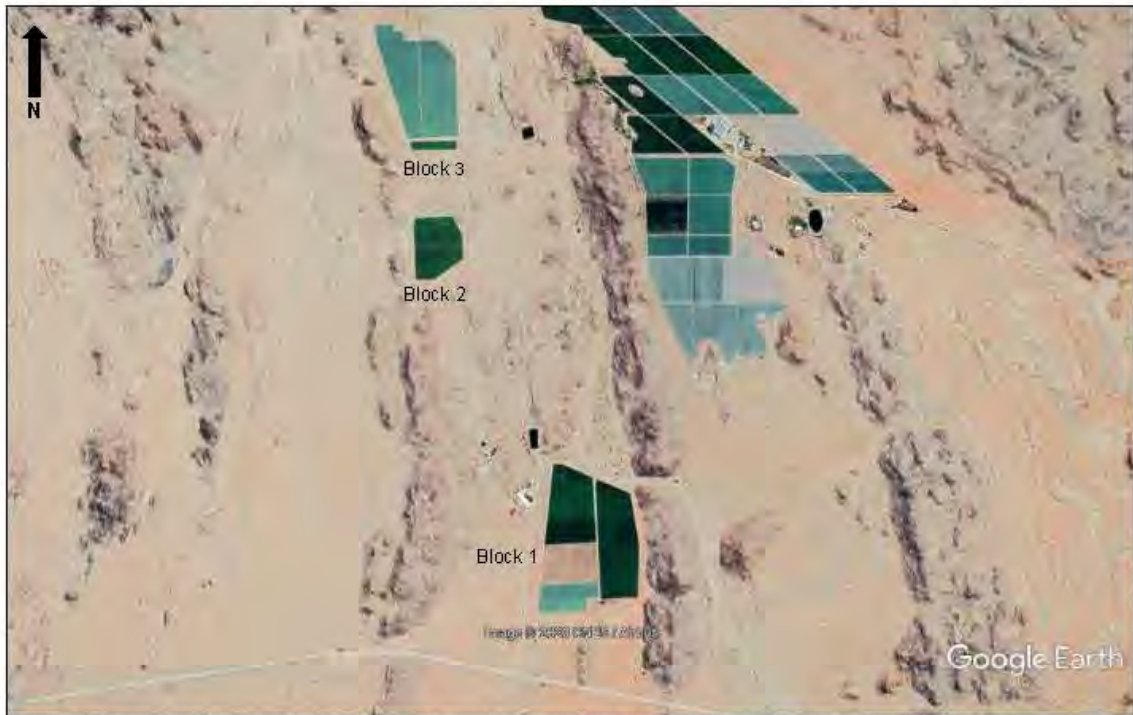


Figure 4. Google satellite map indicating the 3 Blocks of vineyards illegally developed between 2006 & 2007

2. HERITAGE LEGISLATION

The National Heritage Resources Act (Act No. 25 of 1999) makes provision for a compulsory Heritage Impact Assessment (HIA) when an area exceeding 5000 m² is being developed. This is to determine if the area contains heritage sites and to take the necessary steps to ensure that they are not damaged or destroyed during development.

The NHRA provides protection for the following categories of heritage resources:

- Landscapes, cultural or natural (Section 3 (3))
- Buildings or structures older than 60 years (Section 34);
- Archaeological sites, palaeontological material and meteorites (Section 35);
- Burial grounds and graves (Section 36);
- Public monuments and memorials (Section 37);
- Living heritage (defined in the Act as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge

systems and the holistic approach to nature, society and social relationships) (Section 2 (d) (xi)).

3. TERMS OF REFERENCE

The terms of reference for the archaeological study were to:

- Determine whether there are likely to be any archaeological resources that may have been impacted by the proposed development activities;
- Identify potentially sensitive archaeological areas, and
- Recommend any mitigation action.

4. THE STUDY SITE

Norriseep is located on Rem. of Farm Afstof No. 421, adjacent the Gariiep/Orange River, about 5kms north-east from Onseepkans.

The three blocks of vineyards, totally ± 56ha were illegally developed between 2006 and 2007 (Figure 4-9).



Figure 4. Block 1 (26ha). View facing south

Archaeological Impact Assessment, illegal vineyard development on the Farm Norriseep near Onseepkans, Northern Cape



Figure 5. Block 1. View facing south west



Figure 6. Block 1. View facing north west



Figure 7. Block 2 (8ha). View facing north east



Figure 8. Block 3 (22ha). View facing north east



Figure 9. Block 3. View facing north west

5. STUDY APPROACH

5.1 Method of survey

The overall purpose of the AIA is to determine the impacts that the illegal development had on archaeological resources.

To this end a site assessment was undertaken on the 13th July, 2020.

A literature survey was also carried out to assess the archaeological context of the surrounding area.

5.2 Constraints and limitations

There were no constraints or limitations associated with the study. Access to the farm was easy and archaeological visibility was very good.

5.3 Results of the desk top study

Kaplan (2013, 2017) and Engelbrecht (2015) recorded very small numbers of pre-colonial archaeological resources in the course of surveys covering large parcels of land in Onseepkans while Dreyer (2008) recorded no archaeological resources during an investigation of 14 borrow pits alongside the R362 between Pofadder and Onseepkans. Beaumont (2008) also recorded no archaeological resources during a survey of the farm Sty-Kraal near Onseepkans.

6. FINDINGS

6.1 Illegal vineyard development

No archaeological resources were recorded in the illegally developed vineyards on the Farm Norriseep. Combined, the 56ha of cultivated vineyards constitute a highly transformed and modified landscape.

No archaeological resources were recorded in the surrounding area.



Figure 10. Trackpaths in blue (site assessment undertaken on 13th July, 2020)

6.1 Built environment

No old buildings, structures, features or equipment were recorded on the farm.

6.2 Graves

A small family graveyard was recorded on the farm, but is located a considerable distance from the illegal vineyard development (Figure 11).



Figure 11. Family graveyard

7. ASSESSMENT OF IMPACTS

In the case of an illegal vineyard development on the Farm Norriseep (Rem of the Farm Afstof 421), it is expected that impacts on archaeological heritage are likely to have been *LOW*. This is based on a field assessment, as well as a desktop study of previous archaeological work undertaken in the Onseepkans area.

8. CONCLUSION

Cultivation of illegal vineyards on the Farm Norriseep (Rem. of Farm Afstof 421) has fundamentally transformed the receiving environment.

The literature survey indicates that it is unlikely that significant archaeological resources were impacted by the development.

The impact significance of the illegally established vineyards on archaeological heritage is therefore assessed as *LOW*.

9. RECOMMENDATIONS

With regard to the illegal development of vineyards on the Farm Norriseep (Rem of Farm Afstof No. 421), the following recommendations are made:

1. No further archaeological mitigation is required.

10. REFERENCES

Beaumont, P. 2008. Phase 1 Heritage Impact Assessment report on a portion of the Remainder of the Farm Sty-Kraal 81 near Onseepkans, Siyanda District Municipality, Northern Cape Province. Report prepared for MEG Environmental Impact Studies. McGregor Museum, Kimberley. Cobus Dreyer Pr Archaeologist/Heritage Specialist.

Dreyer, K. 2008. First Phase Archaeological and Cultural Heritage Assessment of the proposed upgrading of the R358 road and borrow pit sites between Pofadder and Onseepkans, Northern Cape.

Engelbrecht, J. 2015. Archaeological Impact Assessment for the proposed agricultural development at Onseepkans in the Northern Cape Province. Report prepared for Enviroafrica. Ubique Heritage Consultants (Pty) Ltd. Ashkam

Kaplan, J. 2013. Archaeological Impact Assessment for the Proposed Eskom Pofadder-Luiperdshoek 11kv Powerline Project

Kaplan, J. 2015. Heritage Impact Assessment, proposed pump station, solar energy farm, storage reservoir and development of agricultural land at Onseepkans, Northern Cape Province. Report prepared for Enviroafrica. ACRM, Cape Town

Kühn, E. 2019. S24G Application Form. Norriseep – Cultivation of vineyards across small streams, and development of a pack house on Remainder of Farm Afstof No. 421, Northern Cape Province. Report prepared for Capespan Farms (Pty) Ltd. GroenbergEnviro, Wellington.

APPENDIX H1.2: PALEONTOLOGY REPORT

PALAEONTOLOGICAL ASSESSMENT: RECOMMENDED EXEMPTION FROM FURTHER PALAEONTOLOGICAL STUDIES

Rectification of agricultural developments on Farm Norriseep (Remainder of Farm Afstof No. 421) near Onseepkans, Kai! Ma Municipality, Northern Cape

John E. Almond PhD (Cantab.)
Natura Viva cc,
PO Box 12410 Mill Street,
Cape Town 8010, RSA
naturaviva@universe.co.za

August 2020

Executive summary

Unauthorized agricultural developments have been undertaken on the farm Norriseep (Remainder of Farm Afstof No. 421) situated on the eastern outskirts of Onseepkans in the Kai! Ma Municipality, Northern Cape Province. The development footprint is underlain at depth by (1) ancient Precambrian metamorphic bedrocks that do not contain fossils as well as (2) sparsely fossiliferous or unfossiliferous superficial sediments (stream alluvium, aeolian sands, surface gravels) of probable Quaternary to Recent age. Ancient alluvial terraces (potentially fossiliferous "High Level Gravels") are not mapped or likely to be present in the study area. In view of the small, highly disturbed development footprint and the generally low palaeontological sensitivity of the study region, no further specialist studies or mitigation are considered necessary for this project, as far as fossil heritage is concerned. However, should significant fossil remains (e.g. vertebrate bones and teeth) be encountered during construction, the responsible ECO should inform SAHRA at the earliest opportunity to consider possible mitigation measures. A tabulated Chance Fossil Finds Procedure is appended to this report.

1. Project description

The present palaeontological assessment report forms part of a Section 24G Rectification process for unauthorized development by Capespan Farms (Pty) Ltd of vineyards totalling about 56 ha in extent on the farm Norriseep, (Remainder of Farm Afstof No. 421) situated on the eastern outskirts of Onseepkans, Kai! Ma Municipality, in the Northern Cape Province. The project area lies on the southern banks of the Orange River (Gariep) and c. 2.75 km east of the R358 road south to the N14 (Fig. 1).

The Section 24G Rectification process for this agricultural development is being co-ordinated by Groenbergenviro (Pty) Ltd (Contact details: Ms Elanie Kühn. GroenbergEnviro (Pty) Ltd, PO Box 1058 Wellington 7654. Cell: 0765840822. E-mail: Elaniem@iafrica.com). The present report contributes to the heritage component of the process under the aegis of Mr Jonathan Kaplan of ACRM (5 Stuart Road, Rondebosch, 7700. Ph/Fax: 021 685 7589. Cell: 082 321 0172. E-mail: acrm@waccess.co.za).

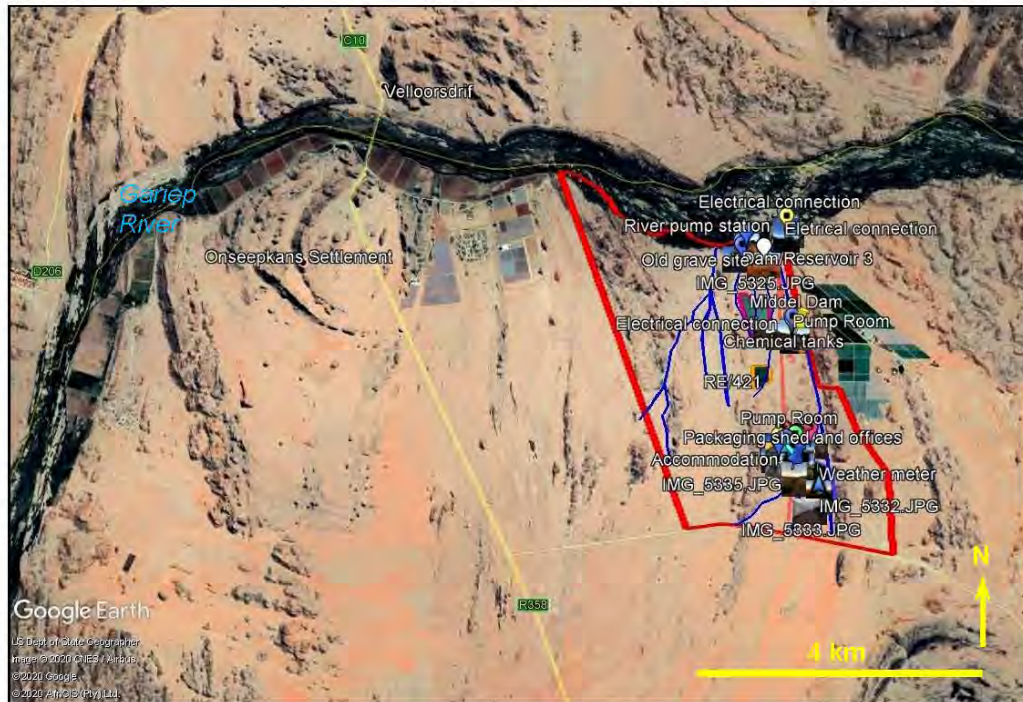


Figure 1. Google earth© satellite image showing the location of the unauthorized developments situated on the Farm Norriseep, (Remainder of Farm Afstof No. 421) situated on the eastern outskirts of Onseepkans, Kai! Ma Municipality, in the Northern Cape Province. The development area is now highly disturbed.

2. Geological and palaeontological context

The agricultural project area on the Farm Norriseep (Remainder of Farm Afstof No. 421) comprises arid terrain between c. 375 and 570 m amsl, located on the southern bank of the Orange River (Gariep) just east of Onseepkans (Fig. 1). The terrain slopes broadly towards the river and is traversed by several roughly N-S trending rocky ridges. Elsewhere the project area is largely mantled by yellowish to orange-hued alluvial sands (possibly with some aeolian re-working) and gravels. It is also extensively disturbed by previous agricultural activities, as shown by illustrations in the AIA report for this project by Kaplan (2020).

The geological context of the study area is shown on the 1: 250 000 geology sheet 2818 Onseepkans (Fig. 2; Council for Geoscience, Pretoria) (Moen & Toogood 2007). The underlying bedrocks are ancient Precambrian high-grade metamorphic basement rocks including **Kobooop Gneiss** (Kcb, pink) and **Onseepkans Formation** pelitic metamorphic rocks (Kon, pale brown). These basement rocks are assigned to the **Namaqua-Natal Province** that are some 1.5 billion years old and entirely unfossiliferous (Cornell *et al.* 2006, Almond & Pether 2008).

Much of the study area is elevated well above the present course of the Gariep, so ancient (Tertiary - Quaternary), consolidated alluvial gravels of the Orange River system – which are known to be highly fossiliferous elsewhere along the Orange (*e.g.* Partridge *et al.* 2006) – are not likely present here, unless buried at depth (which is unlikely). Neither “High Level Gravels” nor the commonly associated diamond prospecting symbols are mapped in the region on the 1: 250 000 geological sheet (Fig. 2). Superficial sediments away from the main drainage courses largely comprise surface gravels (mainly alluvial, sheetwash and deflation deposits) and yellowish or

orange-hued aeolian and locally-derived sands. The reddish sands seen on satellite images in the wider region may in part be assigned to the upper part of the **Kalahari Group (Gordonia Formation)** of late Caenozoic (Neogene / Quaternary) age while the alluvial sediments within the project area itself are probably of a similar, geological youthful age. Although fossil remains are occasionally encountered in these younger fluvial and terrestrial units – for example reworked mammalian bones and teeth, freshwater molluscs, calcretised root casts, termitaria, ostrich egg shells, land snail shells (Almond 2008, Almond & Pether 2008 and refs. therein) - they are sparsely distributed and occur over a very wide area, so the chances of serious impacts on unique fossil heritage resources here are only slight.

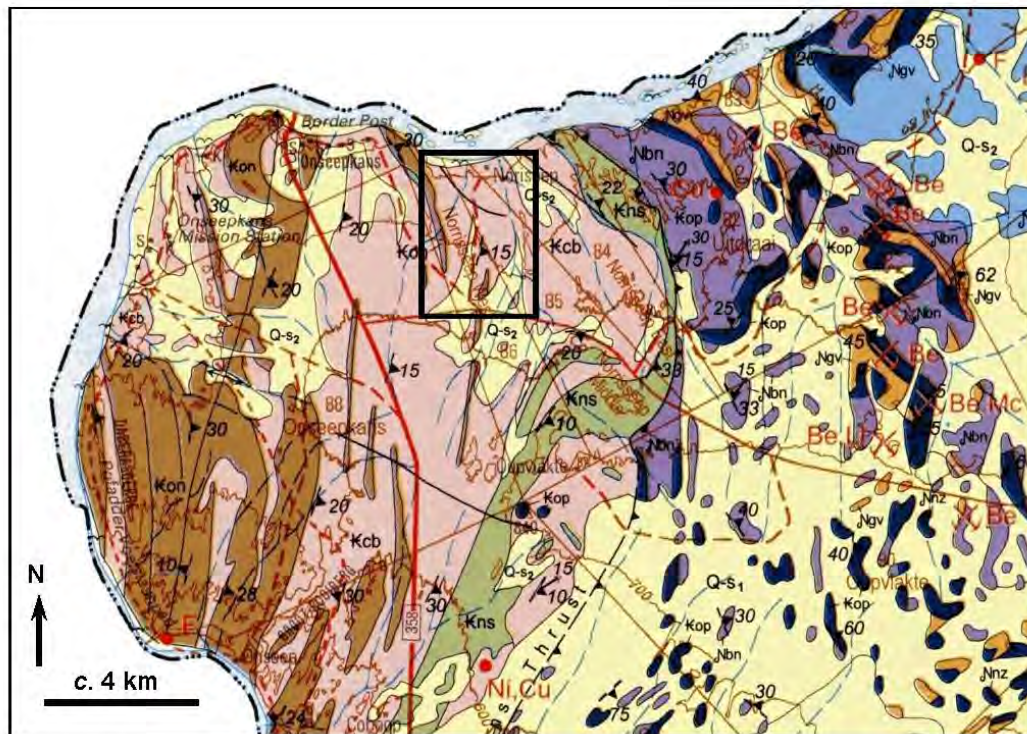


Figure 2. Extract from 1: 250 000 geology sheet 2818 Onseepkans (Council for Geoscience, Pretoria) showing the *approximate* location of the agricultural project area on the Farm Norriseep, (Remainder of Farm Afstof No. 421) near Onseepkans, Kai! Ma Municipality, Northern Cape Province (black rectangle). The project area is underlain at depth by bedrocks of the Kobooop Gneiss (Kcb, pink) and Onseepkans Formation pelitic metamorphic rocks (Kon, pale brown) that form part of the Precambrian (Proterozoic) Namaqua-Natal Metamorphic Province. At surface parts the project area is mantled by various Late Caenozoic sands and gravels of alluvial and colluvial origin (Qs2, pale yellow) that are probably of Quaternary to Recent age. Older alluvial gravels (“High Level Gravels”) are not mapped along this sector of the Orange River.

3. Conclusions & recommendations

In view of the negligible palaeontological sensitivity of the ancient Precambrian granitoid bedrocks as well as the low sensitivity of the geologically recent superficial sediments along shallow stream

tributaries of the Gariiep River in the broader Onseepkans region, the unauthorized agricultural developments on the farm Norriseep are not considered to pose a significant threat to local palaeontological heritage. Substantial, potentially-fossiliferous older alluvial deposits of the Orange River are not mapped here.

Pending any significant new fossil discoveries in the area, no further specialist studies or mitigation are considered necessary for this agricultural project.

All South African fossil heritage is protected by the National Heritage Resources Act, 1999. Should substantial fossil remains - such as vertebrate bones and teeth, or petrified logs of fossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably *in situ*. They should then alert the relevant provincial heritage management authority as soon as possible - *i.e.* SAHRA (Contact details: Dr Ragna Redelstorff, SAHRA, P.O. Box 4637, Cape Town 8000. Tel: 021 202 8651. Email: rredelstorff@sahra.org.za). This is to ensure that appropriate action (*i.e.* recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer's expense. A tabulated Chance Fossil Finds Procedure is appended to this report.

Please note that:

- All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;
- The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (*e.g.* museum or university collection);
- All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (*e.g.* data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by SAHRA (2013).

4. Key references

ALMOND, J.E. 2017. Proposed new vineyard development on Farm 1726 Renosterkop, Farm 1290 & Farm 1537 Augrabies, Northern Cape. Palaeontological assessment: recommended exemption from further palaeontological studies, 17 pp. Natura Viva cc, Cape Town.

ALMOND, J.E. & PETHER, J. 2008. Palaeontological heritage of the Northern Cape (August 2008 draft), 125 pp. Unpublished palaeotechnical report for SAHRA.

CORNELL, D.H., THOMAS, R.J., MOEN, H.F.G., REID, D.L., MOORE, J.M. & GIBSON, R.L. 2006. The Namaqua-Natal Province. *In*: Johnson, M.R., Anhaeusser, C.R. & Thomas, R.J. (Eds.) The geology of South Africa, pp. 461-499. Geological Society of South Africa, Marshalltown.

KAPLAN, J. 2020. S24G Application, illegal vineyard development on Norriseep, Rem of the Farm Afstof No. 421, near Onseepkans, Kai! Ma Municipality, Northern Cape. Archaeological Impact Assessment, 12 pp. ACRM, Rondebosch.

McCARTHY, T. & RUBIDGE, B. 2005. The story of Earth and life: a southern African perspective on a 4.6-billion-year journey. 334pp. Struik, Cape Town.

MOEN, H.F.G. 2007. The geology of the Upington area. Explanation to 1: 250 000 geology Sheet 2820 Upington, 160 pp. Council for Geoscience, Pretoria.

MOEN, H.F.G. & TOOGOOD, D.J. 2007. The geology of the Onseepkans area. Explanation to 1: 250 000 geology Sheet 2818, 101 pp. Council for Geoscience, Pretoria.

PARTRIDGE, T.C., BOTHA, G.A. & HADDON, I.G. 2006. Cenozoic deposits of the interior. In: Johnson, M.R., Anhaeusser, C.R. & Thomas, R.J. (Eds.) The geology of South Africa, pp. 585-604. Geological Society of South Africa, Marshalltown.

SAHRA 2013. Minimum standards: palaeontological component of heritage impact assessment reports, 15 pp. South African Heritage Resources Agency, Cape Town.

5. Qualifications & experience of the author

Dr John Almond has an Honours Degree in Natural Sciences (Zoology) as well as a PhD in Palaeontology from the University of Cambridge, UK. He has been awarded post-doctoral research fellowships at Cambridge University and in Germany, and has carried out palaeontological research in Europe, North America, the Middle East as well as North and South Africa. For eight years he was a scientific officer (palaeontologist) for the Geological Survey / Council for Geoscience in the RSA. His current palaeontological research focuses on fossil record of the Precambrian - Cambrian boundary and the Cape Supergroup of South Africa. He has recently written palaeontological reviews for several 1: 250 000 geological maps published by the Council for Geoscience and has contributed educational material on fossils and evolution for new school textbooks in the RSA.

Since 2002 Dr Almond has also carried out palaeontological impact assessments for developments and conservation areas in the Western, Eastern and Northern Cape, Limpopo, Mpumalanga, Northwest, Free State and KwaZulu-Natal under the aegis of his Cape Town-based company *Natura Viva* cc. He was a long-standing member of the Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC) and an advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA. He is currently compiling technical reports on the provincial palaeontological heritage of Western, Northern and Eastern Cape for SAHRA and HWC. Dr Almond is an accredited member of PSSA and APHP (Association of Professional Heritage Practitioners – Western Cape).

Declaration of Independence

I, John E. Almond, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



Dr John E. Almond
Palaeontologist (*Natura Viva* cc)

CHANCE FOSSIL FINDS PROCEDURE: Agricultural developments on farm Norriseep, (Remainder of Farm Afstof No. 421) near Onseepkans		
Province & region:	NORTHERN CAPE, Kai! Ma Municipality	
Responsible Heritage Resources Authority	SAHRA (Contact details: P.O. Box 4637, Cape Town 8000. Tel: 021 462 4502)	
Rock unit(s)	Late Caenozoic alluvium, aeolian sands	
Potential fossils	Mammalian bones and teeth, freshwater molluscs, calcretised root casts, termitaria, ostrich egg shells, land snail shells	
ECO protocol	1. Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately (<i>N.B.</i> safety first!), safeguard site with security tape / fence / sand bags if necessary.	
	2. Record key data while fossil remains are still <i>in situ</i> : Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo Context – describe position of fossils within stratigraphy (rock layering), depth below surface Photograph fossil(s) <i>in situ</i> with scale, from different angles, including images showing context (<i>e.g.</i> rock layering)	
	3. If feasible to leave fossils <i>in situ</i> : Alert Heritage Resources Authority and project palaeontologist (if any) who will advise on any necessary mitigation Ensure fossil site remains safeguarded until clearance is given by the Heritage Resources Authority for work to resume	3. If <i>not</i> feasible to leave fossils <i>in situ</i> (emergency procedure only): <i>Carefully</i> remove fossils, as far as possible still enclosed within the original sedimentary matrix (<i>e.g.</i> entire block of fossiliferous rock) Photograph fossils against a plain, level background, with scale Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist Alert Heritage Resources Authority and project palaeontologist (if any) who will advise on any necessary mitigation
	4. If required by Heritage Resources Authority, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.	
	5. Implement any further mitigation measures proposed by the palaeontologist and Heritage Resources Authority	
Specialist palaeontologist	Record, describe and judiciously sample fossil remains together with relevant contextual data (stratigraphy / sedimentology / taphonomy). Ensure that fossils are curated in an approved repository (<i>e.g.</i> museum / university / Council for Geoscience collection) together with full collection data. Submit Palaeontological Mitigation report to Heritage Resources Authority. Adhere to best international practice for palaeontological fieldwork and Heritage Resources Authority minimum standards.	

APPENDIX H2: BOTANICAL REPORT



Bergwind Botanical Surveys & Tours CC.

14A Thomson Road

Claremont

Cape Town

7708

13 January 2021

TERRESTRIAL BIODIVERSITY COMPLIANCE STATEMENT: NORISEEP (CAPESPAN), ONSEEPKANS, KHÂI-MA LOCAL MUNICIPALITY, NAMAKWA DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE, FOR PURPOSES OF S24G APPLICATION

As the appointed botanical specialist for assessment of the terrestrial biodiversity (botany) of Remainder of Farm Afstof No. 421, Kenhardt, (known as Noriseep), Khâi-Ma Local Municipality, Northern Cape Province, I hereby verify that:

Section 1.

- (a) I conducted a site visit 15 July 2020.
- (b) The impact of agricultural development due to cultivation of vineyards across small streams, and development of a pack house, on the natural vegetation of Noriseep was investigated.

Section 2.

a. **Specialist:** Dr David J. McDonald, Bergwind Botanical Surveys & Tours CC, 14A Thomson Road, Claremont. Telephone: 021-671-4056; mobile – 082-876-4051.
SACNASP Reg. No. 400094/06 Ecological Science (Curriculum vitae appended)

b. Declaration of independence:

I David Jury McDonald, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I, in terms of the general requirement to be independent, other than fair remuneration for work performed in terms of this application:

- (i) have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity;
- (ii) in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- (iii) have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- (iv) am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).



tel+27 21 671-4056 mobile:082-876-4051 e-mail:dave@bergwind.co.za
web:www.bergwind.co.za

C:\2005\136298\03

1. Location

The farm known as 'Noriseep' (Remainder of Farm Afstof No. 421, Kenhardt, Khâi-Ma Local Municipality) (Figure 1) lies south of the Orange or Gariep River, near to and east of Onseepkans, Northern Cape Province. The longitudinal axis of the property lies northwest-southeast. The northern boundary is at the river and the southern is at the gravel road between the R 358 and Styrkraal.

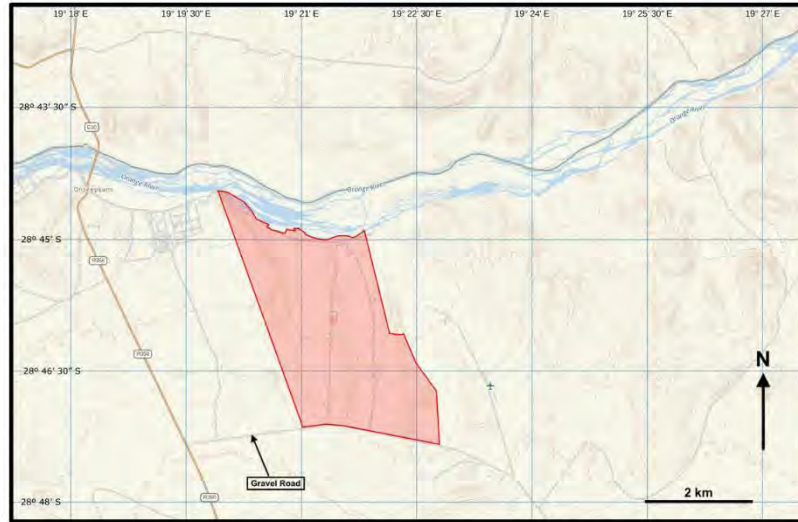


Figure 1. Location of Noriseep farm (red shading) near Onseepkans in the Northern Cape Province.

2. Disturbance regime

Historical satellite imagery from Google Earth™ was examined from 2007 to the present. This provided a chronological overview of the changes that have taken place over the above timespan at Noriseep with respect to plants and habitat.

