

members who have shares in the Glen Gray Dam. Please note that in the Specialist Studies, both the Lindequespruit River and the Situlwane River have been referred to, as they are the same river. The currently preferred dam design comprises the following specifications:

- Storage capacity – 1.6 million m³;
- Area – 34 ha;
- Wall height – 13.95 m;
- Wall length – 311.83 m; and
- Water depth – 13.33 m.

Based on water uses within the quaternary catchment, the total registered surface water abstractions total 19 294 041 m³ / year, and the total registered downstream water use totals 1 299 500 m³ / year. As such, the proposed dam was calculated to have a yield of approximately 1 265 211 m³ / year with a 75 % assurance of supply, and the total releases or Ecological Water Requirement (EWR) for the proposed dam was calculated to be 3 314 687 m³ / year, which is more than enough to meet the ecological requirements from the sub-catchment. In the event of a 1:50 year or a 1:100 year flood, no permanent structures will be impacted along the Lindequespruit River.

The proposed dam site falls within the V13D quaternary catchment and the Pongola to Mtamvuna Water Management Area (WMA). Multiple Hydrogeomorphic (HGM) units were identified within the proposed dam site; namely, four hillslope seepage wetland systems and one depression wetland system. Six riparian channels were also identified within the proposed dam site. Although the proposed dam will result in the inundation of portions of the wetland systems, this loss is considered limited based on the extent of the wetland systems. Due to the impacts being limited to a loss of 0.3 ha equivalents of wetland habitat, wetland rehabilitation measures are not required to be implemented. Under natural conditions, the proposed dam site would have been characterised by Northern KwaZulu-Natal Moist Grassland (Gs 4), which falls under the Sub-Escarpment Grassland (Gs) Group 4 bioregion. In terms of floral species, the proposed dam site is currently dominated by alien invasive vegetation; namely, *Populus candescens* and *Poplar candescens*. The impacts associated with the loss of habitat for faunal species will be minimal, and the proposed dam will in fact benefit and promote the presence of faunal species. Due to several fish species likely to occur within the Lindequespruit River, and which have a conservation status of 'vulnerable', a fishway is required to be established on the wall of the proposed dam to allow for the migration of fish species. It is important to note that the existing Glen Gray Dam has resulted in the proposed dam site being subject to transformation which is associated with alterations to flood events, restrictions during low flow periods and changes in water flow and volumes etc., as well as alteration to the riverine and terrestrial habitats. As such and although the proposed dam is viewed as an expansion of the impacts on biodiversity arising from the existing Glen Gray Dam, the recommendations included in this Report will address such impacts.

The cultivation of 106.62 ha of land is proposed to take place on Lush Valley Farm which is located on the northern banks of the Lindequespruit River. This will involve the installation of centre pivot irrigation systems and associated pipelines. The Applicant is proposing to plant these lands to crops and pastures, comprising kikuyu and other grass mixtures. Water from the dam is proposed to be pumped via pipelines that will run from the dam to the cultivation sites. The proposed pipelines will have a total length of approximately 7 km and a diameter of 20 mm to 25 mm.

The cultivation is proposed to take place on the following properties:

- 22.87 ha pivot located on Portion 4 of Smaldeel No. 1390 at GPS coordinates 28°48'41.79" S and 29°28'11.36" E;
- 23.49 ha pivot located on Portion 3 of Smaldeel No. 1390, and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'10.34" S and 29°27'37.32" E;
- 8.06 ha pivot located on Portion 2, Portion 3 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'8.15" S and 29°27'12.05" E;
- 10.17 ha pivot located on Portion 2, Portion 3 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'18.36" S and 29°27'7.44" E;
- 12.22 ha pivot located on Portion 2 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'26.88" S and 29°27'16.82" E;
- 9.80 ha pivot located on Portion 3 of Lindeques Laager No. 1039, at GPS coordinates 28°49'15.44" S

and 29°26'46.80" E; and

- 20.01 ha pivot located on Portion 2, Portion 3 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'31.91" S and 29°26'57.60" E.