In 2007 only Block 1 had been developed with vineyards. The Middle Dam and Pakstoor Dam had been built and were already functional (Figure 2).

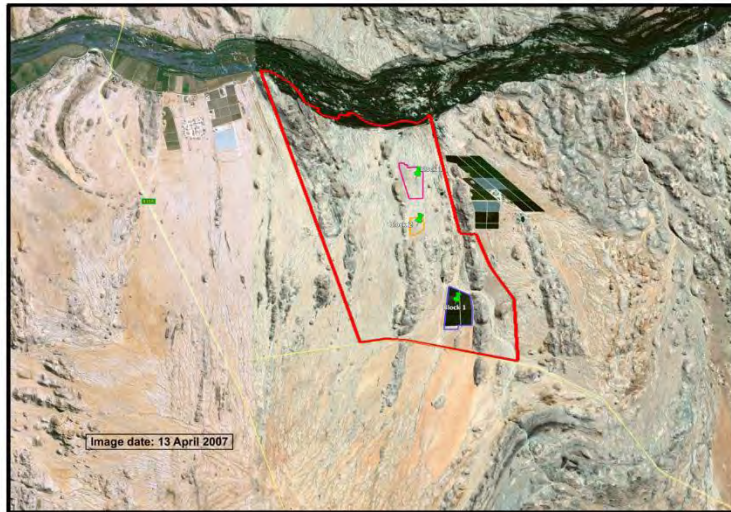


Figure 2. Aerial image (Google Earth™) of 2007, showing the Noriseep study area. Only Block 1 had been developed at that stage and the Middle and Pakstoor Dams were in place.

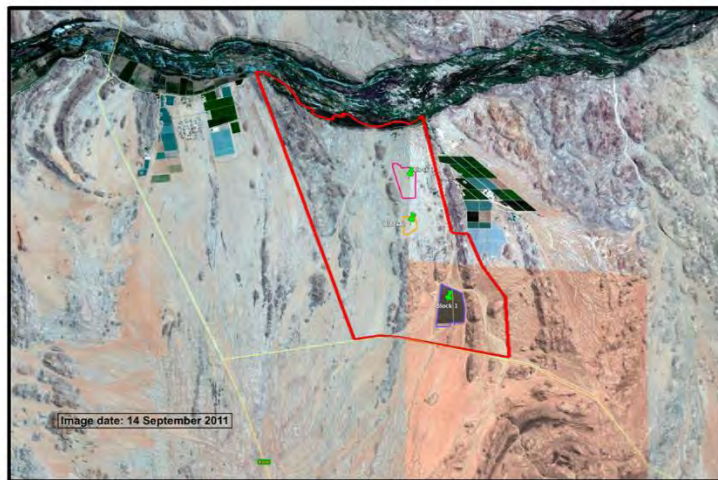


Figure 3. Aerial image (Google Earth™) of 14 September 2011. Block 1 and some infrastructure had been developed by this time but blocks 2 and 3 had not been developed yet.



Figure 4. Aerial image (Google Earth™) of Noriseep, taken on 16 January 2015. At this time Block 1 was fully established and blocks 2 and 3 were being developed.

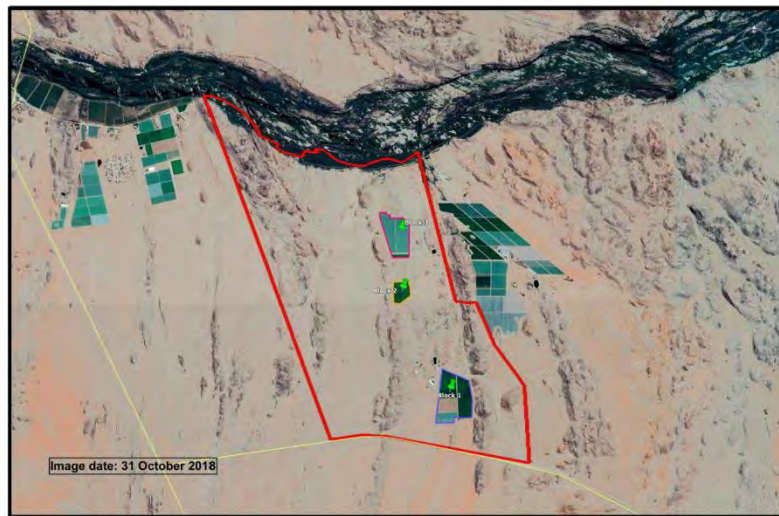


Figure 5. Aerial image (Google Earth™) of 31 October 2018. The three vineyard blocks were fully established and other infrastructure was in place.

Development proceeded after 2011 (Figure 3) with the vineyards established in blocks 2 and 3 sometime between 2011 and 2015 (Figure 4). By 2018 all the vineyards had been established and no further expansion of areas under vineyard were observed (Figure 5).

3. Vegetation Types

The vegetation types found at Noriseep, according to Mucina *et al.* (2006), are mainly Eastern Gariep Rocky Desert, a small area of Eastern Gariep Plains Desert away from the Orange River, and Lower Gariep Alluvial Vegetation along the river. Vineyard blocks 2 and 3 lie within an area mapped as Eastern Gariep Rocky Desert and Block 1 is partly within Eastern Gariep Plains Desert (Figure 6). The two dams and other infrastructure are all in the area mapped as Eastern Gariep Rocky Desert.

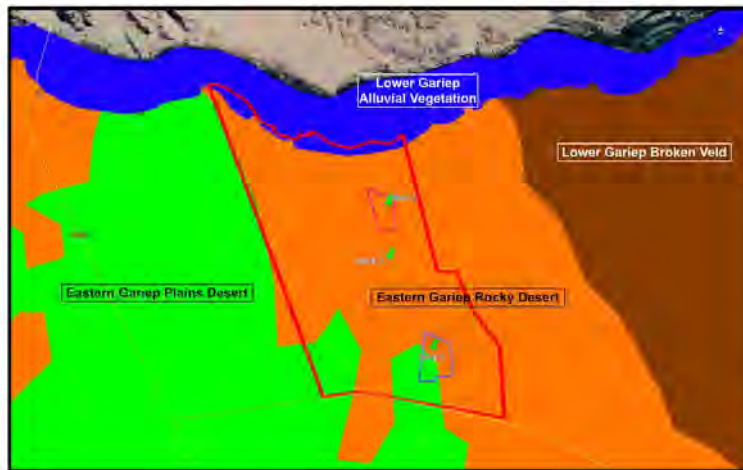


Figure 6. Portion of the Vegetation Map of South Africa, Swaziland and Lesotho showing the farm 'Noriseep' outlined in red, lying mainly within Eastern Gariep Rocky Desert and to a limited extent in Eastern Gariep Plains Desert.

4. The Survey

The survey at the farm was conducted in winter (15 July 2010) for a period of three hours to determine what natural vegetation and habitat had been removed or altered to accommodate the expansion of agricultural activities (vineyards) I was accompanied by the *Noriseep*, Mr Rohan Hansen, who showed me various parts of the farm where the unauthorised activities had taken place. Eighty photographs that were automatically geotagged were taken to record the condition and other aspects of the site. Some of the photos with their co-ordinates are used below to illustrate the impacts noted (Table 1).

The satellite image of Noriseep for 16 July 2020 (one day after the survey!) was used for the fine-scale mapping of Noriseep (Figure 7). The two vegetation types Eastern Gariep Rocky Desert (Figures 8 & 9) and Eastern Gariep Plains Desert (Figures 8, 10–15) were mapped to show that the vineyards have been established in 'plains' areas that are actually zone of seasonal 'sheet wash', a typical habitat of low-lying areas that drain towards the Orange River.

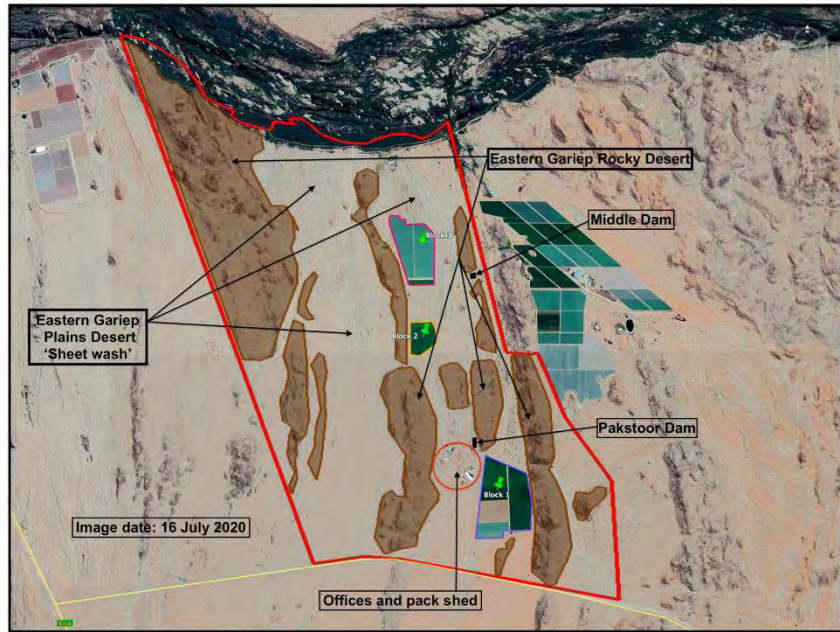


Figure 7. Fine-scale map of the vegetation of Noriseep (red boundary) overlaid on a Google Earth™ image of 16 July 2020. The vineyards and other farm infrastructure are all located in the low-lying, less rocky 'sheet wash' plains of typical Eastern Gariep Plains Desert between the rocky hills that support Eastern Gariep Rocky Desert.



Figure 8. Typical undisturbed Eastern Gariep Plains Desert lying in the lowland between the rocky hills.



Figure 9. The interface between the rocky hills and the low-lying plains.



Figure 10. Gravel road and vineyard of Block 2 lying east of the rocky hills that run down the centre of Noriseep on the long axis of the farm.



Figure 11. Vineyard Block 2 in the mid-ground and Block 3 in the background, lower on the sloping terrain that leads to the Orange River.



Figure 12. The area immediately above Block 2 (view southwards) in the low-lying seasonal sheet wash with grassy shrubland. Grasses are mainly *Stipagrostis* spp. The prominent shrubs are *Sisyndite spartea* and *Phaeoptilium spinosum*.



Figure 13. Northward-flowing sheet wash (view northwards) above vineyard Block 2.



Figure 14. *Sisyndite spartea* (Zygophyllaceae).



Figure 15. *Sisyndite spartea* prominent in the sheet wash (Eastern Gariep Plains Desert).









		
<p>Figure 16. The area between Block 2 and Block 3 that has been disturbed by ripping. The low green shrub is <i>Tetraena microcarpum</i> that has responded positive to the disturbance.</p>	<p>Figure 17. <i>Parkinsonia africana</i> (green hair tree) found in low numbers in the study area, on the lowland sheet wash areas.</p>	<p>Figure 18. <i>Boscia albitrunca</i> (Shepherd's Tree) found in low numbers in the study area.</p>
		
<p>Figure 19. The sheet was with typical vegetation immediately west of Block 3. This is the vegetation that would have been cleared for development of Block 3. The prominent shrubs here are <i>Phaeoptilum spinosum</i> and <i>Tetraena microcarpa</i>.</p>	<p>Figure 20. Fruits, leaves and spines of <i>Phaeoptilum spinosum</i> (Nyctaginaceae). The fruits are only seen in summer.</p>	<p>Figure 21. <i>Boscia foetida</i> subsp. <i>foetida</i> not common but found in the sheet wash areas. It is believed that some of these shrubby trees would have been cleared in the areas of blocks 2 and 3.</p>

Table 1. Waypoints, short descriptions and photographs taken during the survey.

Waypoint	Notes	Illustration
<p>NOR0001 28°46'33.576" S 19°22'0.54" E</p>	<p>The area on the north side of Block 1. Photo taken looking east over the low-lying sheet wash area.</p>	
<p>NOR0002 28°46'33.39" S 19°21'59.748" E</p>	<p>Area of the main farm infrastructure with a store in the foreground and the plastic lined Pakstoor Dam. Sheet was vegetation would have originally been cleared to make way for the dam.</p>	
<p>NOR0003 28°46'33.366" S 19°21'59.73" E</p>	<p>The main farm area that has been completely cleared of natural vegetation with non-native but indigenous trees planted for shade.</p>	
<p>NOR0004 28°45'41.142" S 19°21'33.72" E</p>	<p>Vineyard Block 3 with a gravel access road running down the west side.</p>	

<p>NOR0005 28°45'50.136" S 19°21'36.51" E</p>	<p>The area above Block 3 and below Block 2. It has been disturbed by farming activities and is now dominated by <i>Tetraena microcarpum</i>.</p>	
<p>NOR0006 28°45'41.88" S 19°21'47.286" E</p>	<p>Rock rubble that has been removed from the cultivated areas and deposited in a north-south seasonal watercourse. This has had a highly significant negative impact on the watercourse habitat but to avoid any further disturbance, removal of the rock is not advocated.</p>	 

5. The National Web-based Environmental Screening Tool.

The National Web-based Environmental Screening Tool was applied to determine the environmental sensitivity of the area investigated. It was determined that for the Terrestrial Plants Sensitivity Theme, the sensitivity is MEDIUM (Figure 22) and for the Terrestrial Biodiversity Sensitivity Theme, the sensitivity is VERY HIGH (Figure 23). The reason for the latter appears to be related to the assignment of the area to Critical Biodiversity Area 2 (CBA2) in the Conservation Status Map of the Northern Cape Province (Figure 24).

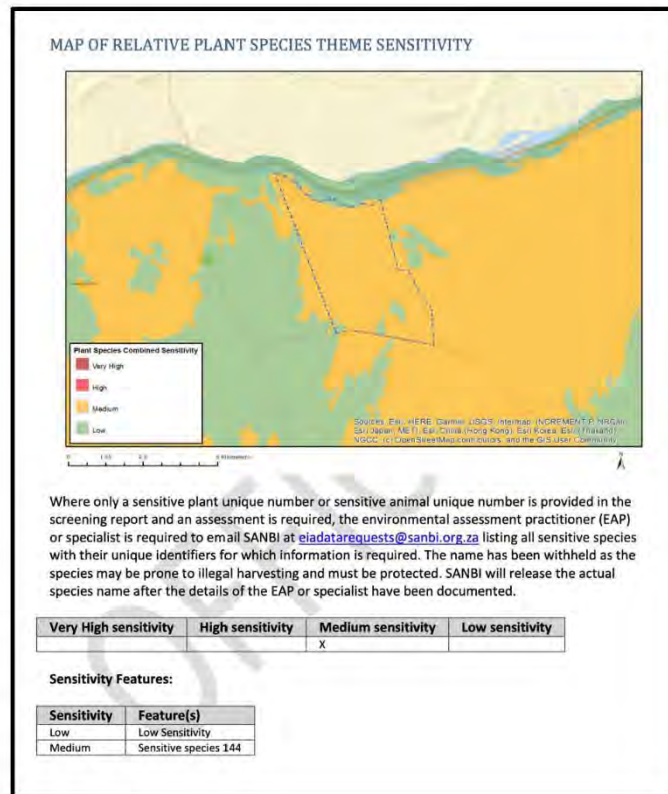


Figure 22. Map of Relative Plant Species Theme Sensitivity from the National Web-based Environmental Screening Tool.

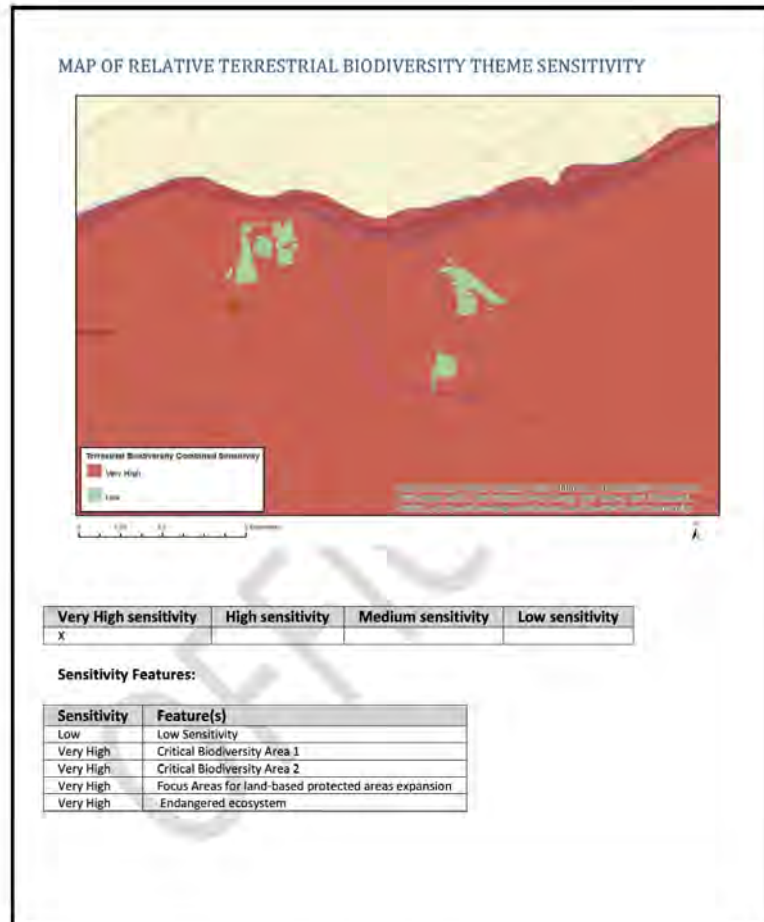


Figure 23. Map of Relative Terrestrial Biodiversity Theme Sensitivity from the National Web-based Environmental Screening Tool.

According to the screening tool, only one sensitive species is found in the Noriseep study area (Species # 144). The name of the species is available from the South African National Biodiversity Institute. In addition, *Boscia albitrunca*, a protected tree species is found in low numbers, but it is doubtful that any were removed from the area that have been cultivated. No other plant species of conservation concern were observed and recorded that could have occurred in the cultivated areas or those where the farm infrastructure has been developed.

6. Critical Biodiversity Areas

The farm of Noriseep is, in its entirety, within a Critical Biodiversity Area 2 (Figure 24). This indicates that it has high conservation value, and this is due to the inclusion of the area in the National Protected Area Expansion Strategy (NEPAES). The stated goal of the NPAES is "to

achieve cost-effective protected area expansion for ecological sustainability and increased resilience to climate change". The farming operation at Noriseep is compatible with the above objective as long as disturbance of areas not cultivated is kept to a minimum.

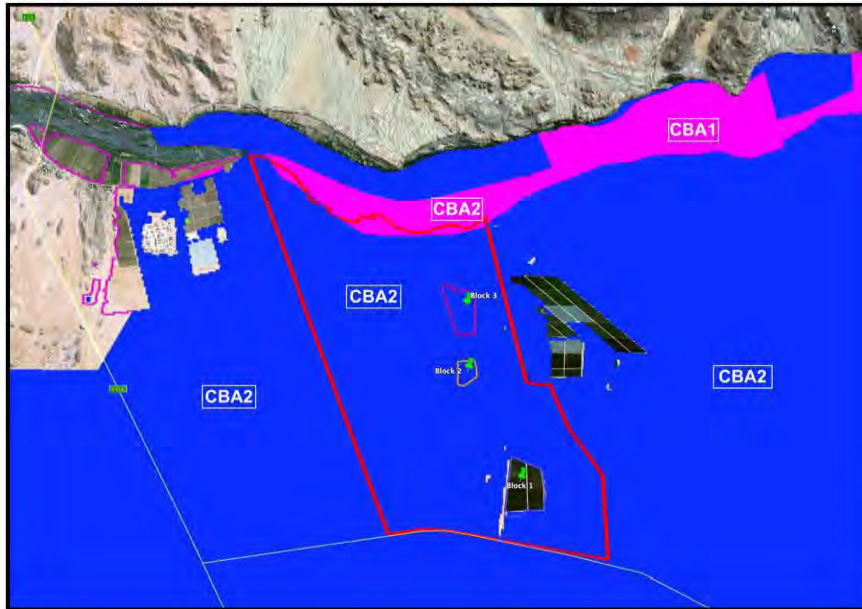


Figure 24. The Critical Biodiversity Area Map of the Northern Cape Province as it applies to Noriseep.

6. Discussion

The botanical study carried out was aimed at retrospectively determining the impact that has occurred at Noriseep due to the development of vineyards across 'small streams', at the dam sites and at the pack shed. The vineyard development to date has resulted in the clearance of approximately 31 ha of Eastern Gariep Plains Desert vegetation as described above. The Pakstoor Dam was built in an area formerly of Eastern Gariep Plains Desert but close to Eastern Gariep Rocky Desert. In contrast, the Middle Dam was built within a zone of Eastern Gariep Rocky Desert. The Middle Dam is square and has a capacity 8064m³, with a depth of 3m, width of 60m and length of 60m. It would thus have required clearance of 3600m² of vegetation. The Pakstoor Dam is rectangular and has a length of 100m, a width of 44m and a depth of 3m; total capacity is 10500m³. A total area of 4400m² would have been cleared to make way for this dam.

The pack shed or pack house covers approximately 1 ha, but it was built in an area that was disturbed. The site would originally have supported Eastern Gariep Plains Desert.

Of concern is the large amount of rock rubble (>5 m³) that has been deposited in seasonal watercourses. This has had and will continue to have a high negative impact since apart from a few shrubs, the area covered with rock rubble is essentially barren.

7. Conclusions

There is no doubt that the development of vineyards in the area under investigation at 'Noriseep' has had a negative impact on the vegetation and more specifically on areas seasonal sheet wash of Eastern Gariep Plains Desert. However, due to the sparseness of the vegetation, it is difficult to retrospectively determine the intensity of the negative impact. Owing to the limited extent of the vineyards in relation to the total area of sheet wash on the farm, the impact is considered to be Medium Negative.

The area where the rock rubble has been deposited has experienced a High Negative impact since the natural seasonal stream flow would be impeded. However, it is recommended that the rock rubble should be left *in situ* now to limit any further damage due to re-excavation and removal of the rock rubble.

The natural vegetation (Eastern Gariep Plains Desert and Eastern Gariep Rocky Desert) has also been lost at the sites of the dams and pack shed. The impact is rated as Low Negative due to the limited extent of removal of natural vegetation and the Least Concern status of the vegetation types.



Signature of the specialist:

Appendix: Curriculum Vitae

Dr David Jury McDonald Pr. Sci. Nat.

Name of Company: Bergwind Botanical Surveys & Tours CC. (Independent consultant)

Work and Home Address: 14 A Thomson Road, Claremont, 7708

Tel: (021) 671-4056 **Mobile:** 082-876-4051 **Fax:** 086-517-3806

E-mail: dave@bergwind.co.za

Website: www.bergwind.co.za

Profession: Botanist / Vegetation Ecologist / Consultant / Tour Guide

Date of Birth: 7 August 1956

Employment history:

- 19 years with National Botanical Institute (now SA National Biodiversity Institute) as researcher in vegetation ecology.
- Five years as Deputy Director / Director Botanical & Communication Programmes of the Botanical Society of South Africa
- 14 years as private independent Botanical Specialist consultant (Bergwind Botanical Surveys & Tours CC)

Nationality: South African (ID No. 560807 5018 080)

Languages: English (home language) – speak, read and write
Afrikaans – speak, read and write

Membership in Professional Societies:

- South Africa Association of Botanists
- International Association for Impact Assessment (SA)
- South African Council for Natural Scientific Professions (**Ecological Science, Registration No. 400094/06**)
- Field Guides Association of Southern Africa

Key Qualifications:

- Qualified with a M. Sc. (1983) in Botany and a PhD in Botany (Vegetation Ecology) (1995) at the University of Cape Town.
- Research in Cape fynbos ecosystems and more specifically mountain ecosystems.
- From 1995 to 2000 managed the Vegetation Map of South Africa Project (National Botanical Institute).
- Conducted botanical survey work for AfriDev Consultants for the Mohale and Kalse Dam projects in Lesotho from 1995 to 2002. A large component of this work was the analysis of data collected by teams of botanists.
- **Director: Botanical & Communication Programmes** of the Botanical Society of South Africa (2000—2005), responsible for communications and publications; involved with conservation advocacy particularly with respect to impacts of development on centres of plant endemism.
- Further tasks involved the day-to-day management of a large non-profit environmental organisation.
- **Independent botanical consultant** (2005 – to present) over 300 projects have been completed related to environmental impact assessments in the Western, Southern and Northern Cape, Karoo and Lesotho. A list of reports (or selected reports for scrutiny) is available on request.

Higher Education

Degrees obtained
and major subjects passed:

B.Sc. (1977), University of Natal, Pietermaritzburg
Botany III
Entomology II (Third year course)

B.Sc. Hons. (1978) University of Natal, Pietermaritzburg
Botany (Ecology /Physiology)

M.Sc. - (Botany), University of Cape Town, 1983.
Thesis title: 'The vegetation of Swartboschkloof, Jonkershoek,
Cape Province'.

PhD (Botany), University of Cape Town, 1995.
Thesis title: 'Phytogeography endemism and diversity of the
fynbos of the southern Langeberg'.

Certificate of Tourism: Guiding (Culture: Local)
Level: 4 Code: TGC7 (Registered Tour Guide: WC 2969).

Employment Record:

January 2006 – present: Independent specialist botanical consultant and tour guide in own company:

Bergwind Botanical Surveys & Tours CC

August 2000 – 2005 : Deputy Director, later Director Botanical & Communication Programmes,
Botanical Society of South Africa

January 1981 – July 2000 : Research Scientist (Vegetation Ecology) at National
Botanical Institute

January 1979—Dec 1980 : National Military Service

Further information is available on my company website: www.bergwind.co.za

APPENDIX H3: WATER USE LICENSE REPORT



WATER USE LICENCE APPLICATION

**NORRISEEP - CULTIVATION OF VINEYARDS ACROSS SMALL
STREAMS, AND DEVELOPMENT OF A PACK HOUSE ON
REMAINDER OF FARM AFSTOF NO. 421, NORTHERN CAPE
PROVINCE.**

June 2020

Applicant details:

Valam Boerdery (Pty) Ltd
Bernie Denton
P. O. Box 21
Kakamas
8870
Tel: 054 431 0568

Consultant details:

GroenbergEnviro (Pty) Ltd
P.O. Box 1058,
Wellington, 7654
Cell: 0866721916
Email: pbps@iafrica.com



QUALITY CONTROL

Revision	Date	Author	Checked	Status	Approved
01	May 2020	Elanie Kühn		Draft WULA with draft Assessment Report.	
02	June 2020	Elanie Kühn		WULA for submission.	

GroenbergEnviro (Pty) Ltd
Elanie Kühn
P.O. Box 1058, Wellington, 7654
Fax: 0864767139
Cell: 0765840822
Email: elaniem@iafrica.com
Website: www.groenbergenviro.co.za

APPLICATION FOR A LICENCE FOR THE USE OF WATER (CONTROLLED ACTIVITY) IN TERMS OF
THE NATIONAL WATER ACT, 1998 (ACT NO 36 OF 1998)

TABLE OF CONTENTS

1. THE APPLICATION AND TECHNICAL DETAIL	9
1.1 The applicant	9
1.2 The property on which the water use is intended	9
1.3 Water Use Licence Application	9
1.4 Existing lawful water use and development on the property	10
1.5 Details of the water use intended	11
1.5.1 Section 21a – change of water use	11
1.5.2 Section 21b – storage of water	11
1.5.3 Section 21c –impeding and diverting flow in a watercourse and Section 21i - altering the bed, banks, course or characteristics of a watercourse.	14
1.6 Plough certificate	17
1.7 Storm water Management	17
1.7.1 Introduction	17
1.7.2 Mitigation Measures:	17
2. CONSIDERATIONS AND ASSESSMENT CRITERIA	22
2.1 The reserve	23
2.2 The class and resource quality objectives of the water resource	23
2.3 The strategic importance of the water to be authorised	23
2.4 The existing lawful water use in the catchment under consideration	23
2.5 The likely effect of the water uses to be authorized on the water resource and on other water users in the catchment	23
2.6 The impact on the environment	23
2.6.1 Assessment of the impacts associated with the water use:	25
2.7 The need to redress the results of the past racial and gender discrimination	25
2.8 Efficient and beneficial use of the water in public interest	27
2.9 Socio economic impact of water use to be authorized	28
2.10 Investment already made and to be made by the water user in respect of the water use in question	28
2.11 The period for which the Licence is to be issued	28
2.12 Failure to authorise the water use	28
3. CONCLUSION	29
4. CONDITIONS	29

5. RECOMMENDATION	29
6. APPENDICES	31
APPENDIX A: COMPLETED LICENCE APPLICATION FORMS	31
APPENDIX B: EXISTING WATER USE CONFIRMATION AND WATER USE LICENCE	32
APPENDIX C: DEED SEARCH AND TITLE DEEDS	33
APPENDIX D: POWER OF ATTORNEY	34
APPENDIX E1: PROPOSED LOCALITY AND DEVELOPMENT LAYOUT	35
APPENDIX F: TECHNICAL DOCUMENTS	40
APPENDIX F.1: S24G ASSESSMENT REPORT	40
APPENDIX F.2: STORM WATER MANAGEMENT PLAN	41
APPENDIX F.3: ENVIRONMENTAL AUTHORISATION	42
APPENDIX G: PROOF OF PUBLIC PARTICIPATION	43
APPENDIX H: SECTION 27 REPORT	44
APPENDIX I: CERTIFIED COPY OF ID	45
APPENDIX J: COMPANY REGISTRATION CERTIFICATES	46
APPENDIX K: COPY OF RECEIPT	47
APPENDIX L: SECTION 21 C AND I LIST OF DRAINAGE LINES COORDINATES AND RISK MATRIX	48
APPENDIX M: LAND CLAIM LETTER	49
APPENDIX N: PLOUGH CERTIFICATE	50

Table of Figures

Figure 1: Norriseep locality and property boundaries	9
Figure 2: Locality of the two dams	12
Figure 3: Middle dam design	13
Figure 4: Pakstoor dam design	13
Figure 5: Ephemeral streams/drainage areas	14
Figure 6: Critical Biodiversity Area.	15
Figure 7: Extract of map that shows the locality of the EWR sites in context of the MRUs (referenced from Figure 3.1 in Report No. RDM/WMA06/00/CON/COMP/2016).....	16
Figure 8: Pump stations and pipelines.....	17
Figure 9: Mulching and planting between rows	18
Figure 10: Storm water management plan layout.....	19
Figure 11: Scarifying of soil	20

Figure 12: Buffer areas with natural vegetation between blocks and roads 21

List of Tables

Table 1: Water Use Licence activities triggered 10

Table 2: Transfer and Water allocations 10

Table 3: Water summary 11

Table 4: Impacts table 23

Table 5: New employment opportunities 27

List of Abbreviations

BAR	Basic Assessment Report
CBA	Critical biodiversity Area
DEA	Department of Environmental Affairs
DENC	Department of Environment and Nature Conservation
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIS	Ecological Importance and Sensitivity
ELU	Existing Lawful Use
EMPr	Environmental Management Programme
ESA	Ecological Support Areas
ERW	Ecological Release Water
EWR	Existing Water Rights
FEPA	Fresh Water Ecosystem Priority Areas
HWS	Heritage Western Cape
I&AP's	Interested and Affected Parties
MAR	Mean Annual Runoff
MMP	Maintenance Management Plan
NFEPA	National Fresh Water Ecology Priority Areas

NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM: AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM: ICMA	National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)
NEM: WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
PA	Protected Areas
PES	Present Ecological Status
PPP	Public Participation Process
RE	Resident Engineer
SANBI	South African National Biodiversity Institute
SAHIRS	South African Heritage Information Resources System
SWMP	Stormwater Management Plan
S24G	Section 24G Process
V&V	Validation and Verification
WMA	Water Management Area
WQMR	Water Quality Management Report
WULA	Water Use Licence Application

SYNOPSIS

Application for a Licence in terms of the National Water Act, 1998 (NWA) is made by the developer, Valam Boerdery (Pty) Ltd, for the following, also outlined in Table 1:

- Section 21(c) and (i) of the National Water Act for the streams that were diverted and crossed as part of the illegal establishment of vineyards. The establishment of the vineyards on Remainder of Farm Afstof No. 421 took place across small sections of the unnamed drainage system that is located on site. The drainage system is classified as an ephemeral course, as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern.
- Section 21 (a) to transfer approximately 1 ha of water for Industrial and Schedule 1 use. From this volume, approximately 11 400 m³ should be allocated for Schedule 1 use and approximately 3 500 m³ will be allocated for Industrial use.
- Section 21 (b) for the legalisation of an existing dam with a capacity of 13 500 m³, covering an area of 0.6 ha.

The application is summarised for the following water usages:

Table i: Water use activities

(a) transfer of water	Applying for a licence for the “transfer” of water from the lawful “irrigation” allocation to “Industrial use” and Schedule 1.
(c) impeding or diverting flow of water in a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
(i) altering the bed, banks, course or characteristics of a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
(b) storing of water	For the construction and registration of storage dams on the property.

Remainder of Farm Afstof No. 421 will abstract water from an existing pump station.

Currently there is a new Water Use Licence (WUL) issued the transfer of water between two farms that are owned by the applicant. This is classified as a Section 21a use (taking of water). This Water Use Licence (WUL) was issued on 30-05-2019.

The applicant, Valam Boerdery (Pty) Ltd, transferred 338 850 m³/a (22.59 ha) of water from the Remainder of Farm Afstof No. 421 (existing rights of 77.6 ha) to Kakamas North Settlement

No. 341 (KNS 341), to rectify the water shortage at KNS 341. The transfer of 22.59 ha of the available 77.6 ha from the Remainder of Afstof No. 421, so that 55.01 ha remains. This application includes too transfer of 1 ha of water, 14 900 m³/a for Industrial and Schedule 1 use. Therefore, a water use of 54.01 ha, 810 150 m³/a.

As part of this application it is also the intention to rectify the construction of agricultural development across small ephemeral streams. The drainage channel system on site has not been mapped (as a watercourse) on any of the maps available of the study area. However, on request from DENC and DWS, the drainage system is seen as a watercourse. Please note there was no planting of vineyards within the larger drainage channels. Most of the channels running towards the Orange River have already been modified and development has taken place across them, which prevents water flow towards the Orange River.

The unnamed drainage system is therefore classified as an ephemeral course, as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers that will regularly contain water in a seasonal pattern. However, the site falls within an area outlined as Critical Biodiversity Area 2.

The proposed agricultural development areas fall within the Lower Orange River catchment area. It, however, does not fall within any NEFPA catchment priority areas.

The total volume of water used annually amounts to approximately 1 ha of water. Therefore, the application is to transfer approximately 14 900 m³/a of water for "Industrial" and "Schedule 1" use. From this, approximately 11 400 m³ should be allocated for "Schedule 1" use and approximately 3 500 m³ will be allocated for "Industrial" use.

This application is therefore recommended for the approval of Sections 21 (a), (c), (i) and (b) as outlined in this study.

1. THE APPLICATION AND TECHNICAL DETAIL

1.1 The applicant

The applicant, Valam Boerdery (Pty) Ltd is applying for a section 21 (c) and (i) for the following:

- Applying for Section 21 (c) and (i) for the construction of orchards/vineyards across small streams.
- Applying for Section 21 (b) for the legalisation of existing dams.
- Applying for Section 21 (a) for a licence for the “transfer” of water from the lawful “irrigation” allocation to “Industrial use” and Schedule 1.

1.2 The property on which the water use is intended

Norriseep Farm is located on the Remainder of Farm Afstof No. 421. The Norriseep farm is located off the R358 just north of Onseepkans in the Northern Cape Province. The property's location is shown in Figure 1.

The site lies north of the Orange River. Small ephemeral streams cross the site. The site is currently zoned Agriculture Zone I. The owner of the properties is Valam Boerdery (Pty) Ltd, who has appointed GroenbergEnviro as the independent environmental consultant to determine if an environmental authorisation is necessary.



Figure 1: Norriseep locality and property boundaries

1.3 Water Use Licence Application

Application for a licence in terms of the National Water Act, 1998 is made by the developer, Valam Boerdery (Pty) Ltd, for the following water usages:

Table 1: Water Use Licence activities triggered

(a) transfer of water	Applying for a licence for the “transfer” of water from the lawful “irrigation” allocation to “Industrial use” and Schedule 1 use.
(c) impeding or diverting flow of water in a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
(i) altering the bed, banks, course or characteristics of a watercourse	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
(b) storing of water	For the construction and registration of storage dams on the property.

1.4 Existing lawful water use and development on the property

Currently there is a new Water Use Licence (WUL) issued the transfer of water between two farms that are owned by the applicant. This is classified as a Section 21a use (taking of water). This Water Use Licence (WUL) was issued on 30-05-2019. The new WARMS certificate is still awaited.

The applicant, Valam Boerdery (Pty) Ltd, transferred 338 850 m³/a (22.59 ha) of water from the Remainder of Farm Afstof No. 421 (existing rights of 77.6 ha) to Kakamas North Settlement No. 341 (KNS 341), to rectify the water shortage at KNS 341. The transfer of 22.59 ha of the available 77.6 ha from the Remainder of Afstof No. 421, so that 55.01 ha remains. The summary of the transfer is shown below in Table below.

Table 2: Transfer and Water allocations

Property	Current Water Allocation	Transfer	Irrigate tempo	Water Allocation ha	Water Allocation m ³ /a
Remainder of Farm Afstof No. 421	77.6 ha	22.59 ha	15 000 m ³ /ha	55.01 ha	825 150 m ³ /a
Kakamas North Settlement No. 341	0 ha	0 ha	15 000 m ³ /ha	22.59 ha	338 850 m ³ /a

The property is located directly adjacent the Orange River. Note however, that an area of 55 ha is available for irrigation on the farm. Currently only 46.51 ha are irrigated. This property has an Existing Lawful Use of 77.6 ha for irrigation – therefore a surplus of approximately 31.09 ha of water rights is available on the property. As described above, 22.59 ha of this water will be transferred to KNS 341, which leaves 8.5 ha of water rights for future developments on the Remainder of Farm Afstof No. 421. This Water Use Licence (WUL) was issued on 30-05-2019. Find the WULA included in APPENDIX B: Existing Water Use Confirmation and Water Use Licence.

1.5 Details of the water use intended

1.5.1 Section 21a – change of water use

Norriseep Farm uses water from the irrigation allocation for drinking purposes, the packaging shed and garden irrigation.

A Water Use Licence Application (WULA) will be required for 21(a) to transfer water from “Irrigation” to the sector “Schedule 1”. Water used in pack stores are used for commercial purposes and must, therefore, be licenced as “Industrial” use.

It can, therefore, be concluded that licences will be required to “transfer” water from the lawful “irrigation” allocation to “Industrial use” and Schedule 1.

Table 3: Water summary

Valam/Norriseep	Location	Category		Actual 2018								Forecast 2018				Total (m ³)	
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
	Packhouse	Pre-cooler	Voorkoeler	5	0	0	0	0	0	0	0	0	0	0	0	5	5
	Packhouse	Packers	Fakstasies	120	0	0	0	0	0	0	0	0	0	0	120	120	
	Packhouse	Leaders	Voormanne	4	0	0	0	0	0	0	0	0	0	0	4	4	
			Toemakers	16	0	0	0	0	0	0	0	0	0	0	16	16	
	Packhouse	Palletizers	Palletmanne	6	0	0	0	0	0	0	0	0	0	0	6	6	
	Packhouse	Coldroom	Koelkamer	4	0	0	0	0	0	0	0	0	0	0	4	4	
	Packhouse	Quality Control	QC	6	0	0	0	0	0	0	0	0	0	0	6	6	
	Packhouse	Cleaner	Skoonmaker	4	0	0	0	0	0	0	0	0	0	0	4	4	
	Packhouse	General	Algemeen	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Outside	Grape trailers	Wamanne	16	0	0	0	0	0	0	0	0	0	0	16	16	
	Outside	Harvesting	Snyspan	30	0	0	0	0	0	0	0	0	0	0	30	30	
	Outside	Irrigation	Besproeing	12	0	0	0	0	0	0	0	0	0	0	12	12	
	Outside	Tractor drivers	Trekkerdrywers	10	0	0	0	0	0	0	0	0	0	0	10	10	
	Outside	General	Algemeen	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Permanent staff		Domestic Cleaner	1	1	1	1	1	1	1	1	1	1	1	1	1	
			Gardener	2	2	2	2	2	2	2	2	2	2	2	2	2	
			Manager	2	2	2	2	2	2	2	2	2	2	2	2	2	
			Students	3											3	3	
			Workshop Manager	1	1	1	1	1	1	1	1	1	1	1	1	1	
			Residents	5	5	5	5	5	5	5	5	5	5	5	5	5	
				247	11	11	11	11	11	11	11	11	11	11	247	247	
	Water use(m ³)			1148,55	51,15	51,15	51,15	51,15	51,15	51,15	51,15	51,15	51,15	1111,5	1148,6	3868,95	
	Sewerage(m ³)	Note (70% of water use)		803,985	35,805	35,805	35,805	35,805	35,805	35,805	35,805	35,805	35,805	778,05	803,99	2708,265	
	Pack house(m ³)	Pre-cooler		89	0	0	0	0	0	0	0	0	0	20	152	261	
	Gardens and Landscaping(m ³)															10770,05	
	Total (m ³)															14900 (1ha)	

As shown above in Table 3, the total volume of water used annually amounts to approximately 1 ha of water. Therefore, the application is to transfer approximately 1 ha of water for Industrial and Schedule 1 use. From this approximately 11 400 m³ should be allocated for Schedule 1 use and approximately 3 500 m³ will be allocated for Industrial use.

1.5.2 Section 21b – storage of water

This section is for the legalisation of two existing dams constructed during 2002 to 2006, after the coming into effect of the National Water Act of 1998. This dam was also never registered during the validity period.

The two dams are herewith referred to as the Middle dam and Pakstoor dam.

The Middel dam consists of the following, see:

- Wall height – 3 m;
- Capacity – 8064 m³;
- Wall length – app. 60 m;
- Wall width of 60 m and

- Cover an area – 0.5 ha
- The Pakstoor dam consists of the following, see:
- Wall height – 3 m;
 - Capacity – 13 500 m³;
 - Wall length – app. 100 m;
 - Wall width of 45 m and
 - Cover an area – 0.6 ha



Figure 2: Locality of the two dams

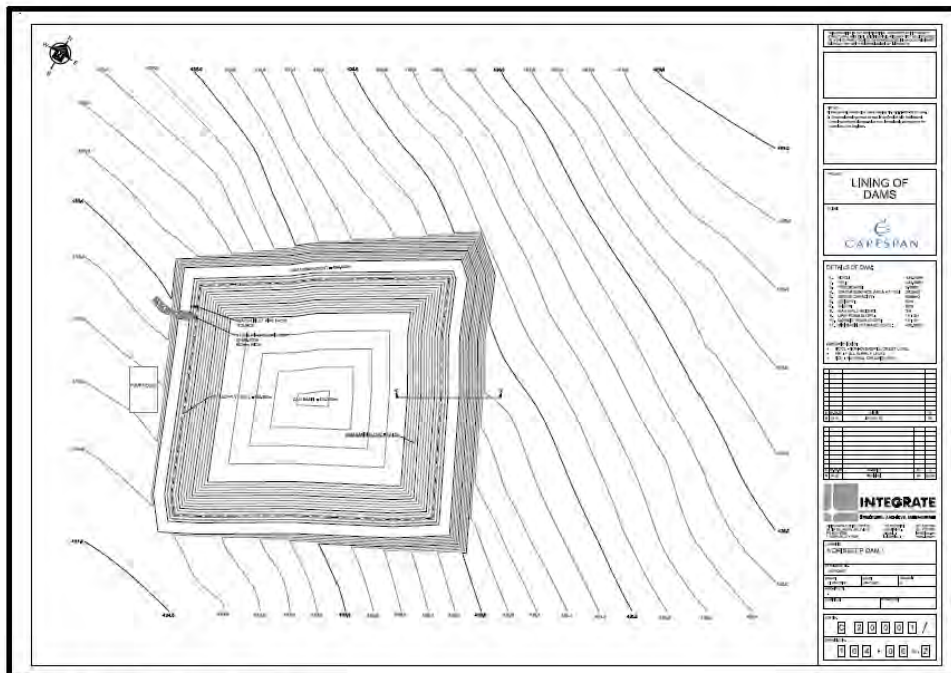


Figure 3: Middle dam design

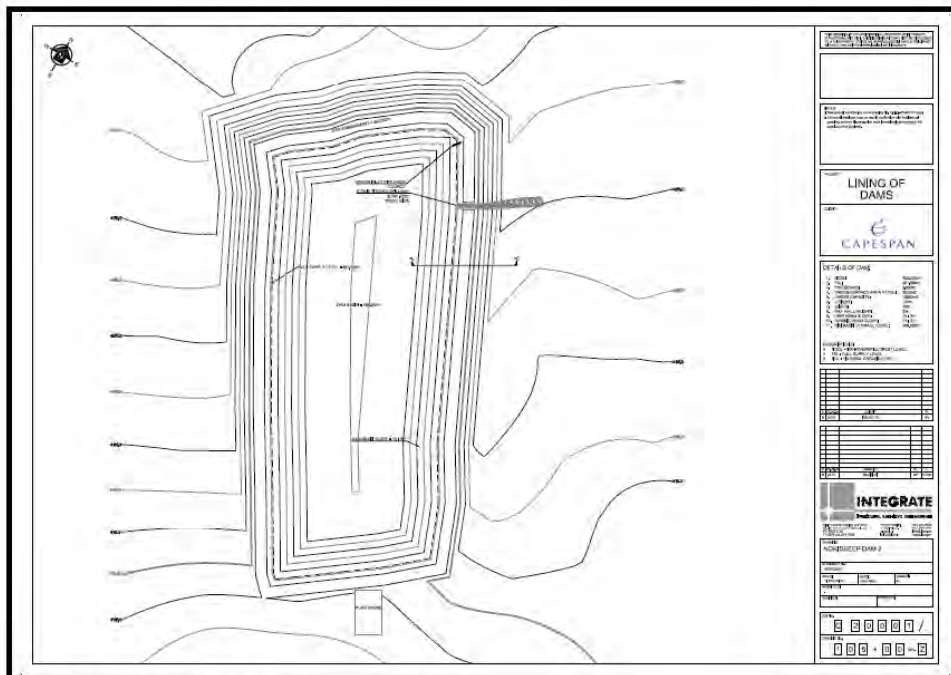


Figure 4: Pakstoor dam design

As stated above the dams were built during 2002 to 2006, the dams were not HDPE lined.

1.5.3 Section 21c –impeding and diverting flow in a watercourse and Section 21i - altering the bed, banks, course or characteristics of a watercourse.

1.5.3.1 Remainder of Afstof No 421, Onseepkans.

Numerous ephemeral systems were identified primary as part of the Orange River floodplain and should be considered as a significant contributor to stormwater on an occasional basis (1:50 to 1:100-year basis). These streams do not pass any available wetlands delineation or significance due to these systems displaying support to ecological life characteristic to wetlands. They are merely drainage lines that are dry and have no wetlands vegetation or soils supporting the development of wetlands, when surveyed. Most of these streams have already been diverted into the larger streams, with the development of the agricultural areas. The vegetation adjacent to the Orange River is Nama Karoo Bushmanland Floodplain wetland, however, this was not affected by the agricultural development.

The drainage channel system on site has not been mapped (as a watercourse) on any of the maps that are available of the study area. However, upon request from DENC and DWS, the drainage system is seen as a watercourse, see below in Figure 5. Please note: There will be NO planting of vineyards within the larger drainage channels as far as possible and a buffer of at least 20m of the larger drainage systems will always be kept. It is also the intension to keep the bigger stream areas open and not to develop so has to minimise impact on the larger streams.

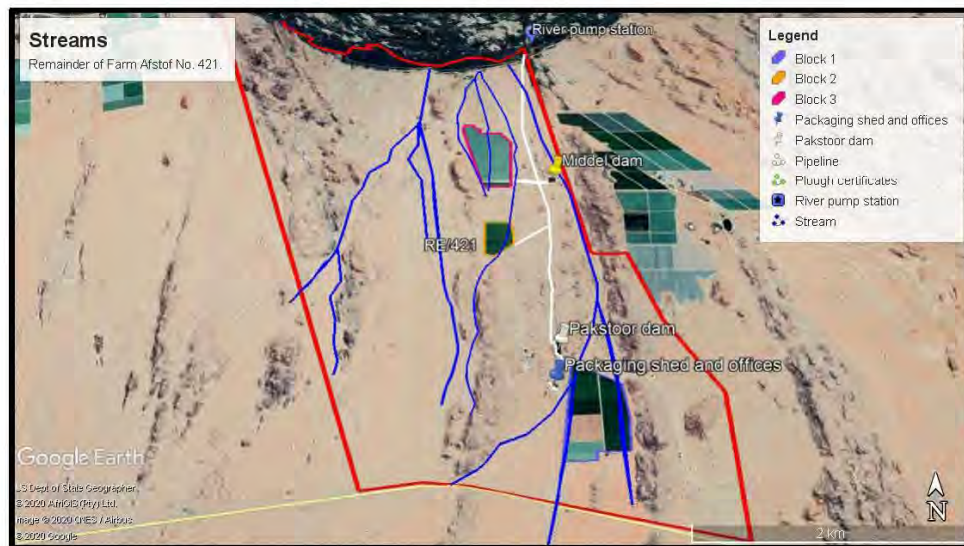


Figure 5: Ephemeral streams/drainage areas

The site falls within the Catchment Region D81E. The drainage channel system is located in an unnamed sub-catchment, see Figure 6. The unnamed sub-catchment is not really a river but fits rather the description of a mostly dry drainage line.

The unnamed drainage system is therefore classified as an ephemeral course as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern. However, it does fall within an area outlined as CBA2.

The farm is located within the Eastern Gariep Biome, which has a least threatened classification. The areas closer to the Orange River consists Lower Gariep Alluvial Vegetation, while the open plain areas between the rocky outcrops contain Eastern Gariep Plain Desert vegetation and the rocky outcrops Eastern Gariep Rocky Desert. Currently the entire property is located within a Critical Biodiversity Area 2 (CBA), with the exception of Block 1, as shown in Figure 6 below. As shown below Block 1 is located within an area already outlined as not natural and already transformed. Block 2 and Block 3 (Red area) is located within the CBA 2.



Figure 6: Critical Biodiversity Area.

1.5.3.2 Present Ecological Status (PES) & Ecological Importance Sensitivity (EIS)

Reference is made to the Draft Department of Water and Sanitation (DWS) Report (dated August 2016): "Determination of Ecological Water Requirements for Surface Water (rivers, estuaries and wetlands) and groundwater in the Lower Orange WMA; Report No. RDM/WMA06/00/CON/COMP/2016)1".

This report provides the PES and EIS of the Orange River at EWR 02, located upstream of the confluence of the water courses that flow into the Orange River from the project sites, and at EWR 03, downstream of the Augrabies Falls and downstream of the confluence of the watercourses that flow into the Orange River from the project sites.

Refer to Figure 7 below for the location of the Project Site (Remainder of Farm Afstof No. 421) in relation to EWR 02 and EWR 03.

EWR 02 and EWR 03 both have:

- A PES of C (Moderately Modified); and,
- An EIS denoted as high (the river in terms of biota and habitat may be sensitive to flow modifications but in some cases may have a substantial capacity for use.)



Figure 7: Extract of map that shows the locality of the EWR sites in context of the MRUs (referenced from Figure 3.1 in Report No. RDM/WMA06/00/CON/COMP/2016).

The drainage channel system is in a sub-catchment of an unnamed tributary that flows towards the Orange River. The small tributaries flow into the unnamed tributary, which is not really a river, but more accurately fits the description of an ephemeral stream. The overall analysis according to the DWS: PES & EIS desktop assessment is that the site was not assessed, and the ecological importance of the river is exceptionally low. Because it was not assessed, one must fall back to the overall assessment for the EWR:03, which refers to a moderately modified system.

1.5.3.3 Pump stations and Pipelines

Water is required for the drip irrigation of the established vineyards and is supplied via pipelines from the booster pump station at the Orange River and pump lines (white) as shown in Figure 8. The other existing pipelines come from the pump station at the Orange River (See Figure 8) towards the existing dams, and from there distributed to the irrigation areas.

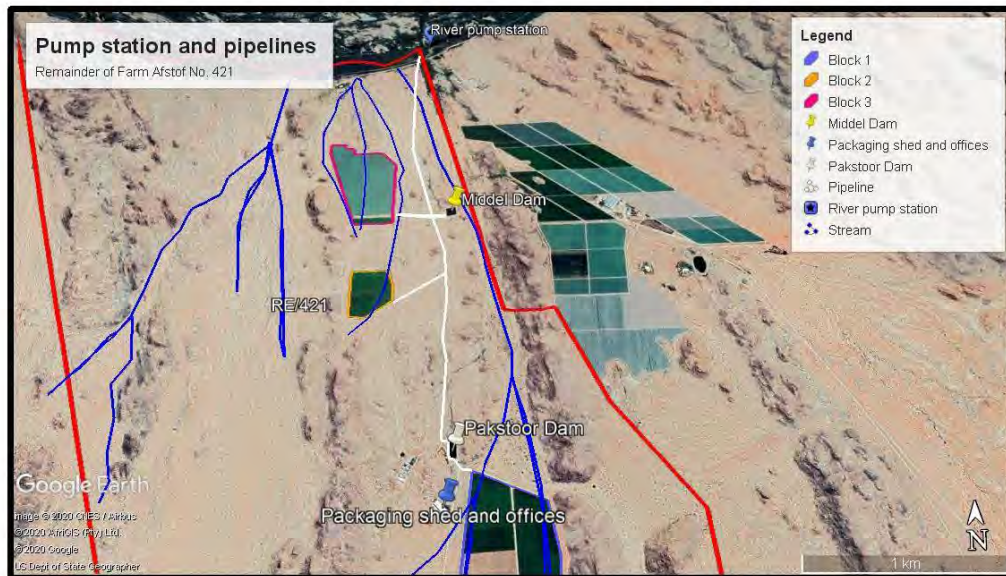


Figure 8: Pump stations and pipelines

1.6 Plough certificate

Currently there are no plough certificates for Remainder of Afstuf No. 421. Find included in Appendix M the plough certificate application.

1.7 Storm water Management

1.7.1 Introduction

This section in the report is intended to provide the Department of Water Affairs with all necessary information to assess the suitability of the measures to be taken by Valam Boerdery (Pty) Ltd regarding the successful storm water management of the proposed irrigation/agricultural development. This section describes the various infrastructure items that are/were to be constructed and the storm water management objectives that the landowner will undertake to ensure sustainable management of the constructed storm water infrastructure. Find attached F2 the Storm Water Management Plan.

1.7.2 Mitigation Measures:

The main issues to be addressed with mitigation measures include (discussed below):

- Design
- Irrigation
- Nutrients (fertilisers)
- Spraying (pesticides)
- Storm water channels

- Pipelines
- Erosion control
- River pump station

1.7.2.1 Design

The design of vineyard blocks considered the natural flows and minimise impacts on the ephemeral streams. A storm water channels divert flow around the planted blocks towards the diversion channel. Flow entering the diversion channel will then flow downstream and naturally enter an existing stream.

1.7.2.2 Irrigation

In order to prevent over irrigation, which might lead to water flows creating erosion and or transporting nutrients to the retained ephemeral streams, good farming practises such as irrigation on demand should be utilised.

In addition, the use of mulching should be used to reduce evaporation losses. The mulch also serves to retain moisture and prevent erosion near the plants at the source of irrigation; microjet or drip.

A typical example with mulching along the planted rows and planting between rows is shown below in Figure 9: Mulching and planting between rows.



Figure 9: Mulching and planting between rows

1.7.2.3 Nutrients

Nutrients are usually applied in the irrigation water. Every effort must be made to only apply as required by the plant and soil.

Should fertiliser powder or pellets be used and applied by hand or machine it must only be placed along the vine plants and no mess or waste between rows should be allowed.

Powder or pellet fertiliser may not be spilled between vine rows or on access roads between the vine blocks. Should this happen it must be picked up and removed immediately.

1.7.2.4 Spraying

Spraying of pesticide is normally applied by machine as a vapour. The main potential source of pollution would be from spillages. Therefore, filling of the spray machine must be done in a safe area where pollution of the soil would not be possible. The best place would be on a concrete area where the pesticide is mixed with water.

1.7.2.5 Storm water channels

As shown in the Storm water management Layout Plan, the black lines indicated are the storm water berms constructed to accumulate the storm water and divert flow to the existing streams that will not form part of the development.

It should be noted that no dissipation/retention structures other than the storm water channels and drainage pipelines are included to prevent erosion and storm water accumulation. However, natural vegetation has over time accumulated within the channels and does reduce flow. The storm water channels are deep enough to prevent overflow and erosion.

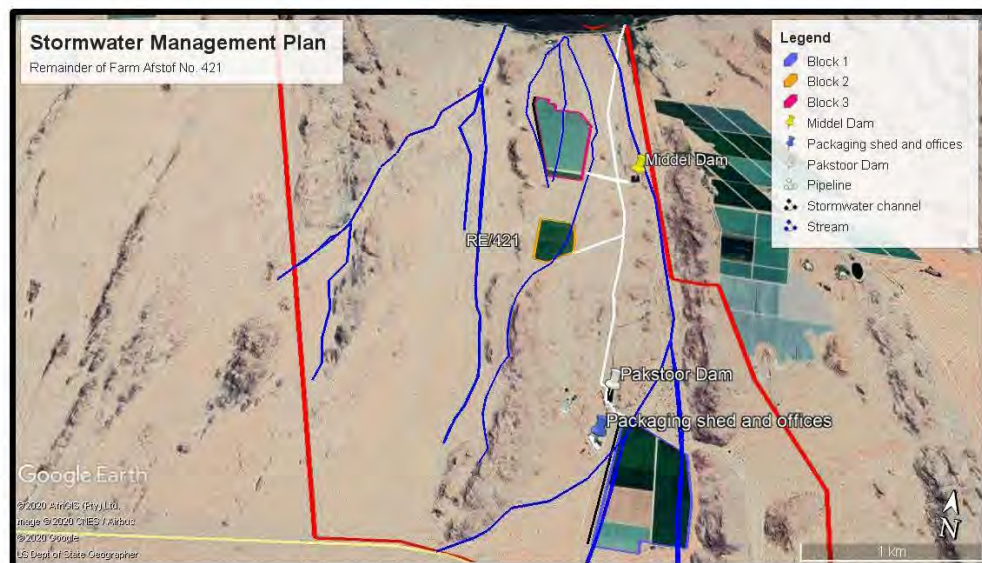


Figure 10: Storm water management plan layout

1.7.2.6 Pipelines

The proposed new pipelines to the irrigation areas will run along road reserve, the only section of the pipeline that will affect one of the streams is shown in Figure 10: Storm water management plan layout, this is within the new proposed development areas. Care will be taken to prevent any future impediment of flow related to these pipes, as the pipes will be constructed below the ground. Find included in Appendix C the pipeline method statement for construction of pipelines (PVC Pipes) below ground. The following mitigation measures should be implemented for work on the pipelines:

- Care will be taken to only construct the pipelines during the dry seasons
- As far as possible the section of the pipeline across/within the stream should be done manually, no machinery, resulting in the lowest possible impact.

- Infilling with original soils (as per method statement)
- Flow meters must be equipped on the pipelines. -protective measurement on water losses. This must be monitored on a regular basis and records kept on site.

1.7.2.7 Erosion control

Erosion would normally occur with the following:

- Over irrigation which create water flows from the planted rows to the area between the rows and then to roads between the blocks.

For mitigation see below.

- Pipe breakages where water will wash from the plants to the area between the rows to the roads between blocks and from where water can flow towards the retained ephemeral streams – thereby causing erosion gully's.

For mitigation see below.

- Rain events where the water will flow down slope to reach the ephemeral streams and along the way cause erosion where development took place; that is – between the planted rows and along the roads between blocks.

Mitigation include the following:

- Mulching and planting/mulching between rows – see Figure 9 for typical example.
- Scarifying of soil between planted blocks and roads to create a soft/rough area to retain moisture and prevent erosion – see Figure 11: Scarifying of soil.



Figure 11: Scarifying of soil

- Create a buffer with natural vegetation between the planted blocks and roads as shown in Figure 12: Buffer areas with natural vegetation between blocks and roads.



Figure 12: Buffer areas with natural vegetation between blocks and roads

Overall, therefore, the natural approach is preferred whereby mulching, planting and natural buffer areas are used to serve as mitigation to prevent flows that could create erosion. This has the further advantage that it also acts against spreading of nutrients and pesticides.

2. CONSIDERATIONS AND ASSESSMENT CRITERIA

Management actions in the Development of an Integrated Water Quality Management Strategy for the Upper and Lower Orange Water Management Areas include the following:

Area 1: Boegoeberg to Kanon Islands

It is the vision of all interested and affected parties within Visioning Area 1:

To contribute towards the integrated management of the surface and groundwater resources in all LOWMA catchments between Douglas and Boegoeberg Dam, to secure sufficient water that is fit for all beneficial uses, specifically including domestic and variable agricultural use, and to support a healthy aquatic ecosystem, particularly for ecological sensitive areas such as the Douglas Conservancy.

Area 2: Boegoeberg to Kanon Islands

It is the vision of all interested and affected parties within Visioning Area 2 (Kakamas/Augrabies/Keimoes falls within this area) to contribute towards securing suitable water supplies of qualities for all LOWMA catchments between Boegoeberg and Kanon Islands, that will sustain:

- a thriving table grape export market and wine production;
- local agricultural activities via an extensive irrigation canal system;
- a thriving stock farming industry;
- domestic and light industrial water use in all towns, specifically including Upington;
- supplying water to rural communities via both the Kalahari West and Karos-Geelkoppa water supply schemes.

Area 3: Kanon Islands to Pella *It is the vision of all interested and affected parties within Visioning Area 3 to promote the participatory and integrated management of all water resources pertaining to the LOWMA catchments situated between Kanon Islands and Pella in order to ensure that water supplies are of an acceptable quality to all water users, in particular to sustain a prominent conservation and ecotourism industry, as well as livestock and private game farming, while allowing room for beneficial water use.*

Other legislation and guidelines that have been considered includes the following:

- The Constitution of South Africa Act No.108 Of 1996.
- The National Environmental Management Act, 1998 (Act No. 107 Of 1998).
- The National Heritage Resources Act, 1999 (Act No. 25 Of 1999).
- Conservation of Agricultural Resources Act No 43 Of 1983.
- Subdivision of Agricultural Land Act, 1970 (Act No. 70 Of 1970).
- Urban Structure Plan for the Cape Metropolitan Area, Volume 4: Paarl/Wellington Region.
- National Environmental Management: Biodiversity Act (Act 10 Of 2004).

- Planning Legislation and Guideline.

2.1 The reserve

The Department of Water Affairs and Forestry have recently completed the reserve determination for the Berg River: Directorate of Scientific Services in Pretoria.

From the reserve determination it could now be ascertained by your department as to the availability of water for the allocation of the water usages requested as per the issue of a Licence to the applicant. This application is for the change of use of water within the same within the WUA jurisdiction, managed by DWS: Upington, will have little effect on the quantity of water available from within the catchment.

2.2 The class and resource quality objectives of the water resource

These aspects could only be addressed and commented on by the Department of Water Affairs.

2.3 The strategic importance of the water to be authorised

This water use has no strategic importance.

2.4 The existing lawful water use in the catchment under consideration

This authorisation will have no impact on any existing lawful water use within the investigation area.

2.5 The likely effect of the water uses to be authorized on the water resource and on other water users in the catchment

The construction of vineyards across small streams will have little or no effect on the quantity of available water from the water resources within the immediate vicinity.

2.6 The impact on the environment

The development will not have a negative impact on the existing water use within the catchment region. The water can be accommodated, as confirmed in the water Use Licence. The impacts and mitigation measures are summarised in the table below:

Table 4: Impacts table

Water Uses	Potential Impact on	Proposed Measures	Mitigation	Review of the adequacy of suggested mitigation measures
Section 21 (a)	Schedule 1 and Industrial Water use	<ul style="list-style-type: none"> • Measures should be put in place to monitor all water 		Mitigation measures adequate to ensure positive impact takes place.

		use into the packhouse and outflow of grey water.	
Section 21 (c & i)	Irrigation areas associated with the additional water use rights	<p>Low positive</p> <ul style="list-style-type: none"> • Measures should be implemented to reduce water use within the proposed development, such as the use of tension meters to avoid over-irrigation of the soils. • Environmental education programmes for workers will ensure that they will be sensitive to the environment and report incidents such as leaking taps, broken irrigation systems, etc. • The irrigation system to be used is the DFM method along with irri-check calibrations and recommendations. • Test pits and data collections from these pits are taken on a regular basis to determine the moisture content for soil etc. • Soil coverage within the vineyards with chaff. • Regular monitoring and checks from specialists in the field to introduce best possible irrigation practices. 	Mitigation measures adequate to ensure positive impact.
Section 21 (c & i)	Water quality	<ul style="list-style-type: none"> • No impact on water quality, as construction will be conducted outside the rainfall season (replanting). • No flow from agricultural areas, as stormwater structures were already constructed. 	Mitigation measures adequate to ensure impacts are fully mitigated.

		Measures should be implemented to reduce water use within the proposed development, such as the use of tension meters to avoid over-irrigation of the soils.	
Section 21 (c & i)	Construction of a small dam.	<ul style="list-style-type: none"> Regular check-ups on infrastructures to ensure structure is in good condition. 	<ul style="list-style-type: none"> Mitigation measures adequate to ensure impacts are fully mitigated.

2.6.1 Assessment of the impacts associated with the water use:

The impacts associated with the development (already took place) and that of agricultural areas across stream is low negative, however mitigation measure taken into account can prevent any further negative impacts, see Table 4 above.

2.7 The need to redress the results of the past racial and gender discrimination

Valam Boerdery (Pty) Ltd falls under CapeSpan Group.

History of company:

With headquarters in Antwerp, Belgium, Capespan Continent delivers fresh products and service solutions to continental European customers.

We're a subsidiary of the global Capespan Group, with its headquarters in Cape Town, South Africa. With about 100 employees, our other offices are in Hamburg, Paris, Vienna, and Zurich. Operating with our service providers from state-of-the-art warehousing and logistical facilities at maritime and hinterland terminals across Europe, every step of the operating process is computer controlled. Special refrigerated cold stores have a 50 000-pallet capacity for direct deliveries throughout Europe. Our logistics partners take care of forwarding and customs clearing, plus processing requirements such as netting and bagging of fruit.

Product development:

To exceed expectations from the increasingly diversified European consumers, we continue strengthening our position by developing new commercial varieties and devise innovative ideas on packaging and fresh fruit distribution. Therefore, comprehensive product development programmes involve both producer and international business partners. These programmes are already improving the range of sought-after varieties and exciting new cultivars.

Global Procurement:

New origins are continuously being integrated into Capespan's portfolio. Confident about these important supply sources, we allow our brand names to be used on products that

fulfill our quality specifications. The year-round offering includes deciduous, citrus and exotic fruit from production areas throughout the world.

Capespan Continent is particularly active in a number of developing economies where substantial export growth is predicted in coming years - countries such as China, Peru and India. Meanwhile, we also have an established network of high-quality, like-minded producer partners in traditional supply origins such as Brazil, Chile, New Zealand, South Africa, and Egypt.

During production, Capespan's technical teams work extensively with producer partners. We also work with the technical staff of our major business partners to guarantee consistently top standards at retail level.

Information Technology:

Our advanced systems allow us to access logistical, quality and traceability information of all fruit at any given time. And to service our customers, we've developed applications to support a variety of services: a data warehouse for information on product flow; a logistical traceability system to certify logistical efficiencies, food safety coverage, cost control and efficient selling; and a personalised extranet portal for our suppliers and customers.

CapeSpan Group Empowerment within the company:

The primary goal of Capespan Farms is to provide synergies within Capespan's global fruit procurement and marketing footprint. All the farms are strategically positioned to enhance Capespan Group's service and product offering to all our third-party growers and our retail customers across the globe. At group level, Capespan enhances and adds to its significant third-party grower product basket through its own production in order to ensure a sustainable twelve-month supply of quality fresh produce.

Capespan Farms owns and controls 14 production units (including Novo Packhouse) throughout Southern Africa, producing respectively grapes, citrus, pome and stone fruit. All the farms have industry accredited certifications including Global GAP, HACCP, Nurture (where necessary), Leaf and Field to Fork.

Our employees' wellbeing is imperative for Capespan's continued sustainability and the employment relationship is regulated through comprehensive employment service agreements. Therefore, it's imperative that continuous engagement with our employees is fostered on a range of issues that affect them and we recognise that our employees can have the following expectations: an inspiring climate and safe, healthy and congenial working conditions, a clear understanding of their jobs and related performance standards required, to be rewarded at market-related remuneration, job satisfaction, recognition and opportunities for skills acquisition, career development and empowerment.

Capespan manages these expectations through the Capespan Group's Code of Business Conduct and Ethics, the board-approved Employment Equity Policy and broad-based black economic empowerment (B-BBEE) targets. We conduct regular organisational culture surveys and compliance with relevant employment legislation and B-BBEE codes in the regions in which we operate.

Employee engagement also takes place through electronic newsletters, employee publications, intranet, employee feedback forums, performance management systems and climate surveys.

The Capespan Foundation is funded by the Capespan group to drive its corporate social investment (CSI) mandate - to add value to the lives of communities in which Capespan operates - by implementing various Blue Hand social, health and educational development programmes. The Foundation raises additional funding for projects, where possible, through joint ventures, staff volunteering and strategic leveraging of funding and projects.

The Blue Hand project goals include, but are not limited to:

- developing/empowering communities in which the company operates for sustainable growth of company business
- making a positive, sustainable impact on communities through improving quality of life
- building and improving relationships with existing/potential stakeholders by forming mutually beneficial partnerships
- maintaining the company's image and CSI reputation - strategic positioning as a leading contributor to social development in the industry
- enhancing loyalty and pride and attracting quality socially responsible staff
- improving the company's brand identity in the communities
- increasing visibility of customer goodwill towards communities.

Preference will be given to black/coloured people for these positions, and more specific black/coloured women where possible.

Existing employees with experience on the farm, plus the potential to be leaders, will in the first place be identified for new supervisory positions.

Table 5: New employment opportunities

No. of persons for employment	No. of persons for accredited training
Semi-skilled: 12 (Spesialis werkers)	Semi-skilled: 12
Unskilled: 235 (Tydelike/Seisoen werkers)	Unskilled: 235
Men: 130 (±55%) Women: 117 (±45%)	Men: 130 Women: 117
Youth: 120 (±51% onder 30 Jaar) Adult: 127 (±49% ouer as 30 Jaar)	Youth: 120 Adult: 127

2.8 Efficient and beneficial use of the water in public interest

The new water use will have the following benefits:

Enough water will directly secure existing and new job opportunities.

- The change in water use is to legalise the water use for Schedule 1 and Industrial use will ensure job security.
- The continuation in production of export produce will continue to bring in more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government.

2.9 Socio economic impact of water use to be authorized

In a rural area such as this with a high unemployment rate, any new employment positions have a huge impact on the immediate and extended families of such new workers. Add then also the impact of more people with proper housing, undergoing skills training and going to church, sport, etc. and children going to school, to understand the positive impact on this rural community. Even seasonal work opportunities have the advantage of extra income plus the opportunity to gain skills that can in future be used to gain permanent employment on the farm or elsewhere. Not only are the new employment opportunities important, but also the fact that:

- Existing jobs can be secured: Enough water will directly secure existing and new job opportunities.
- The continuation in production of export produce will continue to bring in more foreign capital to South Africa which is much needed to strengthen our economy and as such fully supported by Government. See Appendix H for the Section 27 Report.

2.10 Investment already made and to be made by the water user in respect of the water use in question

The following investments have been made:

- Currently Remainder of Farm Afstof No. 421, is owned by Valam Boerdery (Pty) Ltd. Additional water rights were recently acquired.
- All investments made already for the construction of the existing development areas as this is part of an existing farming unit with existing infrastructure on Remainder of Farm Afstof No. 421.
- Investments related to the construction of the existing dam.

The future investments to be made:

- New investments to be made for the water use applications.
- No additional investments, other than mentioned above.

2.11 The period for which the Licence is to be issued

The Licence should be issued for the maximum possible period, as the water use will be of a permanent nature.

2.12 Failure to authorise the water use

Failure to authorise the water use will result in the following:

- Financial loss due to existing investments already made, for construction of dams, existing infrastructure for water distribution and existing water use rights lost,
- The design and processes implemented to obtain authorisation also has a high financial implication that will be lost.
- Loss in current and future employment opportunities and skills development and training opportunities.

3. CONCLUSION

The authorisation of the vineyards across streams and the legalisation of the existing dam on the farm, thereby complying with the necessary legislation will have numerous positive socio-economic impacts not only on the farm but also the region and result in job security, job creations, skills development, social upliftment and earning of foreign currency.

4. CONDITIONS

When instructed to do so by the Responsible Authority, the user must fit a self-registering meter at the user's expense to measure water use and the user at his expense must maintain the meter in satisfactory working condition.

Officers from the Department of Water Affairs will at all times have free access to the property and the water works for supervision and control purposes.

The Department's or Responsible Authority's local representative will issue the necessary instructions to the user with regard to the keeping of proper registers of water use and quality, and the owner must at all times comply with such instructions.

The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of: shortage of water; inundation or flood; siltation of the river or dam basin; and/or the shifting of water work in the event of a rise or drop in the water level of river or dam.

The quality or suitability of the water for any purpose is not guaranteed.

The water abstracted/used in terms of this licence may only be used for the authorised purposes.

This licence is not a permanent, lawful right and is not transferable from one user to another or from one property to another.

The user must take every possible precaution to the satisfaction of the Department, to prevent pollution of water resources.

The Department of Water Affairs reserves the right to withdraw this licence in the event of failure to comply with any of the said conditions or provisions.

The applicant has a period of 2 (two) years within which to commence/implement this water use, failing which, the licence will lapse.

5. RECOMMENDATION

The following recommendations should be adhered to:

- Any further recommendations outlined in the Environmental Authorisation and the Water Use Licence issued.

- When instructed to do so by the Responsible Authority the user must fit a self- registering meter at the user's expense to measure water use and the user at his expense must maintain the meter in satisfactory working condition.
- Officers from the Department of Water Affairs will at all times have free access to the property and the water works for supervision and control purposes.
- The Department's or Responsible Authority's local representative will issue the necessary instructions to the user with regard to the keeping of proper registers of water use and quality, and the owner must at all times comply with such instructions.
- The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of: shortage of water; inundation or flood; siltation of the river or dam basin; and/or the shifting of water work in the event of a rise or drop in the water level of river or dam.
- The quality or suitability of the water for any purpose is not guaranteed.
- The water abstracted/used in terms of this Licence may only be used for the authorized purposes.
- This Licence is not a permanent, lawful right and is not transferable from one user to another or from one property to another.
- The user must take every possible precaution to the satisfaction of the Department, to prevent pollution of water resources.
- The Department of Water Affairs reserves the right to withdraw this Licence in the event of failure to comply with any of the said conditions or provisions.
- The applicant has a period of 2 (two) years within which to commence/implement this water use, failing which, the Licence will lapse.

It is recommended that the development across small ephemeral streams on Remainder of Farm Afstof No. 421 be approved.

6. APPENDICES

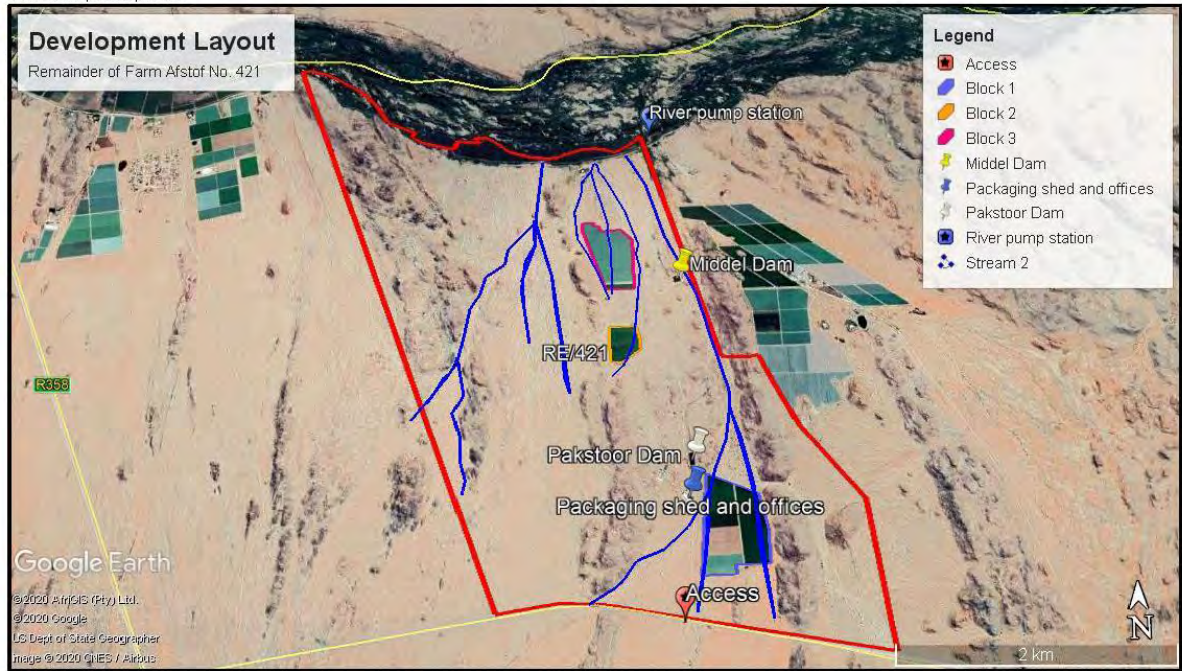
APPENDIX A: Completed Licence Application Forms

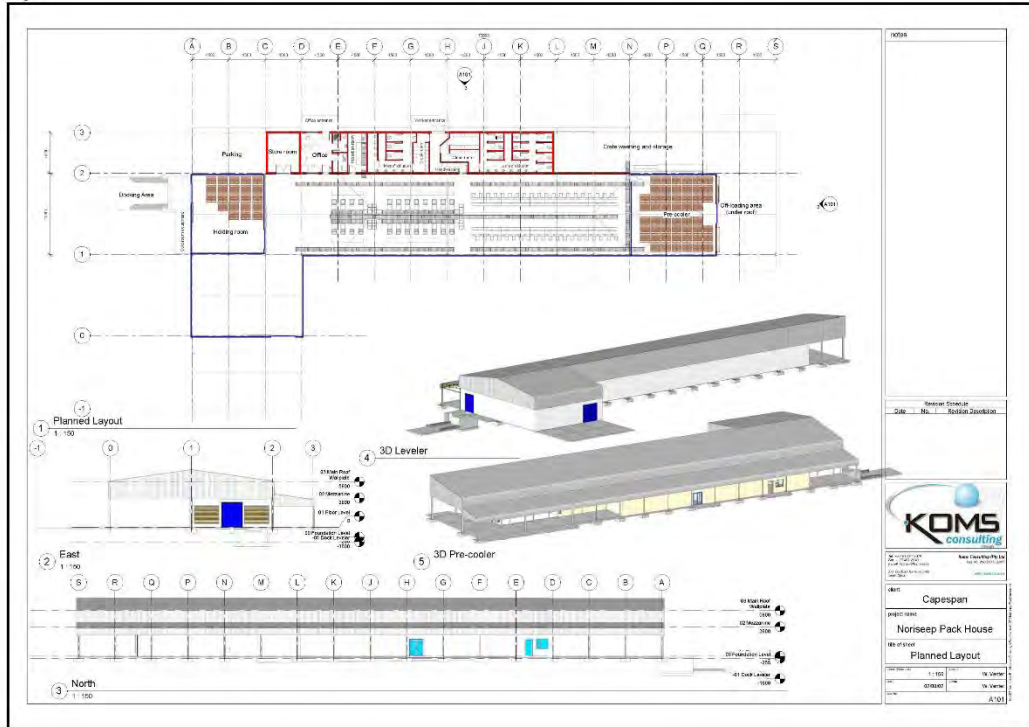
APPENDIX B: Existing Water Use Confirmation and Water Use Licence

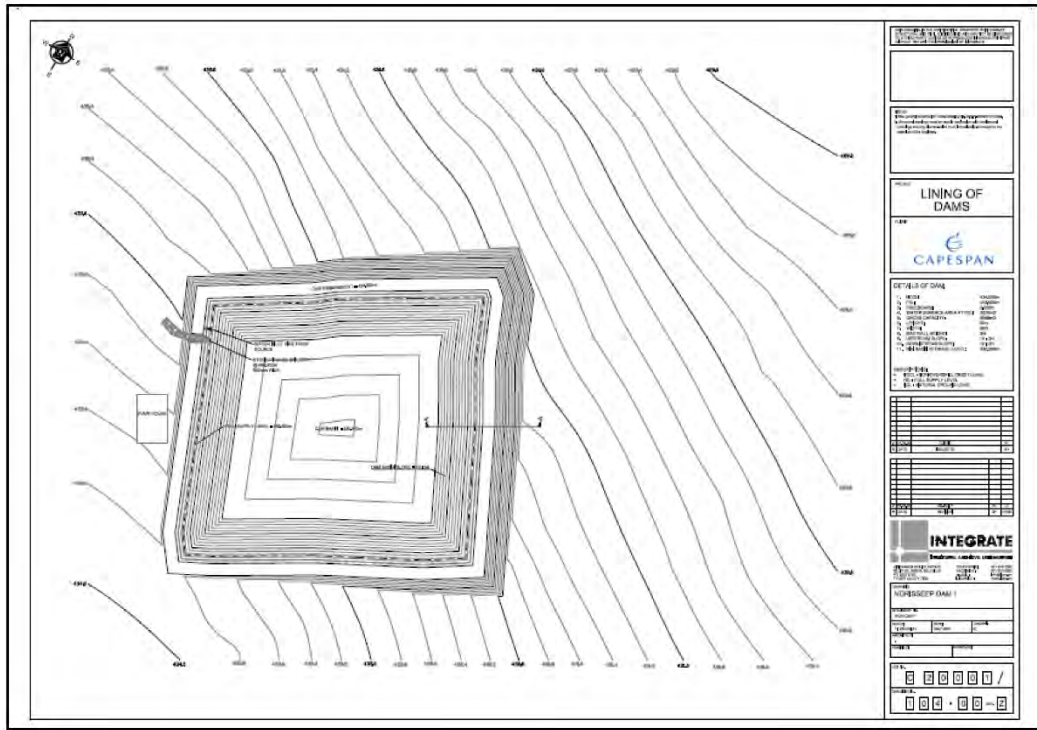
APPENDIX C: Deed Search and Title Deeds

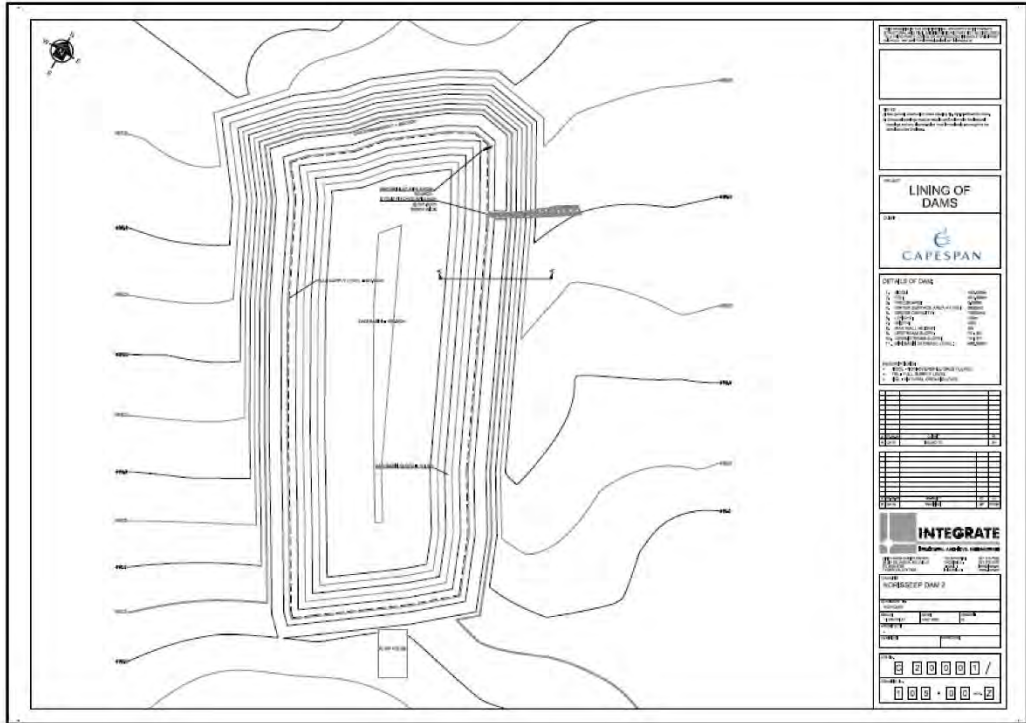
APPENDIX D: Power of Attorney

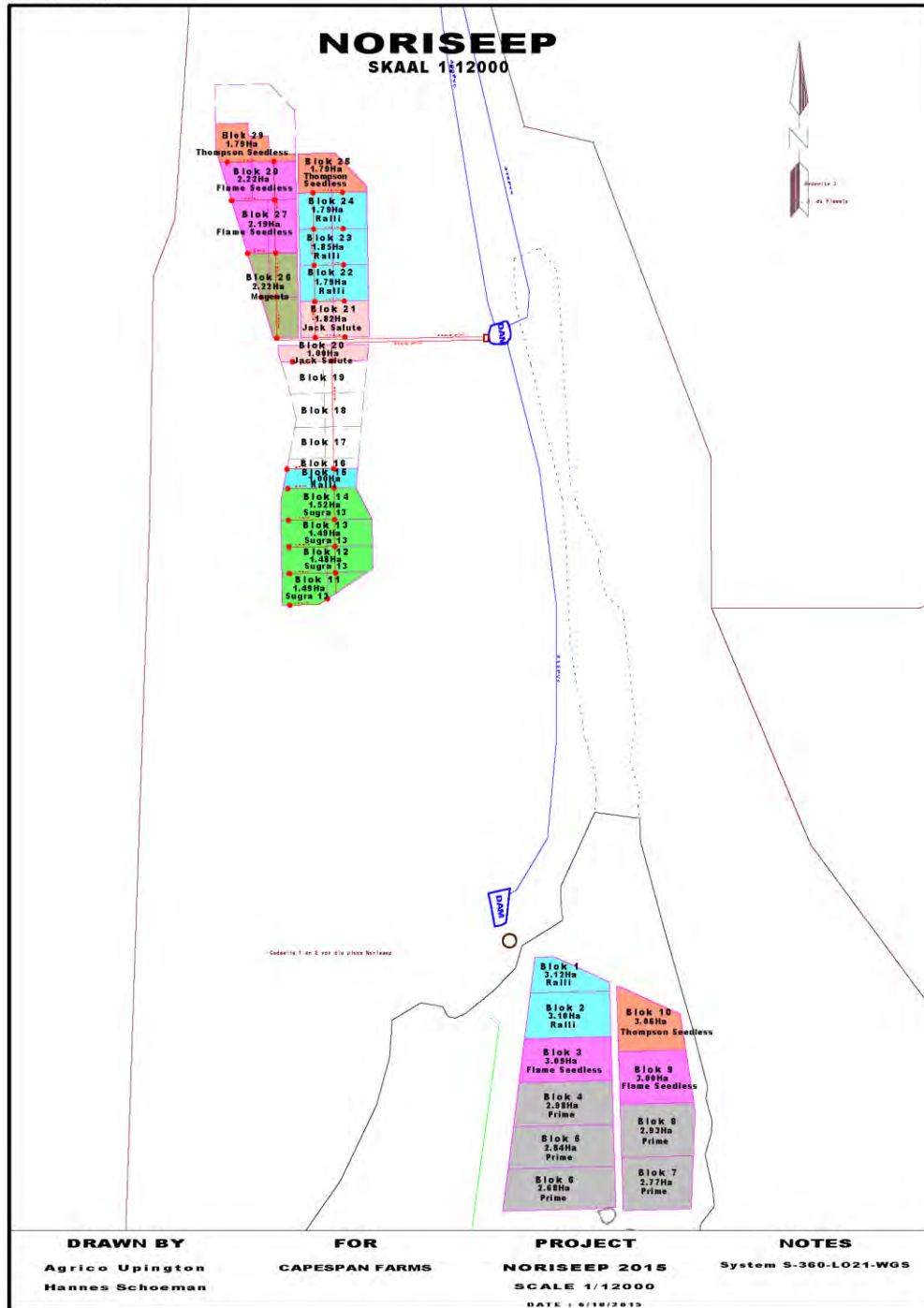
APPENDIX E1: Proposed Locality and Development layout
Master Development Layout Plan











APPENDIX F: Technical Documents
Appendix F.1: S24G Assessment Report

A S24G process is underway, and this report will be advertised as part of the public participation for the draft Assessment Report.

Appendix F.2: Storm water Management Plan

Appendix F.3: Environmental Authorisation

APPENDIX G: Proof of Public Participation

Will be sent once finalised.

APPENDIX H: Section 27 Report

APPENDIX I: Certified copy of ID

APPENDIX J: Company Registration certificates

APPENDIX K: Copy of Receipt

APPENDIX L: Section 21 c and i list of drainage lines coordinates and Risk Matrix

APPENDIX M: Land claim letter

APPENDIX N: Plough Certificate



DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

**NORRISEEP FARM – RECTIFICATION OF THE CLEARING OF
LAND AND THE CONSTRUCTION OF VINEYARDS AND
ASSOCIATED INFRASTRUCTURE ON REMAINDER OF FARM
AFSTOF NO. 421, ONSEPKANS, NORTHERN CAPE
PROVINCE**

DENC REF: S24G02/01/2020

April 2021



DOCUMENT NAME:

Agricultural development and associated infrastructure on Remainder of Farm Afstof No. 421, Farm Norriseep, Onseepkans.

PROJECT NUMBER:

N/A

DATE:

01 April 2021

REPORT STATUS:

DRAFT REPORT

CARRIED OUT BY:

GroenbergEnviro (Pty) Ltd

COMMISSIONED BY:

Valam Boerdery (Pty) Ltd

CLIENT CONTACT DETAILS:

Valam Boerdery (Pty) Ltd

Bernie Denton

P. O. Box 21

Kakamas

8870

Tel: 054 431 0568

AUTHOR(S):

Elanie Kühn

SYNOPSIS:

See Below

PREPARED BY:

GroenbergEnviro (Pty) Ltd



CONTENTS

1 Introduction..... 1

2 Environmental issues..... 10

2.1 Vegetation..... 10

2.2 Aquatic habitat..... 13

3 Aim and Objectives of the EMPr 16

4 Compliance with Applicable Laws 17

5 Roles and Responsibilities 17

6 Monitoring & Auditing..... 22

6.1 ECO Monitoring..... 22

6.2 Auditing..... 23

7 Environmental auditing and monitoring schedule..... 25

8 Management Programme – Operational 27

8.1 Specific conditions as stated in EA..... 27

8.2 Contractual obligations..... 27

8.3 Penalties..... 27

8.4 Methodology statement 28

8.5 Proposed Impact Management Actions 31

Appendix A: Additional Reports..... 72

Appendix B: Tracking Table..... 73

Appendix C: Schedule of Fines 74

Appendix D: Method Statement Proforma..... 76

Appendix E: Method Statement Control Sheet 79

Appendix F: Project map 81

Appendix G: EAP Curriculum Vitae 82

List of Figures

Figure 1: Norriseep locality and property boundaries..... 1

Figure 2: Development Layout 2006 2

Figure 3: Pack house..... 2

Figure 4: Development areas January 2015..... 3

Figure 5: Locality of the two dams 4

Figure 6: Middle Dam design	4
Figure 7: Pakstoor Dam design	5
Figure 8: River pumps.....	6
Figure 9: Pack house design.....	7
Figure 10: Portion of the Vegetation Map of South Africa, Swaziland and Lesotho showing the farm ‘Norriseep’ outlined in red, lying mainly within Eastern Gariep Rocky Desert and to a limited extent in Eastern Gariep Plains Desert.	10
Figure 11: Fine-scale map of the vegetation of Norriseep (red boundary) overlaid on a Google Earth™ image of 16 July 2020. The vineyards and other farm infrastructure are all located in the low-lying, less rocky ‘sheet wash’ plains of typical Eastern Gariep Plains Desert between the rocky hills that support Eastern Gariep Rocky Desert.	11
Figure 12: The Critical Biodiversity Area Map of the Northern Cape Province as it applies to Norriseep.....	12
Figure 13: Ephemeral streams/drainage areas	14
Figure 14: Small Family graveyard	15
Figure 15: Reporting structure	18

List of abbreviations

BAR	Basic Assessment Report
CBA	Critical Biodiversity Area
DEA	National Department of Environmental Affairs
DENC	Northern Cape: Department of Environment and Nature Conservation
DWS	National Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIS	Ecological Importance and Sensitivity
ELU	Existing Lawful Use
EMPr	Environmental Management Programme
ESA	Ecological Support Area
ERW	Ecological Release Water

EWR	Existing Water Rights
FEPA	Fresh Water Ecosystem Priority Areas
HWC	Heritage Western Cape
&AP's	Interested and Affected Parties
MAR	Mean Annual Run-off
MMP	Maintenance Management Plan
NFEPA	National Freshwater Ecology Priority Areas
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM: AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM: ICMA	National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)
NEM: WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
PA	Protected Area
PES	Present Ecological Status
PPP	Public Participation Process
RE	Resident Engineer
RP	Responsible Person
SANBI	South African National Biodiversity Institute
V&V	Validation and Verification
WCBS	Western Cape Biodiversity Spatial Plan
WMA	Water Management Area
WULA	Water Use Licence Application
WUL	Water Use License

Definitions

Alien species - Plants and animals which do not arrive naturally in an area - they are brought in by humans. Alien plants often force indigenous species out of the area. Rooikrans is a good example of alien species in the Cape.

Alternative - A possible course of action, in place of another, that would meet the same purpose and need defined by the development proposal. Alternatives considered in the EIA process can include location and/or routing alternatives, layout alternatives, process and/or design alternatives, scheduling alternatives or input alternatives.

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

Auditing - A systematic, documented, periodic and objective evaluation of how well the environmental management programme is performing with the aim of helping to safeguard the environment by facilitating management control which would include meeting regulatory requirements. Results of the audit help the organisation to improve its environmental policies and management systems.

Biodiversity - The rich variety of plants and animals that live in their own environment. Fynbos is a good example of rich biodiversity in the Cape.

Built environment - Physical surroundings created by human activity, e.g., buildings, houses, roads, bridges and harbours.

Conservation - Protecting, using and saving resources wisely, especially the biodiversity found in an area.

Construction site, working area or Site - means any area within the boundaries of the property(ies) where construction is taking place.

Contamination - Polluting or making something impure.

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

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

Ecology - The scientific study of the relationship between living things (animals, plants and humans) and their environment.

Ecosystem - The relationship and interaction between plants, animals and the non-living environment.

Environment - Our surroundings, including living and non-living elements, e.g., land, soil, plants, animals, air, water and humans. The environment also refers to our social and economic surroundings, and our effect on our surroundings.

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

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

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

For the purposes of this Specification the following definitions shall apply (please note some definitions may not apply to this EMP):

Fynbos - Low-growing and evergreen vegetation found only in the south Western Cape. Fynbos is known for its rich biodiversity.

Habitat - The physical environment that is home to plants and animals in an area, and where they live, feed and reproduce.

Hazardous waste – Waste, even in small amounts, that can cause damage to plants, animals, their habitat and the well-being of human beings, e.g., waste from factories, detergents, pesticides, hydrocarbons, etc.

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

Indigenous species - Plants and animals that are naturally found in an area.

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

Integrated - Mixing or combining all useful information and factors into a joint or unified whole.

Integrated Environmental Management (IEM) - A way of managing the environment by including environmental factors in all stages of development. This includes thinking about physical, social, cultural and economic factors and consulting with all the people affected by the proposed developments. Also called "IEM".

Land use - The use of land for human activities, e.g., residential, commercial, industrial use.

Mitigation - Measures designed to avoid, reduce or remedy adverse impacts.

Natural environment - Our physical surroundings, including plants and animals, when they are unspoiled by human activities.

No-Go area- means any area where no access is allowed.

Over-utilisation - Over-using resources - this affects their future use and the environment.

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

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

Proponent – Developer. Entity which applies for environmental approval and is ultimately accountable for compliance to conditions stipulated in the Environmental authorisation (EA) and requirements of the EMPr.

Recycling - Collecting, cleaning and re-using materials.

Refuse- refers to all solid waste, including construction debris (cement bags, wrapping materials), waste and surplus food, food packaging, organic waste etc.

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

Scoping Report - A report presenting the findings of the scoping phase of the EIA. This report is primarily aimed at reaching closure on the issues and alternatives to be addressed in the EIA (in the case of a full EIA process).

See Integrated Environmental Management.

Stakeholders - A subgroup of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term includes the proponent, authorities and all interested and affected parties.

Storm water management – Strategies implemented to control the surface flow of storm water such that erosion, sedimentation and pollution of surface and ground water resources in the immediate and surrounding environments are mitigated. This is specifically important during the construction and decommissioning phases of a project.

Sustainability - Being able to meet the needs of present and future resources.

Sustainable development - Development that is planned to meet the needs of present and future generations, e.g., the need for basic environmental, social and economic services. Sustainable development includes using and maintaining resources responsibly.

Waste Management – Classifying, recycling, treatment and disposal of waste generated during construction and decommissioning activities.

Wetlands - An area of land with water mostly at or near the surface, resulting in a waterlogged habitat containing characteristic vegetation species and soil types e.g., vleis, swamps.

Zoning - The control of land use by only allowing specific type development in fixed areas or zones.

Requirements as stated in GN 982 Environmental Impact Assessment Regulations, 2014, Appendix 4 and corresponding section.

Requirement	Section
1. (1) An EMPr must comply with section 24N of the Act and include-	
(a) details of (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Details of EAP, page 9 Appendix G: EAP Curriculum Vitae, page 82
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Environmental auditing and monitoring schedule included on page 25
(c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;	Appendix F: Project map, page 81
d) a description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including- (i) planning and design. (ii) pre-construction activities. (iii) construction activities. (iv) rehabilitation of the environment after construction and where applicable post closure; and (v) where relevant, operation activities;	Aim and Objectives of the EMPr, page 16 Mitigation measures and management actions included in page 27.
e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Proposed Impact Management Actions refers to the outcomes in the table on page 31.
(f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to – (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation.	Mitigation measures and management actions included in page 31. Further detail with regards to the Compliance with Applicable Laws on page 17.

(ii) comply with any prescribed environmental management standards or practices. (iii) comply with any applicable provisions of the Act regarding closure, where applicable; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Mitigation measures and management actions included in page 31. Monitoring & Auditing on page 22.
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Monitoring & Auditing on page 22. Frequency etc included in table in Proposed Impact Management Actions on page 31.
(i) an indication of the persons who will be responsible for the implementation of the impact management actions;	Aim and Objectives of the EMPr, page 16 Compliance with Applicable Laws, page 17. Roles and Responsibilities on page 17.
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Proposed Impact Management Actions includes the expected time management on page 31.
(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Proposed Impact Management Actions includes the mechanism for monitoring and compliance on page 31. The Monitoring & Auditing on page 22.
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Monitoring & Auditing refers to reporting on compliance on page 22 This is also outlined in section Management Programme – Operational on page 27.
m) an environmental awareness plan describing the manner in which- (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	This is included under page 25.
(n) any specific information that may be required by the competent authority	Appendix G.

Details of EAP

Company of Environmental Assessment Practitioner (EAP):	GroenbergEnviro (Pty) Ltd	
EAP name:	Elanie Kühn	
Postal address:	P. O. Box 1058	
	Wellington	Postal code: 7655
Telephone:	021 873 7228	Cell: 076 584 0822
E-mail:	elaniem@iafrica.com elanie@groenbergenviro.co.za	Fax: 086 672 1946
EAP Qualifications:	<p>Pieter Badenhorst – 46 years' experience (16 @ CSIR) in environmental management; report writing, project management; facilitation also including preparing of EMPPr's.</p> <p>Elanie Kühn – BSc Hons. in Environmental Management, 14 years' experience in environmental management and water use license applications etc.</p>	
EAP Registrations/Associations:	<p>Pieter -IAIAsa, Pr Eng, SAICE</p> <p>Elanie - IAIAsa</p>	

1 Introduction

Locality:

Norriseep Farm is located on the Remainder of Farm Afstof No. 421. The Norriseep farm is access via a gravel road off the R358 just north of Onseepkans in the Northern Cape Province. The property's location is shown in **Figure 1**.

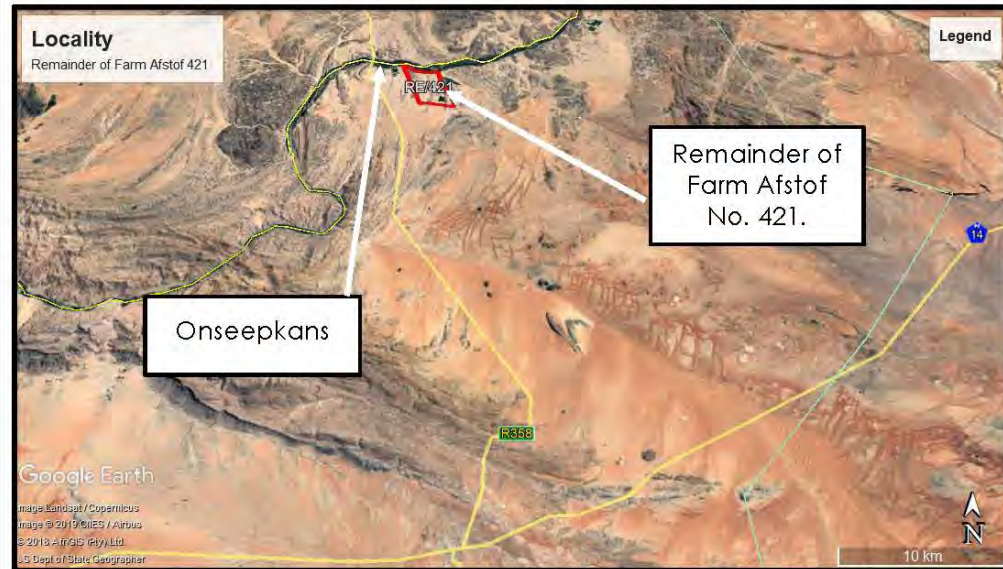


Figure 1: Norriseep locality and property boundaries

The current applicant, Valam Boerdery (Pty) Ltd, only purchased the property in 2014. All the development prior to this (Block 1, pump station and dams) was conducted by the previous owner. Some of these activities which triggered listed activities under NEMA 2000 and 2006. During this purchase, the applicant extended Block 2 and 3 and developed a packaging shed and he unknowingly activated certain listed activities that is included in the NEMA 2010 Regulations. Only during an Audit Report conducted by Mr Pieter Badenhorst, did it become apparent that this is not the case. The following activities are applied for:

NEMA 2002 -2006 Regulations:

1. Construction of agricultural areas of approximately 31ha (Block 1 - purple) that crosses small streams and pump station, dams, pipelines and roads as part of the clearance of indigenous vegetation to establish new agricultural areas.

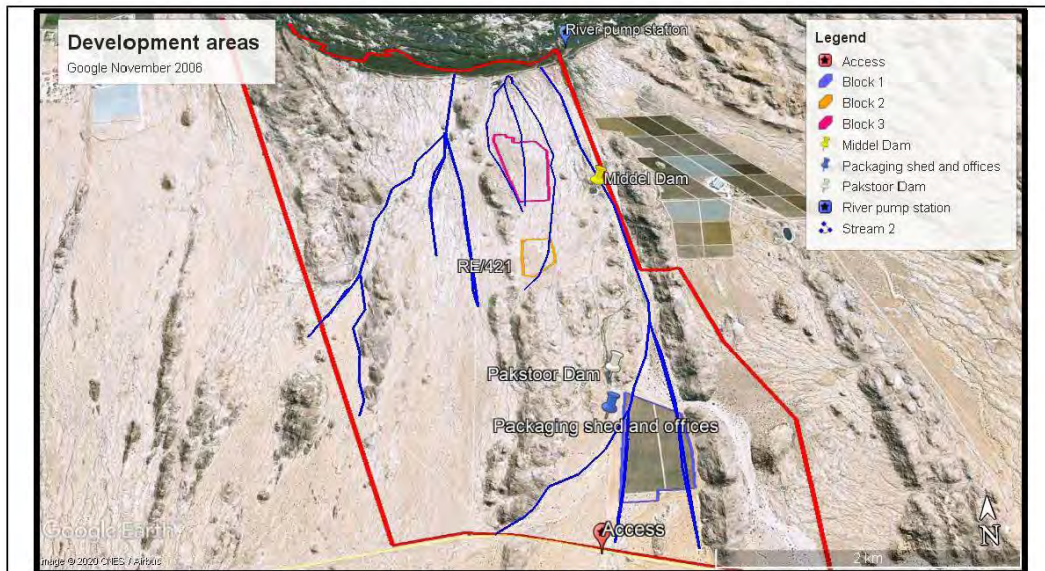


Figure 2: Development Layout 2006

NEMA 2010 -2014 Regulations:

1. Development of the pack house, clearing an area of approximately 1ha, see **Figure 3**.



Figure 3: Pack house

2. Construction of agricultural areas of approximately 7ha for Block 2 (orange) and 20ha for Block 3 (pink) that crosses small streams.



Figure 4: Development areas January 2015

3. Middle and Pakstoor Dam
 - 1) Middle Dam: The dam has a capacity 8064m^3 , with a wall height of 3m and a wall length and height of 60m, see **Figure 5** and **Figure 6**.
 - 2) Pakstoor Dam: The dam has a capacity of $10\,500\text{m}^3$, with a wall height of 3m and a wall length of 102m and wall width of 44m, see **Figure 7**.



Figure 5: Locality of the two dams

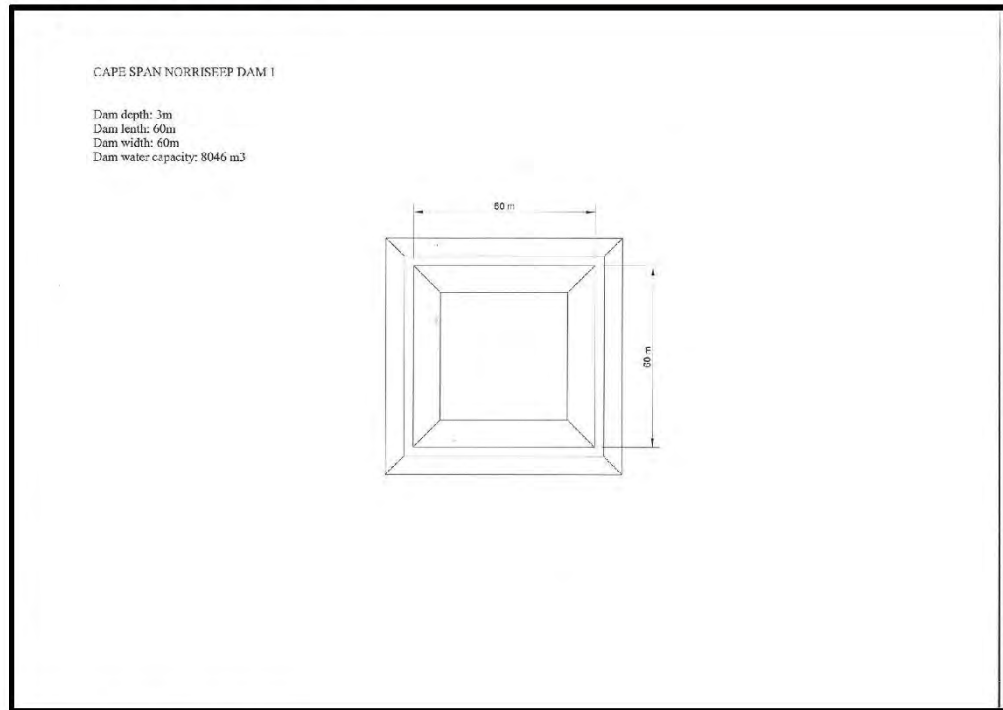


Figure 6: Middle Dam design

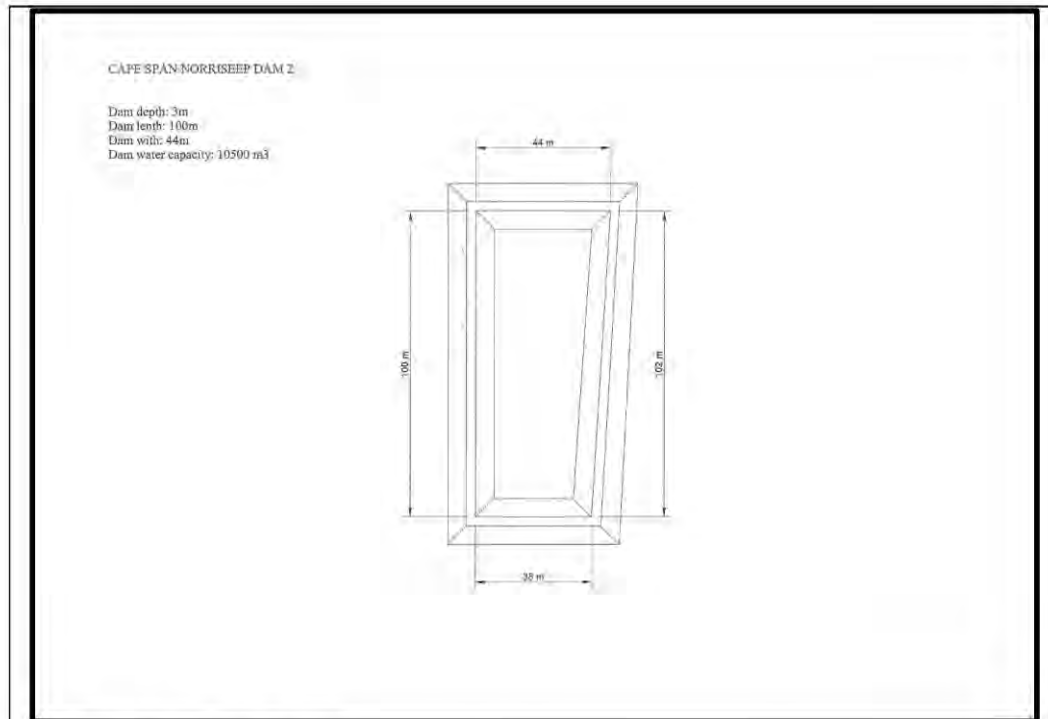


Figure 7: Pakstoor Dam design

By January 2015, a total of 58 hectares had been cleared for agricultural development.

1. River pump station (NEMA 2002-2006)

This is an old existing river pump station constructed by adjacent landowners for the development that took place prior to 2000. Note, as per Figure 8 below, it is a floating pump station that can be removed during flood periods. This pump station pumps the allocated water for which the owner already has a water use license. No further licensing is required.



Figure 8: River pumps

Packaging shed:

During 2010 the development of a pack house took place; the total disturbance footprint area is approximately 1ha. The design of the pack house is shown below in **Figure 9**.

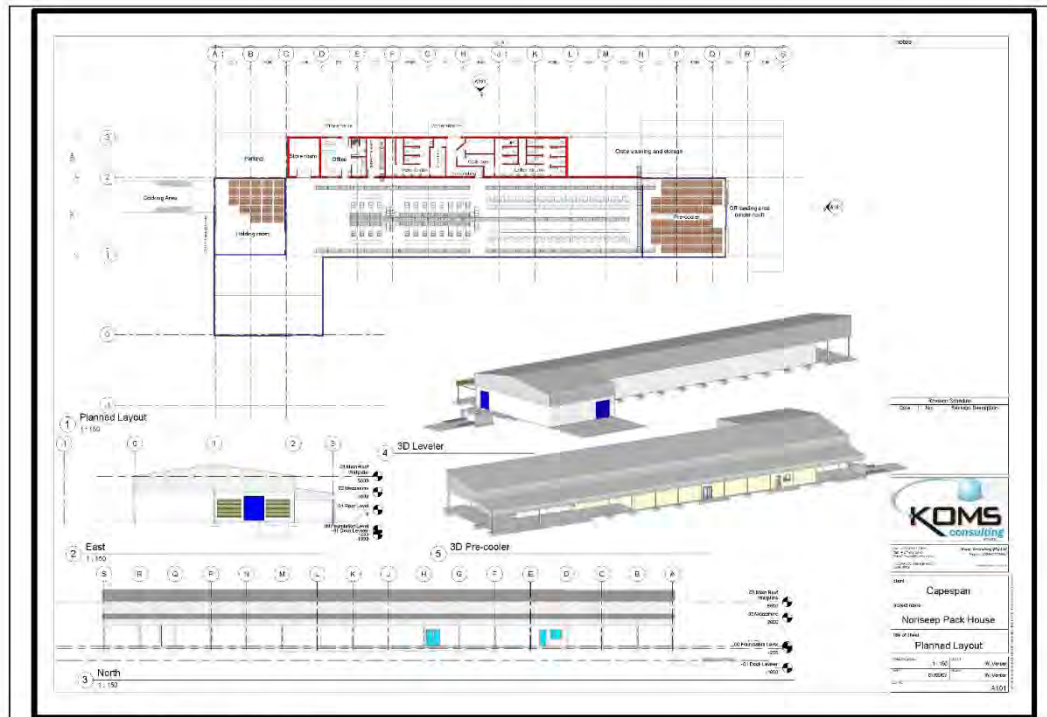


Figure 9: Pack house design.

Roads:

Access is gained off the R358 district road. The internal farm tracks are not surfaced and are compacted earth with no formal storm water management control structures in place. The low rainfall characteristic of the area negates the need to provide for formal storm water control.

Water:

Currently there is a new Water Use Licence (WUL) issued the transfer of water between two farms that are owned by the applicant. This is classified as a Section 21a use (taking of water). This Water Use Licence (WUL) was issued on 30-05-2019. The new WARMS certificate is still awaited.

The applicant, Valam Boerdery (Pty) Ltd, transferred 338 850m³/a (22.59ha) of water from the Remainder of Farm Afstof No. 421(existing rights of 77.6ha) to Kakamas North Settlement No. 341 (KNS 341), to rectify the water shortage at KNS 341. The transfer of 22.59ha of the available 77.6ha from the Remainder of Afstof No. 421, so that 55.01ha remains. The summary of the transfer is shown below in Table below.

Table 1: Transfer and Water allocations

Property	Current Water Allocation	Transfer	Irrigate tempo	Water Allocation ha	Water Allocation m ³ /a
Remainder of Farm Afstof 421	77.6 ha	22.59 ha	15 000 m ³ /ha	55.01 ha	82 5150 m ³ /a
Kakamas North Settlement No. 341	0 ha	0 ha	15 000m ³ /ha	22.59 ha	338 850 m ³ /a

The property is located directly adjacent the Orange River. Note however, that an area of 55 ha is available for irrigation on the farm. Currently only 46.51 ha are irrigated. This property has an Existing Lawful Use of 77.6 ha for irrigation – therefore a surplus of approximately 31.09 ha of water rights is available on the property. As described above, 22.59 ha of this water will be transferred to KNS 341, which leaves 8.5 ha of water rights for future developments on the Remainder of Farm Afstof No. 421. This Water Use License (WUL) was issued on 30-05-2019. The new WARMS certificate is still awaited.

As part of this application, it is also the intention to rectify the construction of agricultural development across small ephemeral streams, see **Figure 2**.

The application is also for section 21 b for storage of water. The first dam, the Middle Dam has a capacity 8064m³, with a wall height of 3m and a wall length and height of 60m. The second dam the Pakstoor Dam has a capacity of 10 500m³, with a wall height of 3m and a wall length of 102m and wall width of 44m. All storage dams not registered with a capacity of more than 2000m³, needs to be licensed.

Norriseep Farm uses water from the irrigation allocation for drinking purposes and garden irrigation.

A license application (WULA) will be required for 21(a) to transfer water from “irrigation” to the sector “Schedule 1”. Water used in pack stores are used for commercial purposes and must, therefore, be licenced as “industrial”.

It can, therefore, be concluded that licences will be required to “transfer” water from the lawful “irrigation” allocation to “industrial use” and Schedule 1.

As shown above in **Table 2**, the total volume of water used annually amounts to 15 000m³/annum (1ha). Therefore, the application is to transfer approximately 1ha of water for Industrial and Schedule 1 use.

The WULA application is summarised, in the table below, for the following water usages:

Table 2: Water use license activities

<i>(a) transfer of water</i>	Applying for a licence for the “transfer” of water from the lawful “irrigation” allocation to “industrial use” and Schedule 1.
<i>(c) impeding or diverting flow of water in a watercourse</i>	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
<i>(i) altering the bed, banks, course or characteristics of a watercourse</i>	For the construction of agricultural areas across ephemeral streams/natural drainage areas.
<i>(b) storing of water</i>	For the construction and registration of storage dams on the property.

Electricity:

Electricity is provided by Eskom for the irrigation process and is linked to the booster pump.

This document is a requirement for environmental authorization (EA) to be attached at Appendix A. All mitigation measures included in the EA will be inserted into Appendix C. On approval by DEA&DP the developer must ensure that its conditions are implemented by making the document available to the contractor and also ensure that an ECO or the Resident Engineer are appointed, and systems are in place to evaluate compliance. The contractor(s) is expected to familiarise himself with the contents of this document and to implement its conditions.

Overall, the EMPr will aim to:

- Control the construction and operational activities in such a way that negative impacts on the physical environment, sensitive areas and surrounding residential areas are prevented or minimised.
- Ensure that mitigation and rehabilitation measures are implemented where required.

Please note that this document does not replace any other regulations, laws and bylaws that the contractor must adhere to. It specifically does not replace the regulations of the Occupational Health and Safety act of 1993 (Act No. 85 of 1993).

Funding for the implementation of the Construction EMPr is the financial responsibility of the developer.

The project environmental issues are shown in section 2 with the construction EMPr in section 3 and the operational EMPr in section 4.

2 Environmental issues

No significant biophysical impacts are anticipated as the environment has been degraded due to agricultural activities in the surrounding area.

2.1 Vegetation

VEGETATION AND FAUNA (AS PER THE BOTANICAL OPINION, INCLUDED IN BAR)

Vegetation types:

“The vegetation types found at Norriseep, according to Mucina et al. (2006), are mainly Eastern Gariep Rocky Desert, a small area of Eastern Gariep Plains Desert away from the Orange River, and Lower Gariep Alluvial Vegetation along the river. Vineyard blocks 2 and 3 lie within an area mapped as Eastern Gariep Rocky Desert and Block 1 is partly within Eastern Gariep Plains Desert (Figure 10). The two dams and other infrastructure are all in the area mapped as Eastern Gariep Rocky Desert.

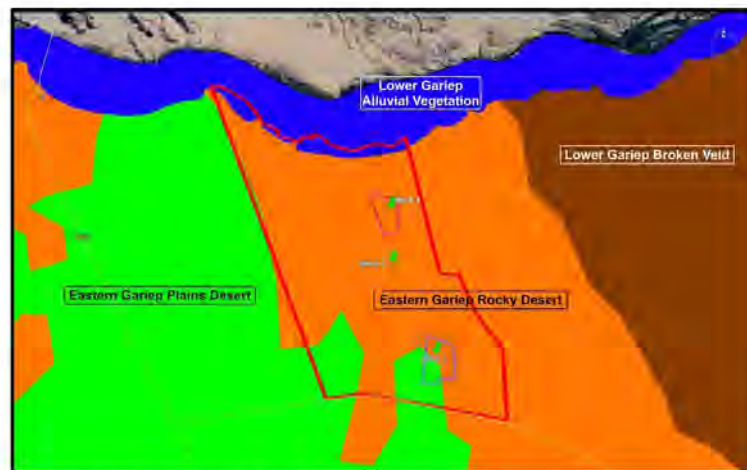


Figure 10: Portion of the Vegetation Map of South Africa, Swaziland and Lesotho showing the farm 'Norriseep' outlined in red, lying mainly within Eastern Gariep Rocky Desert and to a limited extent in Eastern Gariep Plains Desert.

The two vegetation types Eastern Gariep Rocky Desert (Figure 10) and Eastern Gariep Plains Desert (Figure 11) were mapped to show that the vineyards have been established in 'plains' areas that are actually zone of seasonal 'sheet wash', a typical habitat of low-lying areas that drain towards the Orange River.

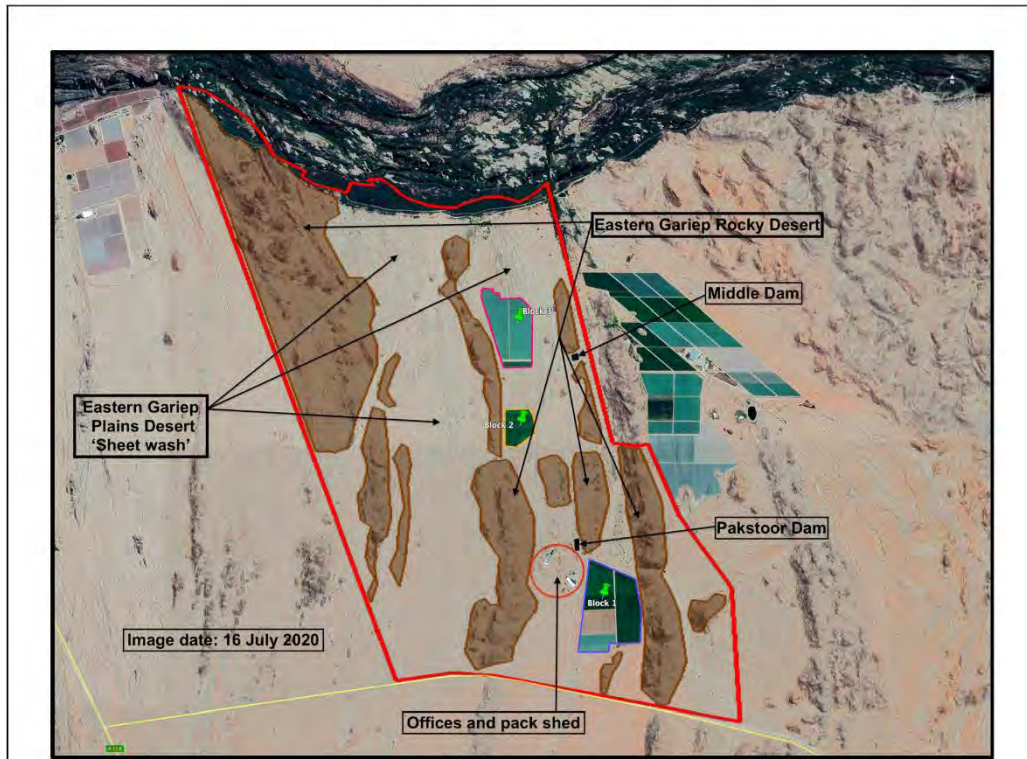


Figure 11: Fine-scale map of the vegetation of Norriseep (red boundary) overlaid on a Google Earth™ image of 16 July 2020. The vineyards and other farm infrastructure are all located in the low-lying, less rocky ‘sheet wash’ plains of typical Eastern Gariep Plains Desert between the rocky hills that support Eastern Gariep Rocky Desert.

Critical Biodiversity Area:

The farm of Norriseep is, in its entirety, within a Critical Biodiversity Area 2 (Figure 24). This indicates that it has high conservation value, and this is due to the inclusion of the area in the National Protected Area Expansion Strategy (NEPAES). The stated goal of the NPAES is “to achieve cost-effective protected area expansion for ecological sustainability and increased resilience to climate change”. The farming operation at Norriseep is compatible with the above objective as long as disturbance of areas not cultivated is kept to a minimum.

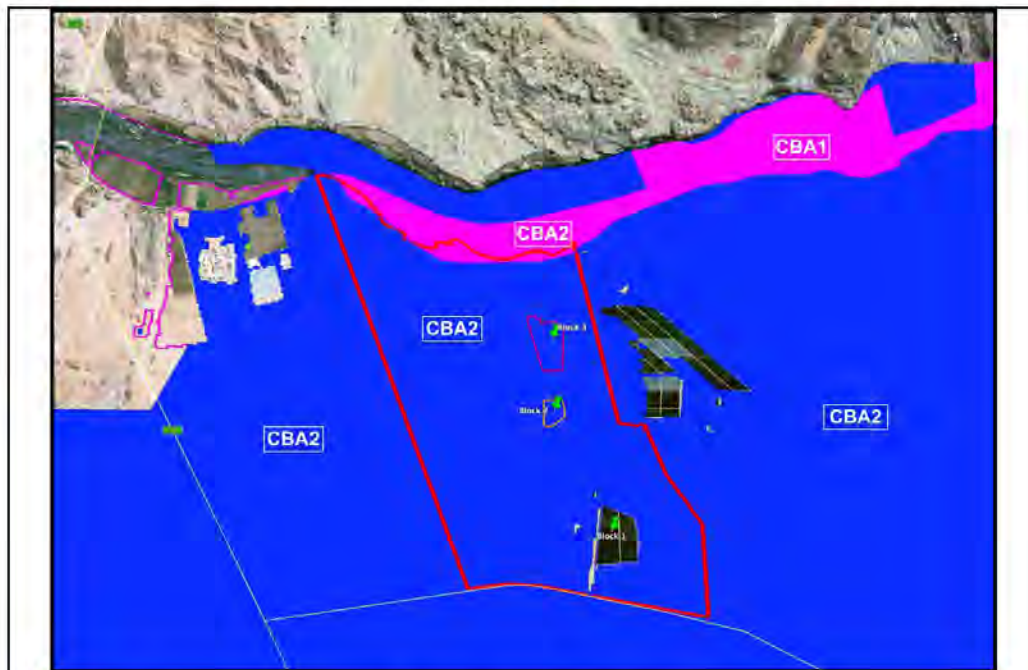


Figure 12: The Critical Biodiversity Area Map of the Northern Cape Province as it applies to Norriseep.

“The botanical study carried out was aimed at retrospectively determining the impact that has occurred at Norriseep due to the development of vineyards across ‘small streams’, at the dam sites and at the pack shed. The vineyard development to date has resulted in the clearance of approximately 31 ha of Eastern Gariep Plains Desert vegetation as described above. The Pakstoor Dam was built in an area formerly of Eastern Gariep Plains Desert but close to Eastern Gariep Rocky Desert. In contrast, the Middle Dam was built within a zone of Eastern Gariep Rocky Desert. The Middle Dam is square and has a capacity 8064m³, with a depth of 3m, width of 60m and length of 60m. It would thus have required clearance of 3600m² of vegetation. The Pakstoor Dam is rectangular and has a length of 100m, a width of 44m and a depth of 3m; total capacity is 10500m³. A total area of 4400m² would have been cleared to make way for this dam.

The pack shed or pack house covers approximately 1 ha, but it was built in an area that was disturbed. The site would originally have supported Eastern Gariep Plains Desert.

Of concern is the large amount of rock rubble (>5 m³) that has been deposited in seasonal watercourses. This has had and will continue to have a high negative impact since apart from a few shrubs, the area covered with rock rubble is essentially barren.”

Conclusions:

“There is no doubt that the development of vineyards in the area under investigation at ‘Norriseep’ has had a negative impact on the vegetation and more specifically on areas seasonal sheet wash of Eastern Gariep Plains Desert. However, due to the sparseness of the vegetation, it is difficult to retrospectively determine the intensity of the negative impact. Owing to the limited extent of the

vineyards in relation to the total area of sheet wash on the farm, the impact is considered to be Medium Negative.

The area where the rock rubble has been deposited has experienced a High Negative impact since the natural seasonal stream flow would be impeded. However, it is recommended that the rock rubble should be left in situ now to limit any further damage due to re-excavation and removal of the rock rubble.

The natural vegetation (Eastern Gariiep Plains Desert and Eastern Gariiep Rocky Desert) has also been lost at the sites of the dams and pack shed. The impact is rated as Low Negative due to the limited extent of removal of natural vegetation and the Least Concern status of the vegetation types.”

2.2 Aquatic habitat

AQUATIC FEATURES

Numerous ephemeral systems were identified primary as part of the Orange River floodplain and should be considered as a significant contributor to stormwater on an occasional basis (1:50 to 1:100-year basis). These streams do not pass any available wetlands delineation or significance due to these systems displaying support to ecological life characteristic to wetlands. They are merely drainage lines that are dry and have no wetlands vegetation or soils supporting the development of wetlands, when surveyed. Most of these streams have already been diverted into the larger streams, with the development of the agricultural areas. The vegetation adjacent to the Orange River is Nama Karoo Bushmanland Floodplain wetland, however, this was not affected by the agricultural development.

The drainage channel system on site has not been mapped (as a watercourse) on any of the maps that are available of the study area. However, upon request from DENC and DWS, the drainage system is seen as a watercourse, see below in Figure 13. Please note: There will be NO planting of vineyards within the larger drainage channels as far as possible and a buffer of at least 20m of the larger drainage systems will always be kept. It is also the intension to keep the bigger stream areas open and not to develop so has to minimise impact on the larger streams.

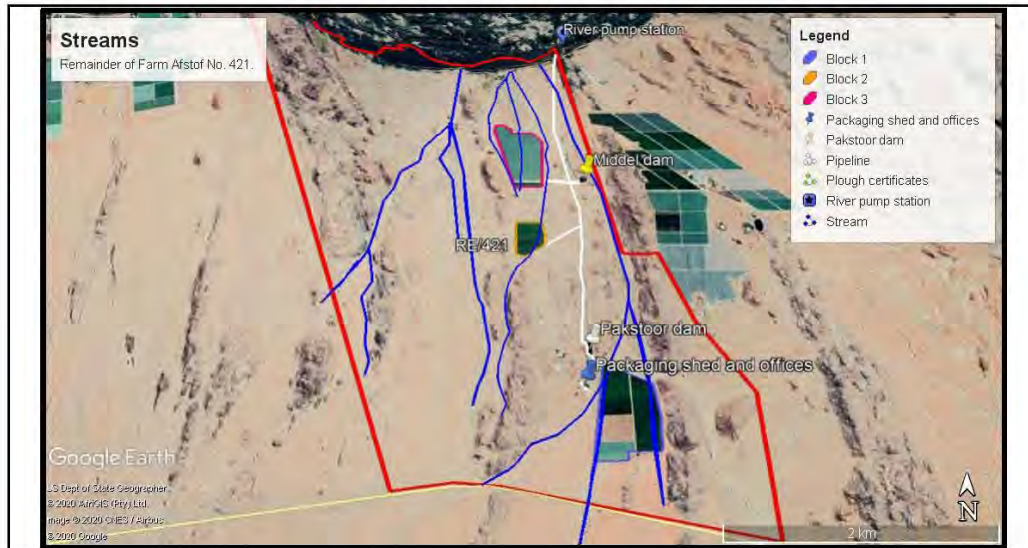


Figure 13: Ephemeral streams/drainage areas

The site falls within the Catchment Region D81E. The drainage channel system is located in an unnamed sub-catchment. The unnamed sub-catchment is not really a river but fits rather the description of a mostly dry drainage line.

The unnamed drainage system is therefore classified as an ephemeral course as it will only flow sporadically after rain. These watercourses are not considered to be seasonal rivers which will regularly contain water in a seasonal pattern.

Surface water use:

No surface water will be used during the operation of this project.

Presence of wetlands:

No specific wetland areas have been identified.

ARCHAEOLOGY AND PALAEOLOGY (AS PER THE ARCHAEOLOGY AND PALAEOLOGY ASSESSMENTS, INCLUDED IN BAR)

The following summary from the Archaeological Assessment conducted:

“Constraints and limitations:

There were no constraints or limitations associated with the study. Access to the farm was easy and archaeological visibility was very good. Results of the desk top study Kaplan (2013, 2017) and Engelbrecht (2015) recorded very small numbers of precolonial archaeological resources in the course of surveys covering large parcels of land in Onseepkans while Dreyer (2008) recorded no archaeological resources during an investigation of 14 borrow pits alongside the R362 between

Pofadder and Onseepkans. Beaumont (2008) also recorded no archaeological resources during a survey of the farm Sty-Kraal near Onseepkans.

FINDINGS:

Illegal vineyard development:

No archaeological resources were recorded in the illegally developed vineyards on the Farm Norriseep. Combined, the 58ha of cultivated vineyards constitute a highly transformed and modified landscape.

No archaeological resources were recorded in the surrounding area.

Built environment:

No old buildings, structures, features or equipment were recorded on the farm.

Graves:

A small family graveyard was recorded on the farm but is located a considerable distance from the illegal vineyard development (Figure 14).



Figure 14: Small Family graveyard

ASSESSMENT OF IMPACTS:

In the case of an illegal vineyard development on the Farm Norriseep (Rem. of the Farm Afstof 421), it is expected that impacts on archaeological heritage are likely to have been LOW. This is based on a field assessment, as well as a desktop study of previous archaeological work undertaken in the Onseepkans area.

CONCLUSION:

Cultivation of illegal vineyards on the Farm Norriseep (Rem. of Farm Afstof 421) has fundamentally transformed the receiving environment.

The literature survey indicates that it is unlikely that significant archaeological resources were impacted by the development.

The impact significance of the illegally established vineyards on archaeological heritage is therefore assessed as LOW.”

The following summary from the Paleontological Assessment conducted:

“In view of the negligible palaeontological sensitivity of the ancient Precambrian granitoid bedrocks as well as the low sensitivity of the geologically recent superficial sediments along shallow stream tributaries of the Gariiep River in the broader Onseepkans region, the unauthorized agricultural developments on the farm Norriseep are not considered to pose a significant threat to local palaeontological heritage. Substantial, potentially-fossiliferous older alluvial deposits of the Orange River are not mapped here.

Pending any significant new fossil discoveries in the area, no further specialist studies or mitigation are considered necessary for this agricultural project.

All South African fossil heritage is protected by the National Heritage Resources Act, 1999. Should substantial fossil remains - such as vertebrate bones and teeth, or petrified logs of fossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably in situ. They should then alert the relevant provincial heritage management authority as soon as possible - i.e. SAHRA (Contact details: Dr Ragna Redelstorff, SAHRA, P.O. Box 4637, Cape Town 8000. Tel: 021 202 8651. Email: rredelstorff@sahra.org.za). This is to ensure that appropriate action (i.e. recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer’s expense. A tabulated Chance Fossil Finds Procedure is appended to this report.

Please note that:

- *All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;*
- *The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);*
- *All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by SAHRA (2013).”*

3 Aim and Objectives of the EMPr

The aim of the EMPr is to:

- Identify those construction activities identified for the proposed project that may have a negative impact on the environment.

- Outline the mitigation measures that will need to be taken and the steps necessary for their implementation; and,
- Describe the reporting system to be undertaken during construction.

The objectives of the EMPr are to:

- Identify a range of mitigation measures which shall reduce and mitigate the potential adverse impacts to minimal or insignificant levels.
- Provide a pro-active and practical working mechanism to enable the measurement and monitoring of environmental performance on site; and,
- Ensure that the environmental specifications are identified, effective and contractually binding to enable compliance on site.

4 Compliance with Applicable Laws

The supreme law of the land is “The Constitution of the Republic of South Africa”, which states: *“Every person shall have the right to an environment which is not detrimental to his or her health or well-being”*.

Laws applicable to protection of the environment in terms of Environmental Management (and relating to construction activities) include but are not restricted to:

- National Environmental Management Act, No. 107 of 1998
- National Environmental Management: Air Quality Act (AQA), No. 39 of 2004
- National Environmental Management: Biodiversity Act, No. 10 of 2004
- National Environmental Management: Waste Act, No. 59 of 2008
- National Heritage Resources Act, No. 25 of 1999
- National Forests Act (NFA) (Act 84 of 1998)
- National Water Act, No 36 of 1998 and amendments
- National Veld and Forest Fire Act, No 101 of 1998
- Occupational Health and Safety Act, No 85 of 1993
- Soil Conservation Act, Act No 76 of 1969
- Sub-division of Agricultural Land Act Repeal Act 64 of 1998 (re: soil conservation) and all regulations framed there under and amendments there to.

Of particular importance is Section 28 (1) of the National Environmental Management Act (NEMA – Act 107 of 1998) which places an obligation on all individuals to take due care of the environment and to ensure remedial action is instituted to minimise and mitigate environmental impact.

The EMPr forms part of the Contract Documentation and is thus a legally binding document. In terms of this Act an individual responsible for environmental damage must pay costs both to environment and human health and the preventative measures to reduce or prevent additional pollution and/or environmental damage from occurring. This is referred to as the Polluter Pays Principle.

5 Roles and Responsibilities

The key role players during maintenance work are anticipated to be as follows:

- Applicant (Holder of the EA) – Valam Boerdery (Pty) Ltd
- Engineer / Responsible Person (RP), who will oversee the activities of the contractors on site.
- Environmental Control Officer (ECO).
- Contractors responsible for the maintenance and repair activities; and
- Any sub-contractors hired by the contractor.

The anticipated management structure (organogram) is presented in Figure 15 below and shows the proposed lines of communication for maintenance activities. The applicant retains overall responsibility for maintenance and the implementation of the EMPr.

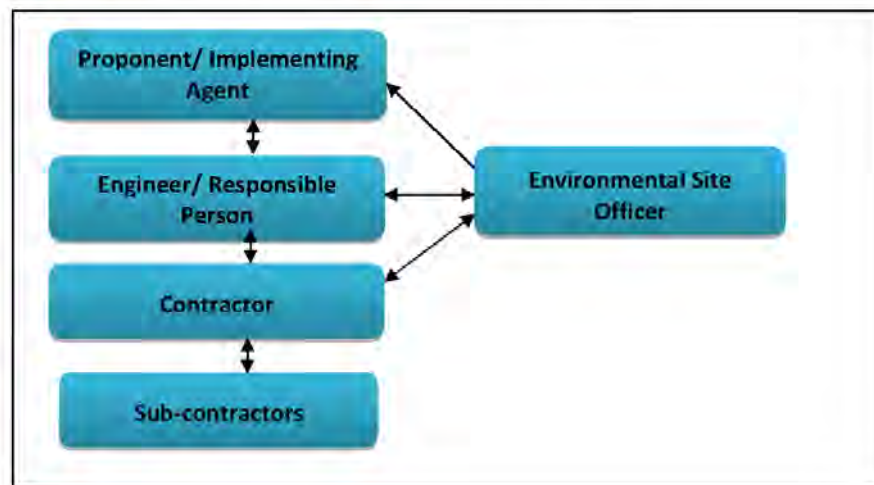


Figure 15: Reporting structure

Key roles and responsibilities with respect to the implementation of the EMPr is outlined below.

Applicant – Valam Boerdery (Pty) Ltd:

The applicant (through their Implementing Agent if applicable) has overall responsibility for management of maintenance activities. In terms of environmental management, the proponent will:

- Appoint suitably experienced Engineers, if required, who will be responsible for the overall management of activities on site;
- Identify any activities not covered by the scope of this EMPr, and determine the need for, and where required, obtain relevant authorisations;
- Ensure that the Engineers are aware of the requirements of the EMPr, implement the EMPr and monitor the Contractor's activities on site;
- Ensure that the Contractor is aware of and contractually bound to the provisions of this EMPr by including the relevant environmental management requirements in tender and contract documents, as appropriate;
- Appoint a suitably qualified and experienced ECO to oversee environmental management of the required works;
- Ensure that the Contractor remedies environmental problems timeously and to the satisfaction of the Engineer and authorities (when necessary); and
- Notify the authorities should problems not be remedied timeously.

Responsible Person:

The applicant will appoint suitably qualified Engineers (if necessary), who in turn will designate a responsible person (RP) to oversee activities of the Contractor. This role will be fulfilled either by the Resident Engineer or a suitably qualified representative of the applicant, if applicable. The RP shall:

- Ensure that the Contractor is duly informed of the EMPr and associated responsibilities and implications of this EMPr prior to commencement of construction and maintenance activities;
- Identify the need for, and request/provide Method Statements for future maintenance and repair works;
- Monitor the Contractor's activities regarding the requirements outlined in the EMPr;
- Report any environmental emergencies/concerns to the applicant immediately; and
- Ensure that non-compliance is remedied timeously and to the satisfaction of the relevant authorities.

Environmental Control Officer:

The ECO shall be a suitably qualified/experienced environmental professional or professional firm, appointed by the proponent, for the duration of repair or maintenance works. The ECO shall:

- Request Method Statements from the Contractor prior to the start of relevant activities, where required, and approve these (as appropriate) without causing undue delay;
- Monitor, review and verify compliance with the EMPr by the main Contractor, as well as any sub-contractors and specialist contractors;
- Undertake site inspections at least twice a month to determine compliance with the EMPr;
- Identify areas of non-compliance and recommend corrective actions (measures) to rectify them in consultation with the applicant, the RP and the Contractor, as required;
- Compile a checklist highlighting areas of non-compliance following each ECO inspection;
- Ensure follow-up and resolution of all non-compliances;
- Provide feedback for continual improvement in environmental performance;
- Respond to changes in project implementation or unanticipated activities which are not addressed in the EMP, and which could potentially have environmental impacts, and advise the applicant, the RP and Contractor as required; and
- Act as a point of contact for local residents and community members.

Contractor:

The Contractor will be required to appoint or designate a Contractor's Environmental Representative (CER) who will assume responsibility for the Contractor's environmental management requirements on site and be the point of contact between the Contractor, the ECO and the RP. The CER shall:

- Ensure that all activities on site are undertaken in accordance with the EMPr and /or an approved Method Statement which applicable;
- Monitor the Contractor's activities with regard to the requirements outlined in the EMPr;
- Ensure that all employees and Sub-contractors comply with the EMPr;
- Immediately notify the RP and ECO of any non-compliance with the EMPr, or any other issues of environmental concern; and
- Ensure that non-compliance is remedied timeously and to the satisfaction of the RP and ECO.

The Contractor has a duty to demonstrate respect and care for the environment. The Contractor will be responsible for the cost of rehabilitation of any environmental damage that may result from non-compliance with the EMPr, environmental regulations and relevant legislation.

Sub-contractors:

All Sub-contractors will be required to:

- Ensure that all employees are duly informed of the EMPr and associated responsibilities and implications of this EMPr prior to maintenance activities;
- Ensure that all activities on site are undertaken in accordance with the EMPr;
- Monitor employees' activities with regard to the requirements outlined in the EMPr;
- Immediately notify the RP and ECO of any non-compliance with the EMPr, or any other issues of environmental concern; and
- Ensure that non-compliance is remedied timeously and to the satisfaction of the RP and ECO.

The Sub-contractor has a duty to demonstrate respect and care for the environment. The Sub-contractor will be responsible for the cost of rehabilitation of any environmental damage that may result from non-compliance with the EMPr, environmental regulations and relevant legislation, resulting from their presence on site.

6 Monitoring & Auditing

6.1 ECO Monitoring

The holder of the E.A. must appoint a suitably experienced environmental control officer ("ECO"), for the duration of the construction and rehabilitation phases of implementation.

The ECO must-

- be appointed prior to commencement of any vegetation clearing or construction/maintenance activities commencing.
- ensure compliance with the EMPr and the conditions contained herein.
- keep record of all activities on site; problems identified; transgressions noted, and task schedule of tasks undertaken by the ECO.
- Remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

An Environmental Control Officer (ECO) will implement and monitor environmental control of the development. The ECO duties will be as follows:

- Ensure implementation and monitoring of the EMPr.
- Make changes to the EMPr as required.

- **Please note this EMPr is just for the maintenance, or operational activities as the development has already taken place fully.**

A copy of the Environmental Authorisation, EMPr, any independent assessments of financial provision for rehabilitation and environmental liability, closure plans, audit reports and compliance monitoring reports must be kept at the site of the authorised activities.

Access to the site referred to in Section C must be granted, and the environmental reports mentioned above must be produced, to any authorised official representing the Competent Authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein.

The ECO will maintain a file containing the following:

- 1) Copy of the EMPr.
- 2) Methodology statement(s) by the contractor(s) – ONLY FOR MAINTENANCE ACTIVITIES
- 3) Site establishment plan
- 4) Letter from contractor(s) indicating that he has familiarised himself with the contents of the EMPr.
- 5) Letter from contractor(s) on environmental awareness training
- 6) The applicant must ensure that complaints received by the farm are documented.
- 7) The contractor shall maintain a copy of the following documents on-site:
 - Operational Plan.
 - Emergency response and remedial action plan.
 - Environmental Management Programme (EMPr) and other documents related to the operation on file.
- 8) Tracking table (see Appendix B).
- 9) Method Statements (See Appendix E and F).

6.2 Auditing

The holder must, for the period during which the environmental authorisation and EMPr remain valid-

- ensure the compliance with the conditions of the environmental authorisation and the EMPr, is audited.
- An Audit report must be compiled within 6 months after completion of any maintenance construction activities.
- During the operational phase, the holder must ensure that environmental audit(s) are performed and submitted as outlined in the Environmental Authorisation. During the operational phase the frequency of the auditing of compliance with the conditions of the

environmental authorisation and of compliance with the EMPr shall not exceed intervals of 5 years.

- the environmental audit report must be prepared and submitted to the Competent Authority, by an independent person with the relevant environmental auditing expertise.
- The Environmental Audit Report, must-
 - a. provide verifiable findings, in a structured and systematic manner, on-
 - i. the level of compliance with the conditions of the environmental authorisation and the EMPr and whether this is sufficient or not; and
 - ii. The ability of the measures contained in the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.
 - b. identify and assess any new impacts and risks as a result of undertaking the activity.
 - c. evaluate the effectiveness of the EMPr.
 - d. identify shortcomings in the EMPr.
 - e. identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr.
 - f. indicate the date on which the construction work was commenced with and completed or in the case where the development is incomplete, the progress of the development and rehabilitation.
 - g. indicate the date on which the operational phase was commenced with and the progress of the rehabilitation.
 - h. include a photographic record of the site applicable to the audit; and
 - i. Be informed by the ECO reports (where applicable to the construction phase).

7 Environmental auditing and monitoring schedule

Environmental auditing and monitoring schedule			
Non-operational phases			
	Frequency	Record & duties to be fulfilled	Report
ECO site visits	Once Monthly	<ul style="list-style-type: none"> • Ensure compliance with the EMPR and the conditions contained herein. • Keep record of all activities on site; problems identified; transgressions noted, and a task schedule of tasks undertaken by the ECO. • Remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation. 	Site visit report to holder of EA.
Auditing	Completion of project	Ensure the compliance with the conditions of the environmental authorisation and the EMPR	Submit the Environmental Audit Report(s) to the Competent Authority.
Final construction phase Environmental Audit Report	Within six (6) months of completion of construction.	Ensure the compliance with the conditions of the environmental authorisation and the EMPR	Submit these Environmental Audit Report(s) to the Competent Authority.
Operational phases			
Environmental audit(s)	The frequency of the auditing of compliance with the Conditions of the environmental	<ul style="list-style-type: none"> • The holder must ensure that environmental audit(s) are performed regularly. • The Report must comply with the conditions of the Environmental Authorisation. 	<ul style="list-style-type: none"> • Submit these Environmental Audit Report(s) to the Competent Authority,

	<p>authorisation and of compliance with the EMPR shall not exceed intervals of 5 years.</p>		<ul style="list-style-type: none"> • The environmental audit report must be prepared and submitted to the Competent Authority, by an independent person with the relevant environmental auditing expertise.
--	---	--	--

8 Management Programme – Operational

Please note that the EMPr must be included in any tender documentation and all sub-contractors on the site must be made aware of this EMPr and they must at all times adhere to the procedures specified.

Only those sections applicable to the specific construction activity are relevant and to be implemented.

8.1 Specific conditions as stated in EA.

- 1) To be included after issue of EA.

8.2 Contractual obligations

1. The Contractor shall acknowledge receipt of copies of the EMPr and confirm in writing that he has familiarised himself with the contents thereof.
2. The Contractor shall comply with all environmental obligations imposed by the RE/ECO/EO.
3. The Contractor shall co-operate fully with the RE/ECO/EO and use his best endeavours to ensure that the objectives of the EMPr are fulfilled in the course of the Contractor's execution of the works or the relevant part thereof.
4. The Contractor must ensure that all workers are given environmental awareness training on the requirements of the EMPr. This must form part of the Contractor's contract agreement. The RE/ECO/EO must be informed in writing of implementation.
5. Working hours will be from 7:00pm to 18:00pm Monday to Saturday. No work will be allowed on Sundays or public holidays.
6. Deliveries will only be allowed between 8:00am and 5pm.
7. Preference must be given to local labour.
8. Workers (except security guards) shall not be housed on site.

8.3 Penalties

Penalties must be instituted for non-compliance. The penalty is over and above the cost of rectifying the problem and/or damage. Penalties vary on a sliding scale from R 1 000 to R 5 000 for non-serious to serious issues as determined by the RE/ECO/EO/EO.

These penalties must be paid into a separate account to be administered by the developer. The RE/ECO/EO/EO will decide how the penalties, if any, are to be spent.

Refer to Appendix D for the Schedule of Fines.

8.4 Methodology statement

Method Statements must be compiled by the contractor(s) before any maintenance construction activity shall commence. The statement must include a site establishment plan indicating all relevant areas. The RE/ECO/EO must approve the Method Statement. Refer to Appendix E.

The ECO must identify Method Statements that will be required as part of the project implementation. The list provided below is generic, and only that which is applicable to the maintenance activities for the existing developed agricultural areas will be required (underlined).

Access routes

- Upgrading and construction of access routes.
- Rehabilitation of temporary access routes.

Alien plant clearing

- Method of control to be used for the eradication or control of alien vegetation.

Blasting

- Details of all methods and logistics associated with blasting.

Bunding

- Method of bunding for static plant.

Camp establishment

- Layout and preparation of the construction camp.
- Method of installing fences required for “no go” areas, working areas and construction camp areas.
- Preparation of the working area.

Cement /concrete batching

- Location, layout and preparation of cement/ concrete batching facilities including the methods employed for the mixing of concrete including the management of runoff water from such areas.

Contaminated water

- Contaminated water management plan, including the containment of runoff and polluted water.

Demolition

- Proposed method(s) of demolition.

Dredging

- Proposed methods and compounds to treat spills.
- Methods of refuelling dredger.

Drilling and jack hammering

- Method of drill coring with water or coolant lubricants.
- Methods to prevent pollution during drilling operations.

Dust

- Dust control.

Earthworks

- Method for the control of erosion during bulk earthwork operations.
- Method of undertaking earthworks, including hand excavation and spoil management.

Emergency

- Emergency construction method statements.

Environmental awareness course

- Logistics for the environmental awareness course for all the Contractors employees.
- Logistics for the environmental awareness course for the Contractors management staff.

Erosion control

- Method of erosion control, including erosion of spoil material.

Exposed aggregate finishes.

- The method of control, treatment and disposal with respect to exposed aggregate finishes.

Fire, hazardous and poisonous substances

- Handling and storage of hazardous wastes.
- Emergency spillage procedures and compounds to be used.
- Emergency procedures for fire.
- Use of herbicides, pesticides and other poisonous substances.
- Methods for the disposal of hazardous building materials including asbestos, fibre claddings, refrigerants and coolants.

Fuels and fuel spills

- Methods of refuelling vehicles.
- Details of methods for fuel spills and clean-up operations.
- Refuelling of construction vehicles in high flow areas [or in the 1 in 50-year floodplain].
- Method of refuelling dredger during dredging operations.

Piling, jacking and thrust boring.

- The method of piling operation (e.g., driven or bored) or in situ casting or pre-cast pile structures.

Rehabilitation

- Rehabilitation of disturbed areas and revegetation after construction is complete.
- Rehabilitation of street or hardened surfaces after construction is complete.
- Retaining walls and gabions.
- Method for construction and installation of retaining walls/ gabion baskets.

Riverine corridors

- Method for all construction activities within the 1 in 50-year floodplain.

Rock breaking

- Details of chemical applications to be used for rock breaking.

Settlement ponds and sumps

- Layout and preparation of settlement ponds and sumps.

Solid waste management

- Solid waste control and removal of waste from Site.
- Methods for the disposal of vegetation cuttings, building materials or rubble generated by construction.

Sources of materials

- Details of materials imported to the site (where applicable).

Sensitive environments

- Proposed construction methods within any sensitive environments. These can include but are not limited to wetlands, dams and rivers.

Traffic

- Traffic safety measure for entry/ exit onto/ off public roads.

- Traffic control when crossing roads or pedestrian routes with construction activities.

Vegetation clearing

- Method of vegetation clearing during site establishment.

Wash areas

- Location, layout, preparation and operation of all wash areas, including vehicle wash, workshop washing and paint washing and clearing.

Wastewater treatment works.

- Emergency procedures for accidental leaks, spillage or overflow of raw wastewater, semi treated wastewater, sludge or final effluent. The Method Statement shall include the following:
 - a. a comprehensive list of available equipment (*e.g.*, pipes and pumps) in the event of a spill
 - b. the location of all emergency equipment
 - c. the individual(s) responsible for the upkeep and maintenance of the emergency equipment
 - d. an indication of how regularly the emergency equipment will be checked to ensure that it is working properly.
 - e. the location of any and all temporary emergency sumps, including old sludge ponds, clarifiers, low lying areas *etc.*
 - f. the size of spillage which the emergency procedures shall contain.
 - g. where and how any spilled material will be returned to the wastewater works system.
 - h. who shall be notified in the event of an emergency, including contact numbers for the relevant local authority.
- Methods to isolate any section of the wastewater infrastructure for construction or maintenance purposes.
- Methods to connect new structures or reconnect old structures to the wastewater treatment infrastructure.

8.5 Proposed Impact Management Actions

The environmental management and mitigation measures that must be implemented during all construction and operational activities, as well as responsibilities and timelines for the implementation of these measures are presented in Table 4-2. Monitoring thereof, is discussed in section 6.1 above.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
1. Environmental awareness training	<ol style="list-style-type: none"> 1. All the Contractors employees and Sub-Contractors employees and any suppliers' employees that spend more than 1 day a week or four days in a month on site, must attend an Environmental Awareness Training course presented by the Contractor the first of which shall be held within one week of the Commencement Date. Subsequent courses shall be held as and when required. 2. The Engineer/ECO will provide the Contractor with the course content for the environmental awareness training course, and the Contractor shall communicate this information to his employees on the site, to any new employees coming onto site, to his subcontractors and to his suppliers. 3. The Contractor shall supply the Engineer/ECO with a monthly report 	Contractor	Within one week of the Commencement Date/or of new appointments. Subsequent courses shall be held as and when required.	<ul style="list-style-type: none"> • Understanding of the EMPr. • Compliance of Contractor with the EMPr.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>indicating the number of employees that will be present on site during the following month and any changes in this number that may occur during the month.</p> <p>4. The Contractor shall submit a Method Statement detailing the logistics of the environmental awareness training course.</p>			
2. Buffer area	<p>1. A buffer area of 32m of the streams should be kept during construction activities, and the stream area beyond that strictly treated as a No-Go area, accept those affected by the development.</p> <p>2. A buffer zone of 32m from all streams, accept those affected by the development and outlined as part of Water Affairs applications.</p>	Holder of EA or representative	Before construction commences and maintained throughout development.	<ul style="list-style-type: none"> • Ensure no illegal entries. • Ensuring no further degradation of the natural environment. • Ensure no vegetation cleared or disturbed. • Ensuring no degradation to freshwater ecology/environment downstream of the activity.
3. Stream & Wetland Sensitive - Environments	<p>1. A buffer zone of 32m from all streams, accept those affected by the development.</p> <p>2. Rectification of the diversions and embankments would not be possible since the farming operation could then not continue. However, it is strongly</p>	Holder of EA or representative/ contractor/ freshwater ecologist	Before construction commences and maintained throughout	<ul style="list-style-type: none"> • Ensure no illegal entries. • Ensuring no further degradation of the natural environment. • Ensure no vegetation cleared or disturbed.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>recommended that unnatural rubble, should be removed and deposited in a recognized landfill. It should not be left exposed on the soil surface.</p> <p>3. If any trees of significance are found a permit should be applied for the removal of trees of significance under the National Forests Act (NFA) (Act 84 of 1998).</p>			<ul style="list-style-type: none"> • Ensuring no degradation to freshwater ecology/environment downstream of the activity. • Enhancing the downstream wetlands and water quality. • Only enlisted water will be used. • Monitoring as outlined is adhered to.
4. Camp	<ol style="list-style-type: none"> 1. The Contractor's camp, offices, and storage facilities shall not be located within an environmentally sensitive area or the No-Go areas. The camp's position must be approved by RE/ECO. 2. The camp must be fenced as agreed with the RE/ECO. 3. Water from the kitchens, showers, sinks etc., shall be discharged in a manner approved by the RE/ECO. 4. The contractor must ensure that all temporary structures, equipment, materials, and facilities used or created 	Holder of EA or representative/ Contractor	Before construction commences and maintained throughout	<ul style="list-style-type: none"> • All construction infrastructure etc. is located within a demarcated camp, within which possible impacts on the environment can be mitigated. • The site is not located close to any environmentally sensitive areas.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>on-site during the construction phase are removed and appropriately disposed of.</p> <p>5. No littering by the contractor's employees shall be tolerated under any circumstances, anywhere in the demarcated area for construction.</p> <p>Site of construction camp</p> <p>1. Choice of site for the contractor's camp requires the ECO's permission and must take into account location of local residents and / or ecologically sensitive areas, including flood zones and slip / unstable zones. A site plan must be submitted to the ECO and project manager for approval.</p> <p>2. The construction camp must not be situated within the 1:100-year flood line or on slopes greater than 1:3.</p> <p>3. The size of the construction camp must be minimized (especially where natural vegetation or grassland has had to be cleared for its construction).</p> <p>4. The contractor must attend to drainage of the camp site to avoid standing water and / or sheet erosion.</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<ol style="list-style-type: none"> 5. Suitable control measures over the contractor's yard, plant and material storage to mitigate any visual impact of the construction activity must be implemented. 6. No development, or activity of any sort associated with camp, is allowed below the 1:50 year flood line of any water system. 7. Storage of materials (including hazardous materials) at site camp. 8. Choice of location for storage areas must take into account prevailing winds, distances to water bodies, general on-site topography and water erosion potential of the soil. 9. Storage areas must be designated, demarcated and fenced. 10. Storage areas must be secure to minimize the risk of crime. They must also be safe from access by unauthorised persons. 11. Fire prevention facilities must be present at all storage facilities. 12. Proper storage facilities for the storage of oils, paints, grease, fuels, chemicals and any hazardous materials to be used must 			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>be provided to prevent the migration of spillage into the ground and groundwater regime around the temporary storage area(s). These pollution prevention measures for storage must include a bund wall high enough to contain at least 110% of any stored volume, and this must be sited away from drainage lines in a site with the approval of the ECO.</p> <p>13. These storage facilities (including any tanks) must be on an impermeable surface that is protected from the ingress of storm water from surrounding areas in order to ensure that accidental spillage does not pollute local soil or water resources.</p> <p>14. Clear signage must be placed at all storage areas containing hazardous substances / materials. Staff dealing with these materials / substances must be aware of their potential impacts and follow the appropriate safety measures.</p> <p>15. A Waste Disposal Contractor must be employed to remove waste oil. These wastes must only be disposed of at a licensed landfill sites designed to handle</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>hazardous wastes. A disposal certificate must be obtained from the Waste Disposal Contractor.</p> <p>16. All excess cement and concrete mixes are to be contained on the construction site prior to disposal off site.</p> <p>17. Any spillage, which may occur, shall be investigated and immediate action must be taken. This must also be reported to the ECO and DEA&DP, as well as local authorities if so required.</p> <p>18. Drainage of construction camp</p> <p>19. Run-off from the camp site must not discharge into neighbours' properties.</p> <p>End of construction</p> <p>1. Once construction has been completed on site and all excess material has been removed, the storage area shall be rehabilitated. If the area was badly damaged, reseeded shall be done.</p> <p>2. Such areas shall be rehabilitated to their natural state. Any spilled concrete shall be removed, and soil compacted during construction shall be ripped, levelled and re-vegetated.</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
5. Tree protection	<ol style="list-style-type: none"> Given that the environment is arid, artificial restoration of the vegetation would be almost impossible. The best that can be suggested is that the environment be cleaned of foreign materials and that no further unauthorised activities should take place i.e., movement of large quantities of soil and creation of further embankments. If any trees of significance are found a permit should be applied for the removal of trees of significance under the National Forests Act (NFA) (Act 84 of 1998). 	Holder of EA or representative	If and when required. Before construction commences and maintained throughout. Note possible application to DAFF.	<ul style="list-style-type: none"> Protect the various protected trees, note possible application to DAFF.
6. Sensitive environments	<p>Additional</p> <ol style="list-style-type: none"> Ablution facilities must be located as far away as possible from the river and wetland. Safe and effective sewage treatment will require one of the following sewage handling methods: The use of chemical toilets which are supplied and maintained by the subcontractor. The establishment of ablution facilities for all staff and construction workers. A minimum of one toilet must be provided per 15 persons at each working area. 	Holder of EA or representative/ Contractor	Before construction commences and maintained throughout. If and when required.	<ul style="list-style-type: none"> No further impacts on the fauna and flora other than outlined and approved.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>4. Effluent and wastewater – All effluent water from the camp/office must be disposed of in a properly designed and constructed system (ablution facilities), situated so as not to adversely affect the river and wetland. No construction fluids must be allowed to enter the river and wetland. These must be disposed of via the solid waste stream. No wastewater must be disposed of onto soil. This does not include clean groundwater from excavations or rainwater.</p> <p>5. Hazardous waste and spillage – Petrochemicals, oils and identified hazardous substances must only be stored under controlled conditions. All hazardous materials must be stored in a secured, appointed area that is fenced and has restricted entry. The site must be protected from direct or indirect spillage of pollutants such as cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products. Responsibility for spill treatments lies with the contractor. Should water downstream</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed.</p> <p>6. Construction vehicles and equipment must be kept in a good working condition. Storage and re-fuelling areas must be clearly demarcated, bunded and lined.</p> <p>7. Spillage of any fuels directly onto bare soil or into a watercourse must be prevented at all times.</p> <p>8. Litter and solid waste – No littering by construction workers must be allowed. Measures must be taken by the contractor to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. The contractor must provide litter bins at all places of work. Solid waste must be stored in an appointed area in covered, tip proof metal drums for collection and disposal.</p> <p>Animals</p> <p>1. The site is within a rural area that has been extensively cultivated and it is</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>therefore unlikely that any animal life would be present. However, should any animal life be encountered it must be carefully removed and none must be harmed or killed. Most animals will move away naturally except possibly snakes. Any problems must be reported to the ECO.</p>			
7. Cement mixing/batching plant	<ol style="list-style-type: none"> 1. The cement mixing or batching plant area(s) must be indicated on the Site Establishment Plan. 2. All wastewater resulting from batching of concrete shall be disposed of via the wastewater management system where available. 3. The cement/ concrete batching works shall be kept neat and clean at all times. No batching activities shall occur on unprotected substratum of any kind. 4. All runoff from batching areas shall be strictly controlled, and cement-contaminated water shall be collected, stored and disposed of at a site approved by the Engineer/ECO/EO. Dagga boards, mixing trays and impermeable sumps shall be used at all mixing and supply 	Holder of EA or representative/ Contractor	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • Mixing of cement will be done in an environmentally sensitive manner. • No cement spillage takes place.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>points. Contaminated water shall be disposed at a waste disposal site approved by the Engineer/ECO/EO.</p> <p>5. Contaminated water storage facilities shall not be allowed to overflow and appropriate protection from rain and flooding shall be implemented.</p> <p>6. Contaminated water treatment on Site shall require a method statement approved by Engineer/ECO/EO.</p> <p>7. Unused cement bags are to be stored so as not to be affected by rain or runoff events.</p> <p>8. Used bags shall be stored in weatherproof containers to prevent wind-blown cement dust and water contamination. Used bags shall be disposed of on a regular basis via the solid waste management system and shall not be used for any other purpose.</p> <p>9. Concrete transportation shall not result in spillage.</p> <p>10. Cleaning of equipment and flushing of mixers shall not result in pollution of the surrounding environment: Care shall be taken to collect contaminated wash water from cleaning activities and dispose of it</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>in a manner approved by the Engineer/ECO/EO. To prevent spillage onto roads, ready mix trucks shall rinse off the delivery shoot into a suitable sump prior to leaving Site.</p> <p>11. Suitable screening and containment shall be in place to prevent wind-blown contamination associated with bulk cement silos, loading and batching.</p> <p>12. With respect to exposed aggregate finishes, the Contractor shall collect all contaminated water & fines and store it in sumps for disposal at an approved waste site.</p> <p>13. All visible remains of excess concrete shall be physically removed on completion of the plaster or concrete pour section and disposed. Washing the remains into the ground is not acceptable. All excess aggregate shall also be removed. Any mixed cement (for building or plastering) at the work area must be placed on boards or container to prevent spillage or contamination of the soil.</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>14. During cement delivery boards or other protection material must be used to prevent spilling on the ground.</p> <p>15. No mixed concrete/dagga must be placed or stored on bare surfaces. Dagga boards must be use at all times to prevent contamination of surfaces.</p>			
8. Surface and groundwater pollution	<p>1. The Contractor shall take all reasonable steps to prevent pollution of surface and groundwater as a result of his activities. Such pollution could result from release (accidental or otherwise) of chemicals, oils, fuels, paint, and sewage, water from excavations, construction water, water carrying soil particles or waste products.</p> <p>2. Cement or concrete mixing must take place in such a way as to prevent any cement water runoff. All pieces of cement or related material are to be stored and dumped at the approved Municipal site.</p> <p>3. Bulk cement silos and storage areas must be properly lined/screened/contained to prevent windblown cement dust or pollution of water during rain events.</p>	Holder of EA or representative/ Contractor	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> •No further degradation or deterioration of ground and surface water due to construction activities.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<ol style="list-style-type: none"> 4. On completion, storm water catch pits must be closed with geotextile (biddim) or similar material to prevent sand or other contaminants from entering the system. 5. Ready-mix trucks are not permitted to clean chutes at the work site. 6. Adequate plastic or concrete lined cleaning pits are to be installed to facilitate washing of all cement and painting equipment. A functional, non-leaking, water point must be installed at each pit. The top 75% of the water in the pit must be disposed down the sewerage system, with approval from the Engineer. The remaining water and sludge must be disposed of at a Municipal approved site or removed by a chemical contractor. 7. The Contractor shall provide water and/or washing facilities at the construction camp for personnel. 8. In the event of any pollution entering any water body, the Contractor shall inform the RE/ECO/EO immediately. 9. The contractor will be responsible for any clean-up costs involved should pollution, 			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	erosion or sedimentation have taken place.			
9. Air pollution	<p>Air Pollution</p> <ol style="list-style-type: none"> 1. During the construction/re-development phase, and due to the nature of the project, a small amount of dust could be generated. Dust pollution may have an impact on the operational workers. 2. In order to minimize the effect of dust pollution, the construction area must be kept wet as far as possible, and the workers must wear the necessary safety clothing. The applicant is referred to section 19 of the National Water Act No. 36 of 1998 with regard to the prevention of, and remedies for, the effects of pollution. In terms of this section of the Act, the person who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources and property. 	Holder of EA or representative/ Contractor	Continuously Throughout the construction phase. If and when required.	Ensuring dust etc associated with construction activities are mitigated and managed to prevent any degradation to the natural environment.
10. Noise control	<ol style="list-style-type: none"> 1. Working hours will be restricted to daily normal working hours. 2. Limit the use of heavy vehicle machinery and construction activities associated with 	Holder of EA or representative	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • Ensuring no noise levels above Standard and mitigating possible noise

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>high level noise to 07h00 to 18h00 from Mondays to Saturdays, particularly to where residential areas or sensitive institutions are situated close to the site.</p> <ol style="list-style-type: none"> 3. All noise and sounds generated by plant or machinery must adhere to SABS 0103 specifications for the maximum permissible noise levels for residential areas. 4. All plant and machinery are to be fitted with adequate silencers. 5. No sound amplification equipment such as sirens, loud hailers or hooters shall be used on site, after normal working hours, except in emergencies. 6. If work is to be undertaken outside of normal work hours, permission must be obtained from the Local Authority. Prior to commencing any such activity, the Contractor is also to advise the potentially affected neighbouring residents. Dates, times and the nature of the work to be undertaken are to be provided. Notification may include letter-drops. 7. The acceptable noise level according to SABS 10103 Code of Practice is 45dBA in 			in the receiving environment.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>rural district during the day and 35dBA at night. The applicant must comply/adhere to this requirement.</p> <p>8. The Contractor shall make adequate provision to prevent or minimize the possible effects of air and noise pollution. Should the noise from the construction work be found to cause problems, (which is not anticipated to be the case) work hours in these areas must be restricted between 06:00 and 18:00, or as otherwise agreed between the parties involved. Strict measures shall therefore be enforced, especially in terms of the contract specifications, to prevent any negative impacts in this regard.</p>			
11. Pipe testing and cleaning	<ol style="list-style-type: none"> 1. Cleaning/flushing of pipelines shall not impair (down grade) downstream baseline water quality. 2. Materials used in the sterilisation of pipelines, viz. chlorine solutions shall be treated as hazardous substances and disposed of at an approved landfill site. 3. Litter traps shall be installed and maintained at the outflow of all pipelines. 	Holder of EA or representative/ Contractor	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • No blockages and damage to pipes.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
12. Erosion control	<p>The Contractor must take all reasonable precautions to prevent soil erosion resulting from a diversion, restriction or increase in the flow of storm water or water resulting from its operations and activities to the satisfaction of the RE/ECO/EO. Possible measures that can be considered include the following:</p> <ol style="list-style-type: none"> 1. Brush cut packing. 2. Mulch or chip cover. 3. Straw stabilising (at the rate of one bale/m² and rotated into the top 100mm of the Completed earthworks). 4. Watering. 5. Planting / sodding. 6. Hand seeding sowing. 7. Hydroseeding. 8. Soil binders and anti-erosion compounds. 9. Mechanical cover or packing structures. 10. Gabions & mattresses. 11. Geofabric. 12. Hessian cover. 13. Armourflex. 14. Log / pole fencing. 15. Retaining walls. 	Holder of EA or representative/ Contractor	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • Ensuring no further degradation of the natural environment. • Ensure no more vegetation cleared or Disturbed due to erosion. • No erosion downstream of the newly constructed dams.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>16. The Contractor shall take reasonable measures to control the erosive effects of storm water runoff.</p> <p>17. The Contractor shall use silt screens to prevent overland flowing water from causing erosion.</p> <p>18. The use of straw bales as filters, which are placed across the flow of overland storm water flows, shall be used as an erosion protection measure.</p> <p>19. The ploughing-in of straw offers limited protection against storm water runoff induced erosion and shall be used as an erosion protection measure.</p> <p>20. The Contractor shall be liable for any damage to downstream property caused by the diversion of overland storm water flows.</p>			
13. Dust control	<p>DUST - generated by works.</p> <p>1. Sand stockpiles are to be covered with hessian, shade cloth or DPC plastic.</p> <p>2. Stockpiles are to be located in sheltered areas and the usable/cut face orientated away from the direction of the prevailing wind for that season.</p>	Contractor	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • Ensuring proper dust suppression. • Minimizing the potential dust impacts during construction.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>3. Excavating, handling or transporting erodible materials in high wind or when dust plumes visible shall be avoided.</p> <p>4. If high winds prevail the Engineer shall decide whether water dampening measures or cessation of activities is required, and if necessary, they shall have the authority to temporarily stop certain of the works until wind conditions become more favourable.</p> <p>Dust – generated by roads and vehicle movement.</p> <p>1) Vehicle speeds shall not exceed 40km/h along gravel roads or 20km/h on unconsolidated or non-vegetated areas. Dust plumes created by vehicle movement are to be monitored.</p> <p>2) If access roads are generating dust beyond acceptable levels dust suppression measures must be initiated. These include, but are not limited to the following:</p> <p>2.1 Reduction of travelling speeds along the road.</p> <p>2.2 Restriction of vehicle or plant usage.</p> <p>2.3 Application of chemical soil binders.</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>2.4 Application of a suitable sacrificial road surfacing.</p> <p>2.5 If water is to be used for dust suppression, then only the critical areas shall be watered. The use of water carts or hand watering is preferable. Overhead sprayers shall not be permitted in windy conditions, as the evaporation loss is too high. Watering is to be supervised to prevent unnecessary water wastage, and runoff into potentially sensitive areas. Preferable watering times are early morning and late afternoon/ evening. Water restrictions are to be observed if in place.</p>			
14. Fire management	<p>1) No open fires or naked flames for heating or cooking shall be allowed on Site. Stoves and other electrical equipment shall only be permitted in the Contractor's camp and never be left unattended.</p> <p>1.1. The Contractor shall take all reasonable and active steps to avoid increasing the risk of fire through their activities on Site. No fires shall be lit except at places approved by the Engineer/ECO/EO.</p> <p>1.2. The Contractor shall ensure that the basic fire-fighting equipment is on site.</p>	Contractor	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • Prevent any open fires from taking place. • Prevention measures in place if any accidental fires do take place.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>1.3. The Contractor shall supply all living quarters, site offices, kitchen areas, workshop areas, materials, stores and any other areas identified by the Engineer/ECO/EO with tested and approved firefighting equipment.</p> <p>1.4. Fire and “hot work” shall be restricted to a site approved by the Engineer/ECO/EO</p> <p>1.5. A braai facility shall be considered at the discretion of the Engineer/ECO/EO. The area shall be away from flammable stores. All events shall be under management supervision and a fire extinguisher shall be immediately available. “Low smoke” fuels shall be used. Smoke free zoning regulations shall be considered.</p> <p>1.6. Fires within National Parks, Nature Reserves and natural areas are prohibited.</p> <p>1.7. Cooking shall be restricted to bottled gas facilities under strict control and supervision. The sensitivity of the surrounding land uses, and occurrence of natural indigenous vegetation must be considered when assessing the risk of fires.</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>1.8. The Contractor shall take precautions when working with welding or grinding equipment near potential sources of combustion. Such precautions include having a suitable, tested and approved fire extinguisher immediately at hand and the use of welding curtains.</p> <p>1.9. The Contractor shall identify the authorities responsible for fighting fires in the area and shall liaise with them regarding procedures should a fire start. The Contractor shall ensure that his staff are aware of the fire danger at all times and are aware of the procedure to be followed in the event of a fire. The Contractor shall also ensure that all the necessary telephone numbers etc. are posted at conspicuous and relevant locations in the event of an emergency. The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it.</p> <p>1.10. Should a contractor be found responsible for the outbreak of a fire, he shall be liable for any associated costs.</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
15. Water management	<ol style="list-style-type: none"> 1. The Contractor shall provide water for drinking and construction purposes until such time as it is available from the local system. Water from the local system must be used carefully and sparingly with the view of not wasting water. 2. Taps are to be attached to secure supports and leaking taps and hosepipes are to be repaired immediately. 3. Watering as dust suppression must be undertaken as a last resort. It is preferable that sand stockpiles be covered rather than watered. 4. Any abstraction from natural water sources such as a stream or groundwater will require a Method Statement for approval by the RE/ECO/EO. 5. An adequate supply of potable water that complies with bacteriological and chemical quality must be available at all times. 6. Water samples of the potable water must be taken at regular intervals and the results kept on record. 	Holder of EA or representative	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • Management of water for drinking, construction activities and dust suppression.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	7. The aforementioned records must be made available to a competent authority upon request.			
16. Waste management	<ol style="list-style-type: none"> 1. A waste minimisation approach must be followed. This requires recycling wherever possible. All waste therefore to be suitably contained and removed regularly from site in accordance with the municipal waste management procedures. Other examples shall include the use of rubble as fill, minimisation of waste concrete and the use of brush cuttings for mulching on rehabilitated areas. 2. The Contractor shall be responsible for the establishment of a refuse control and removal system that prevents the spread of refuse within and beyond the construction sites. 3. The Contractor shall ensure that all refuse is deposited in refuse bins, which he shall supply and arrange to be emptied on a weekly basis. Refuse bins shall be of such a design that the refuse cannot be blown out and that animals or birds are not attracted to the waste and spread it 	Holder of EA or representative/ Contractor.	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> •Ensure the site is kept free of litter. •Ensuring proper waste management and removal takes place. •Ensuring legal waste removal takes place.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>around. Refuse bins shall be watertight, wind-proof and scavenger-proof and shall be appropriately placed throughout the site. Refuse must also be protected from rain, which may cause pollutants to leach out. Refuse bins shall be appropriately placed throughout the Site and shall be conspicuous (e.g., painted bright yellow).</p> <p>4. Refuse shall be disposed of at an approved waste site (site and method to be agreed with Local Authority). Refuse shall not be burnt or buried on or near the Site.</p> <p>5. The Contractor shall provide labourers to clean up the Contractor's camp and Site on a weekly basis.</p> <p>6. The Contractor shall also clean the Contractor's camp and Site of all structures, equipment, residual litter and building materials at the end of the contract.</p> <p>7. No waste, specifically rubble and "building rubble" shall be utilised for fill material, except where such actions are approved or licenced</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
17. Toilets	<ol style="list-style-type: none"> 1. The Contractor shall be responsible for providing all sanitary arrangements for construction and supervisory staff on the site. A minimum of one chemical toilet shall be provided per 15 persons. Toilets provided by the Contractor must be easily accessible and within a practical distance from the workers. Toilets shall be located within areas of low environmental importance. The toilets shall be of a neat construction and shall be provided with doors and locks and shall be secured to prevent them blowing over. Toilets shall be placed outside areas susceptible to flooding. 2. The Contractor shall keep the toilets in a clean, neat and hygienic condition. The Contractor shall supply toilet paper at all toilets. 3. The Contractor shall be responsible for the cleaning, maintenance, servicing and emptying of the toilets on a regular basis (by chemical contractor). No waste to be dumped in the bush or wetland. 4. The Contractor shall ensure that the toilets are emptied before the builders' or 	Holder of EA or representative	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> •Appropriate sewerage management will take place. •Sufficient ablution facilities provided.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>other holidays and the waste be stored and disposed of at an appropriate place off site.</p> <p>5. The Contractor shall ensure that no spillage occurs when chemical toilets are cleaned and emptied.</p> <p>6. The Contractor shall supply a contingency plan for spills from toilets.</p> <p>7. Performing ablutions in any other area is strictly prohibited.</p> <p>8. The location for construction camps and toilets must be approved by the ECO.</p>			
18. Fuel and chemical management	<p>1. Fuel may be stored on site providing the following is strictly adhered to:</p> <p>2. All necessary approvals with respect to fuel storage and dispensing shall be obtained from the appropriate authorities.</p> <p>3. The Municipal Fire Chief (or as applicable) must be informed and consulted i.t.o Fire Regulations.</p> <p>4. The Contractor shall ensure that all liquid fuels and oils are stored in tanks with lids, which are kept firmly shut and under lock and key at all times.</p>	Holder of EA or representative	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> •Ensuring proper use/ storage/ handling and management of fuel on site. •Ensuring minimal to no impact on the natural environment.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>5. The Contractor shall stand any equipment that may leak, and does not have to be transported regularly, on watertight drip trays to catch any pollutants. The drip trays shall be of a size that the equipment can be placed inside it. Drip trays shall be cleaned regularly and shall not be allowed to overflow.</p> <p>6. All hazardous material (e.g., oils. Petrol or diesel) used on site must be disposed of at an approved hazardous waste facility or with the services of a licensed waste transportation company. All certificates of disposal and weigh bridge slips need to be signed by all relevant officials and kept as records on the premises.</p> <p>7. The contractor will be responsible for the cleaning up of any spill and associated costs.</p> <p>8. Areas for storage of fuels and other flammable materials shall comply with standard fire safety regulations and shall require the approval of the Municipal Fire Chief (in urban areas) or RE/ECO/EO.</p> <p>9. Temporary above ground storage tanks may be permitted at the discretion of the</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>Municipal Fire Chief based on the merit of the situation, provided that the following requirements are complied with:</p> <p>10. Written application together with a plan and authority from the Municipality shall be forwarded to the Municipal Fire Chief (in urban areas) or RE/ECO/EO at least fourteen (14) days prior to the installation being erected on site. Written permission shall be obtained from the chief fire officer for the erection of the installation.</p> <p>Location</p> <p>11. The fuel storage area shall be located at one of the following locations: {provide a list of acceptable locations for the fuel storage area}.</p> <p>12. The Engineer/ECO shall be advised of the area that the Contractor intends using for the storage of fuel.</p> <p>13. The location of the fuel storage area will be determined by the Municipal Fire Chief (in urban areas) and be approved by the Engineer/ECO/EO.</p> <p>14. The tank shall be erected at least 3.5 meters from buildings, boundaries and</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>any other combustible or flammable materials.</p> <p>Signs/good practice/safety precautions</p> <p>15. Symbolic safety signs depicting “No Smoking”, “No Naked Lights” and “Danger” conforming to the requirement of SABS 1186 are to be prominently displayed in and around the fuel storage area. The volume capacity of the tank shall be displayed.</p> <p>16. No smoking shall be allowed in the vicinity of the stores.</p> <p>17. The capacity of the tank shall be clearly displayed, and the product contained within the tank clearly identified using the emergency information system detailed in SABS 0232 part 1.</p> <p>18. There shall be adequate fire-fighting equipment at the fuel storage and dispensing area or areas.</p> <p>19. Fuel shall be kept under lock and key at all times.</p> <p>Tanks</p> <p>20. The storage tank shall be removed on completion of the works.</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>21. The storage tank shall be on the premises only for as long as the contract last.</p> <p>22. All such tanks to be designed and constructed in accordance with a recognised code.</p> <p>23. The rated capacity of tanks shall provide sufficient capacity to permit expansion of the product contained therein by the rise in temperature during storage.</p> <p>Bunds/storage areas</p> <p>24. Tanks shall be situated in a bunded area the volume of which shall be at least 150% of the volume of the largest tank. The floor of bund shall be smooth and impermeable constructed of concrete or plastic sheeting with impermeable joints with a layer of sand over to prevent perishing. The bund walls shall be of concrete or formed of well-packed earth with the impermeable lining extending to the crest. The floor of the bund shall be sloped towards an oil trap or sump to enable any spilled fuel and/or fuel-soaked water to be removed.</p> <p>25. A bacterial hydrocarbon digestion agent that is effective in water approved by the</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>Engineer/ECO/EO shall be installed in the sump.</p> <p>26. The tanks and bunded areas shall be covered by a roofed structure to prevent the bunded area from filling with rainwater. This structure shall be constructed in such a way, and to the approval of the Engineer/ECO/EO, to ensure that it is wind resistant.</p> <p>27. Any water that collects in the bund shall not be allowed to stand and shall be removed within one day and taken off Site to a disposal site approved by the Engineer/ECO/EO, and the bacterial hydrocarbon digestion agent shall be replenished.</p> <p>Empty containers</p> <p>28. Only empty and externally clean tanks shall be stored on the bare ground. All empty and externally dirty tanks shall be sealed and stored on an area where the ground has been protected.</p> <p>Filling/dispensing methods</p> <p>29. Any electrical or petrol-driven pump shall be equipped and positioned so as not to</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>cause any danger of ignition of the product.</p> <p>30. If fuel is dispensed from 200 litre drums, the proper dispensing equipment shall be used. The drum shall not be tipped in order to dispense fuel. The dispensing mechanism of the fuel storage tank shall be stored in a waterproof container when not in use.</p> <p>31. Adequate precautions shall be provided to prevent spillage during the filling of any tank and during the dispensing of the contents.</p> <p>Method statements</p> <p>32. A method statement is required for the filling of and dispensing from storage tanks.</p>			
19. Vehicles and access roads	<ol style="list-style-type: none"> The movement of any vehicles and/ or personnel outside of the designated working areas shall not be permitted without the written authorisation of the Engineer/ECO. Should the Contractor not exercise sufficient control to restrict all work to the area within the marker boundaries, then these on instruction of the 	Holder of EA or representative	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> • Proper vehicle movement on site and surrounding areas. • Management of potential damage to existing roads during construction. • Traffic management to ensure safety on roads.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>Engineer/ECO/EO shall be replaced by fencing the additional cost of which shall be borne by the Contractor.</p> <ol style="list-style-type: none"> 3. Dust control measures such as dampening with water shall be implemented where necessary, as indicated by the Engineer/ECO. 4. Access and haul roads shall be maintained by the Contractor. 5. Maintenance includes adequate drainage and side drains, dust control and restriction of edge use. 6. All temporary access routes shall be rehabilitated at the end of the contract to the satisfaction of the Engineer/ECO. 7. All public roads shall be kept clear of mud and sand. Mud and sand that has been deposited through construction activities shall be cleared regularly. 8. Any materials used for layer works shall be approved by the Engineer/ECO prior to the activity commencing. 9. Damage to the existing access roads as a result of construction activities shall be repaired to the satisfaction of the Engineer/ECO/EO, using material similar 			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>to that originally used. The cost of the repairs shall be borne by the Contractor.</p> <p>10. Traffic safety measures, to the satisfaction of the Engineer/ECO, shall be considered in determining entry / exit onto public roads.</p> <p>11. All users of haul roads shall not exceed 45 km/h (cars)/ 15 km/h (trucks) {note that the standard spec places a site speed limit of 45 km/h for all vehicles}</p> <p>12. Appropriate traffic warning signs shall be erected and maintained.</p> <p>13. Trained and equipped flagmen shall be used where the access road intersects with any public roads.</p> <p>14. Attention shall be paid to minimising disruption of the flow of traffic and reducing the danger to other road users and pedestrians.</p> <p>15. Method statements are required for the following: -</p> <ul style="list-style-type: none"> • Traffic safety measures with regard to entry and exit on public roads and the control of construction traffic. • Proposed route for new access roads, tracks, or haul roads; the proposed 			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>construction of new roads, and the method of upgrading existing roads; and the proposed methods of rehabilitation on completion.</p>			
<p>20. Stockpiling of materials</p>	<p>1. The Contractor shall temporarily stockpile topsoil materials in such a way that the spread of materials is minimised, and thus the impact on the natural vegetation. The stockpiles must be placed within areas demarcated for this purpose. The RE/ECO/EO shall approve stockpile areas.</p>	<p>Holder of EA or representative/Contractor</p>	<p>Continuously Throughout the construction phase. If and when required.</p>	<ul style="list-style-type: none"> •Appropriate stockpiling, to ensure topsoil can be utilised properly. •Re-establish vegetation
<p>21. Heritage remains</p>	<p>1. Should any unmarked human burials/remains or ostrich eggshell water flask caches be uncovered, or exposed during preparation of the lands for cultivation, these must immediately be reported to the archaeologist (Jonathan Kaplan 082 321 0172), or the South African Heritage Resources Agency (Ms Natasha Higgitt’ 021 462 4502). Burials, etc. must not be removed or disturbed until inspected by the archaeologist.</p> <p>2. It is therefore recommended that, pending the discovery of significant new fossils remains before or during development, exemption from further</p>	<p>Holder of EA or representative/Contractor If discovered qualified archaeologist and/or palaeontologist.</p>	<p>Continuously Throughout the construction phase. If and when required.</p>	<ul style="list-style-type: none"> •To ensure the proper management of heritage remains are undertaken in the event of a discovery during construction and excavations.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>specialist palaeontological studies and mitigation be granted for the proposed agricultural development on Remainder of Kakamas North Settlement no 355 near Augrabies, Northern Cape.</p> <p>3. A qualified archaeologist and/or palaeontologist must be contracted where necessary (at the expense of the holder) to remove any heritage remains.</p> <p>4. If any evidence of archaeological sites or remains (e.g., remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA.</p> <p>5. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi</p>			

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA.</p> <p>6. The following conditions apply with regards to the appointment of specialists:</p> <p>i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.</p>			
22. Contingency planning	<p>1. In the event of a spill or leak of product into the ground and/or water courses (e.g. that of hazardous substances used for the construction phase), such incidents must be reported (within 14 days) to all the relevant authorities including the Directorate: Pollution</p>	Holder of EA or representative	Continuously Throughout the construction phase. If and when required.	<ul style="list-style-type: none"> •Management tools and emergency contacts available in the event of a spillage or incident.

Action	Proposed impact management action and Procedures / Mitigation measures to achieve it	Responsible person for implementation	Implementation timeframe and frequency	Outcome
	<p>Management in accordance with Section 30(10) of the National Environmental Management Act No. 107 of 1998 (NEMA) and Section 20 (3) of the National Water Act No.36 of 1998 (NWA), that pertains to the control of emergency incidents and the remediation of the affected area. All necessary documentation must be completed and submitted within the prescribed timeframes.</p> <p>2. Containment, clean-up, and remediation must commence immediately.</p>			
23. Energy Efficiency & Waste Minimization Measures	<p>The following design measures will be considered for energy and water saving measures:</p> <ul style="list-style-type: none"> • Household waste to be separated and re-cycled (glass, paper, green/garden waste). • The use of energy saving bulbs in all structures, alternatively use low voltage or compact fluorescent lights are to be used in this project. 	Holder of EA or representative	Continuously Throughout the construction phase. If and when applicable and required.	<ul style="list-style-type: none"> •Energy and water saving mechanisms implemented.

Appendix A: Additional Reports

No additional reports

Appendix B: Tracking Table

Requirement	Received		Date	Comment
	Yes	No		
Methodology statement				
Site establishment plan				
Letter re contents of EMPr				
Letter re awareness training				

Appendix C: Schedule of Fines

SCHEDULE OF FINES FOR ENVIRONMENTAL DAMAGE OR EMPr TRANSGRESSIONS

(Based on City of Cape Town: Standard Environmental Specifications – Ver. 5 (03/2002))

Note: The maximum fine for any environmental damage will never be less than the cost of applicable environmental rehabilitation.

EMPr TRANSGRESSION OR RESULTANT ENVIRONMENTAL DAMAGE	MIN. FINE	MAX. FINE
Failure to comply with prescriptions regarding appointment of an ESO and monitoring of EMPr compliance.	R500	R2000
Failure to comply with prescriptions regarding environmental awareness training.	R500	R5000
Failure to comply with prescriptions regarding method statements.	R500	R5000
Failure to report environmental damage or EMPr transgressions to the ESO.	R500	R1000
Failure to carry out instructions of the ESO regarding the environment or the EMPr.	R500	R1000
Failure to comply with prescriptions posting of emergency numbers.	R500	R5000
Failure to comply with prescriptions regarding a complaint register.	R500	R1000
Failure to comply with prescriptions regarding information boards.	R500	R1000
Failure to comply with prescriptions regarding site demarcation and enforcement of 'no go' areas.	R500	R5000
Failure to comply with prescriptions regarding site clearing.	R500	R5000
Failure to comply with prescriptions for supervision for loading and off-loading of delivery vehicles.	R500	R1000
Failure to comply with prescriptions for securing of loads to ensure safe passage of delivery vehicles.	R500	R1000
Failure to comply with prescriptions for the storage of imported materials within a designated contractor's yard.	R500	R1000
Failure to comply with prescribed administration, storage or handling of hazardous substances.	R500	R1000
Failure to comply with prescriptions regarding equipment maintenance and storage.	R500	R1000
Failure to comply with fuel storage, refuelling, or clean-up prescriptions.	R500	R1000
Failure to comply with prescriptions regarding procedures for emergencies (spillages and fires).	R1000	R5000
Failure to comply with prescriptions regarding construction camp.	R500	R5000
Failure to comply with prescriptions for the use of ablution facilities.	R500	R1000
Failure to comply with prescriptions regarding water provision.	R500	R1000
Failure to comply with prescriptions for the use of designated eating areas, heating source for cooking or presence of fire extinguishers	R500	R1000
Failure to comply with prescriptions regarding fire control.	R500	R5000
Failure to comply with prescriptions for solid waste management.	R500	R5000
Failure to comply with prescriptions regarding road surfacing.	R500	R5000
Failure to comply with prescriptions to prevent water pollution and sedimentation	R500	R5000
Failure to comply with prescriptions to the protection of natural features, flora, fauna and archaeology.	R500	R5000
Failure to comply with prescriptions regarding speed limits.	R500	R1000
Failure to comply with prescriptions regarding noise levels of construction activities.	R500	R5000

Failure to comply with prescriptions regarding working hours.	R500	R5000
Failure to comply with prescriptions regarding aesthetics.	R500	R1000
Failure to comply with prescriptions regarding dust control.	R500	R1000
Failure to comply with prescriptions regarding security and access onto private property	R500	R1000
Failure to comply with prescriptions regarding cement and concrete batching	R500	R5000

For each subsequent similar offence committed by the same individual, the fine shall be doubled in value to a maximum value of R50,000.

Appendix D: Method Statement Proforma

METHOD STATEMENT PROFORMA

METHOD STATEMENT FOR THE:

This method statement is to be completed by the Contractor (in consultation with the Resident Engineer and EO) at least 5 working days prior to the proposed commencement date of the said work and represents a binding agreement to the method statement by all site contractors and sub-contractors involved in the work for which the method statement is submitted.

DATE OF SUBMISSION: _____

LEAD CONTRACTOR: _____

OTHER CONTRACTORS AND/OR SUB-CONTRACTORS: _____

Describe in detail what work is to be undertaken?

Describe in detail where on the site the works are to be undertaken and the extent? Provide a sketch plan and grid block reference.

Lead supervisor/foreman name and contact details: _____

Number of personnel: _____

Construction activities: _____

Plant and machinery to be used: _____

Other: _____

What environmental impacts are anticipated and what precautions are proposed to prevent these impacts? (Refer to the relevant sections of the EMP for guidance and provide general site camp layout).

Toilet facilities: _____

Litter: _____

Security: _____

Plant/machinery (operation, servicing, management, storage, refuelling, etc.).

Emergencies and fire: _____

Hazardous materials (handling, management, storage):

Have all personnel involved been through an environmental induction course?

Petrochemical spill remediation and containment measures:

Other:

DECLARATION BY PARTIES**Contractor:**

I understand the contents of the method statement and the scope of the works required of me. I further understand that the method statement may be amended on application to the above signatories and that the Environmental Officer will audit my compliance with the contents of this method statement.

Print Name

Date

*Signed***Environmental Officer (EO):**

The work described in this method statement, if carried out according to the methodology described, is satisfactory mitigation to prevent avoidable environmental harm.

Print Name

Date

*Signed***Resident Engineer:**

The work described in this method statement, if carried out according to the methodology described, is satisfactory mitigation to prevent avoidable environmental harm.

Print Name

Date

Signed

Appendix E: Method Statement Control Sheet

METHOD STATEMENT CONTROL SHEET

CONTRACT NO: _____

METHOD STATEMENT CONTROL SHEET

(This control sheet is to be attached to all methods statements)

MS Number:

THIS SECTION TO BE COMPLETED BY THE CONTRACTOR/METHOD STATEMENT AUTHOR ONLY

TITLE:
DESCRIPTION:
SUBMITTED BY:

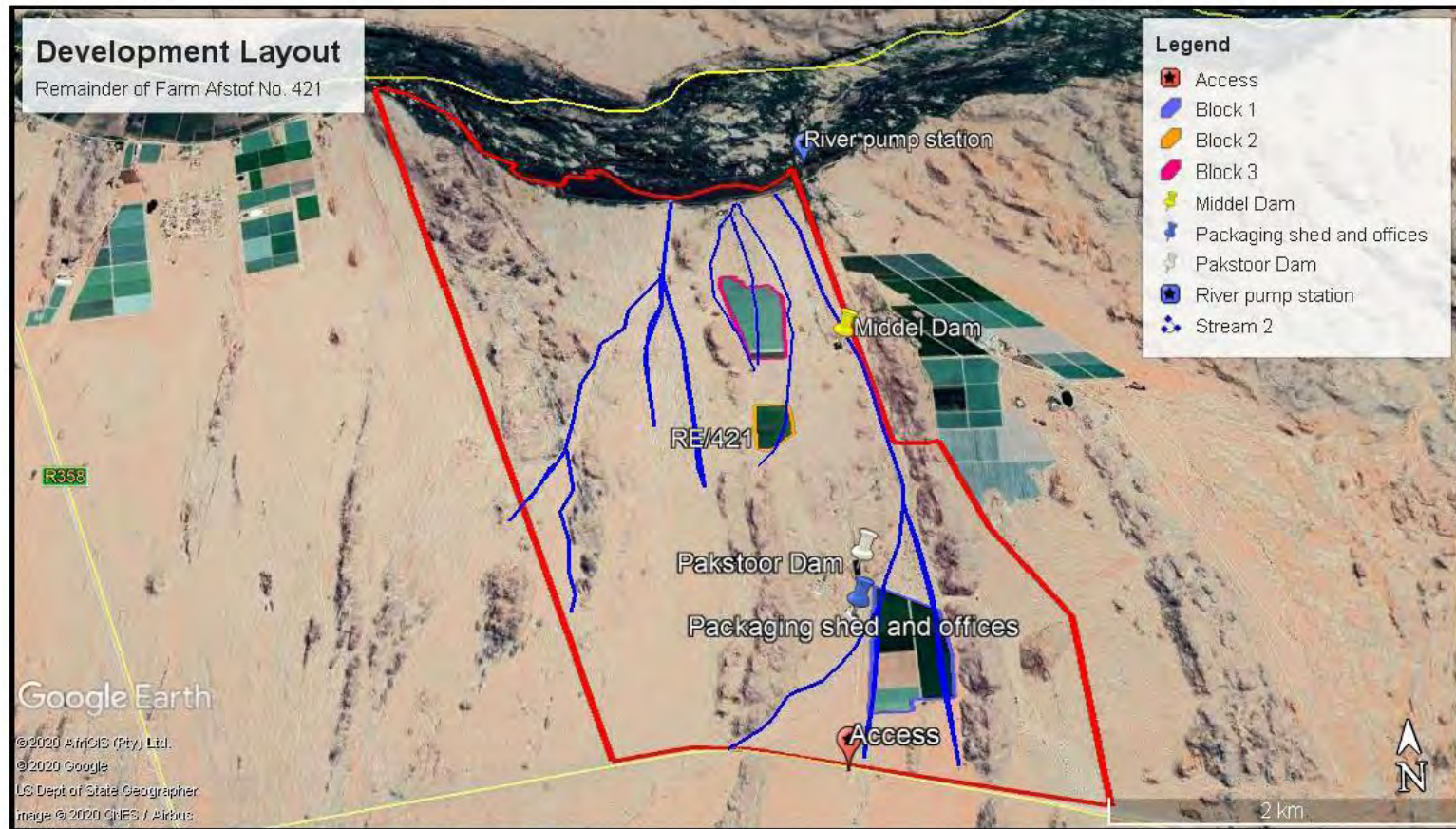
Date requested by: _____ Date submitted: _____

Date response required by: _____ Date work start: _____

REVIEW SCHEDULE		
Date	Authority	Comments

DISTRIBUTION AND AUTHORISATION			
	APPLICANT	EO	CONTRACTOR
Name			
Signature			
Date			

Appendix F: Project map



Appendix G: EAP Curriculum Vitae

PB Professional Services CC Phone: 021 873 7228
 PO Box 1058 Cell: 0827763422
 Wellington 7854 Fax: 0868721916
 E-mail: pbps@afrika.com

Pieter Badenhorst

Nationality	South African		
Date of birth	25 March 1951		
Qualifications	B.Sc. B.Eng. (Civil) M Eng. (Irrigation) B Hons. (B&A) MBA	University of Stellenbosch University of Stellenbosch University of Stellenbosch University of Stellenbosch	1973 1977 1992 1993
Special courses	<ul style="list-style-type: none"> ● Project Management (5/1990), GROMAN, Stellenbosch; ● Project Management Diploma (2-7/91), Damelin Management School, Cape Town; ● Time Management (7/91), FSA-Contact group, Cape Town; ● Advanced Project Management, GROMAN (9/91), Stellenbosch; ● Environmental Auditing (11/83), Inst. of Environmental Assessment, Lincoln, England; ● SPIN Complex Selling (2/94), Sales Productivity Associates, Johannesburg; ● Presentation (3/94), Whitehead Morris, Johannesburg; ● Public participation - Participian (10/94), CSIR/Univ. Cape Town 		
Professional membership	Professional engineer, member of the Engineering Council of South Africa Member of the South African Institute of Civil Engineers Member of International Association for Impact Assessment (South Africa)		
Career	Since 1997 1997 1995 - 1998 1993 - 1994 1992 1982 - 1991 1981 1979 - 1980 1978 1974 - 1977	Own consultancy CSIR, Environmentek; Provincial Business Development Manager Gulf Petrochemical Services LLC, Business Development Engineer (Sultanate of Oman & UAE) and CSIR Marketing Manager Middle East (Sultanate of Oman, UAE & Qatar). CSIR, Ematek, Coastal Development Programme; Marketing Manager Study for MBA CSIR, Ematek, Coastal Development Programme; Project Manager Municipality of Somerset West; Deputy Town Engineer Municipality of Kuils River; Town Engineer Municipality of Klerksdorp; Senior Engineer (water) Department of Water Affairs; Assistant Engineer	
Current position	Owner of Pieter Badenhorst Professional Services CC. As a private consultant now provide consultancy services in Environmental/coastal Management, Environmental Engineering, Public Participation and Project Management.		
Professional experience	<p>39 years experience in civil, municipal and environmental engineering as well as business development. Civil experience in heavy construction with Department of Water Affairs. Municipal experience includes Senior Engineer, Klerksdorp, Town Engineer of Kuils River and Deputy Town Engineer of Somerset West. Nearly 16 years at CSIR in environmental management (estuarine and coastal), business management, coastal engineering and project management. Work and lived two years in Middle East working in business development, project management for CSIR contracts, tender preparation and environmental management advice. Have extensively traveled the coastlines of Australia and USA to study coastal management. Other overseas visits were undertaken to UK, Netherlands and Australia to investigate commercialisation of CSIR products and general business opportunities.</p> <p>Now mainly involved with environmental studies and management. Have produced various technology research reports for CSIR. The following projects were undertaken for DEAT: a Coastal Management Technical Guide; project managed the Adopt A Beach and Interpretive Signage projects as well as public participation components; initiated and implemented the Blue Flag campaign in South Africa. A number of impact studies were/are undertaken for various clients including major developments with/without golf courses and eco estates. Produced various Scoping and Environmental Impact Reports, Environmental Management Plans and an Environmental Management Framework. Act as Environmental Control Officer for many developments including Thesen Islands Canal development (Knysna), Pezula Private Estate development (Knysna), George Mall development, Leisure Isle Boat Club upgrade (Knysna), Breakwater Bay (George), St Helena Bay development and various building sites. Have undertaken a number of asset assessments for Municipalities.</p> <p>Presented a third year course in Coastal Management at Cape Technikon.</p>		
Publications/Contracts (A full list is available on request)	<ul style="list-style-type: none"> ● Scoping and Environmental Impact reports. ● Environmental Management Plans –construction and operation. ● Basic Assessment Reports ● S24G Applications ● Waste License Applications ● Water Use License Applications ● Quarry applications/EMPRs ● Contract reports on coastal and estuarine environmental management, coastal engineering and monitoring (including a beach monitoring project along the KZN coastline) and various reports on implementation of the Blue Flag campaign. ● Contract reports in business management include market research and technology requirements (environment, food and textile/clothing industries). ● Publications include C2M Technical Guide, C2M Guidelines and Coastal Processes. Research publications on sedimentation in estuaries and low-level environmental monitoring techniques. ● Formed part of the Estuarine and Coastal Unit (ECRU) team that compiled the "Estuaries of the Cape" series. ● Formed part of the team that compiled the Policy and Principles & Objectives for Coastal Zone Management in the RSA – for Council of the Environment. ● Formed part of the team that developed Norms and Standards for inclusion into NEMA. ● Feasibility studies for Department of Environment Affairs & Tourism and Department of Water Affairs. ● EIA Review for DEAT on proposed Cape Town Harbour expansion ● Member of team – SA Wetland audit for SANBI 		