Based on historical imagery, portions of the proposed cultivation sites have been used for agricultural activities prior to 1937. Portions of the proposed cultivation sites comprise erosion gullies due to these historical agricultural activities. Although five HGM units were identified within the proposed cultivation sites and are classified as hillslope seepage wetland systems, the proposed cultivation sites have since been realigned to fall outside of the identified wetland systems and the recommended 20 m buffer. As such, should the recommendations and mitigation measures included in this Report be adhered to, the impacts of the proposed cultivation on the wetland systems are considered to be low. Portions of the low lying areas were identified to be characterised by Bonheim soils which tend to comprise a high moisture content, thus careful management of the agricultural activities and irrigation will be required. In terms of the floral species, the proposed cultivation sites comprise a graminoid environment, and thus the impacts on this habitat are likely to be minimal. It is important to note that although portions of the proposed cultivation sites fall within an 'optimal' Critical Biodiversity Area (CBA), this CBA is not 'irreplaceable' or 'environmentally sensitive'. Although *Otomys auratus* (vlei rat) and *Aonyx capensis* (Cape clawless otter), as well as *Opisthophthalmus praedo* (Tugela burrowing scorpion) are identified as 'near threatened' and 'protected' respectively, and have the potential to occur within the proposed study sites; it is unlikely that these faunal species will be impacted should the recommendations and mitigation measures included in this Report be adhered to.

Although the Heritage Specialist identified portions of the proposed cultivation sites to comprise stone walled Later Iron Age sites which are considered to have a high local significance and must therefore be retained as heritage sites; the proposed cultivation sites have since been realigned to fall outside of the identified heritage sites and the recommended 20 m buffer.

Lush Valley Farm and Prairie Farm are commercial agricultural operations comprising maize, potatoes, wheat, soya beans, peas and butternut which is planted on a rotational basis, as well as beef cattle. Water from the dam is proposed to be pumped via the associated pipelines to surrounding lands on both farms for irrigation purposes. On Lush Valley Farm, the 106.62 ha of land proposed to be cultivated, is to be irrigated from the proposed dam. There is an additional 106 ha of existing cultivated land that is also to be irrigated from the proposed dam. Water is to be released from the proposed dam and into the Lindequespruit River where it will be abstracted further downstream for irrigation purposes. On Prairie Farm, there is approximately 188 ha of existing cultivated land which is to be irrigated via existing pipelines from the proposed dam. These lands comprise maize, wheat, soya beans and peas which are planted on a rotational basis. A portion of the existing lands also comprise pecan nuts which will be required to be irrigated from the proposed dam. The proposed dam will thus allow for increased water storage and availability for supplementary irrigation during the summer months, and a back-up during the dry, winter months. There are currently approximately 1500 head of cattle on Lush Valley Farm, and with the additional cultivated land which is proposed to be irrigated, the cattle herd will be able to be expanded by approximately 500 cattle. The proposed project will thus ensure the long-term sustainability of both farms, through increased yields, and crop and livestock production, as well as increased employment opportunities. This in turn will result in skills development, income generation and improved quality of life. Should the Water Use License Application (WULA) for the proposed project not be approved, the proposed cultivation sites will be for dry land agricultural activities.

3. EXTENT OF THE SITE: 140.62 ha

EXTENT OF THE DEVELOPMENT AREA (m2): 140.62 ha

GPS CO-ORDINATES: (Decimal format only)	
Dam:	
SOUTH: 28.80883°	EAST: 29.4785°
Cultivation sites:	
<ul style="list-style-type: none"> • 22.87 ha pivot located on Portion 4 of Smaldeel No. 1390 at GPS coordinates 28°48'41.79" S and 29°28'11.36" E; 	
SOUTH: 28.81161°	EAST: 29.46982°
<ul style="list-style-type: none"> • 23.49 ha pivot located on Portion 3 of Smaldeel No. 1390, and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'10.34" S and 29°27'37.32" E; 	
SOUTH: 28.81954°	EAST: 29.46037°
<ul style="list-style-type: none"> • 8.06 ha pivot located on Portion 2, Portion 3 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'8.15" S and 29°27'12.05" E; 	
SOUTH: 28.81893°	EAST: 29.45335°
<ul style="list-style-type: none"> • 10.17 ha pivot located on Portion 2, Portion 3 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'18.36" S and 29°27'7.44" E; 	
SOUTH:	EAST:
<ul style="list-style-type: none"> • 12.22 ha pivot located on Portion 2 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'26.88" S and 29°27'16.82" E; 	
SOUTH: 28.82413°	EAST: 29.45467°
<ul style="list-style-type: none"> • 9.80 ha pivot located on Portion 3 of Lindeques Laager No. 1039, at GPS coordinates 28°49'15.44" S and 29°26'46.80" E; and 	
SOUTH: 28.82096°	EAST: 29.44636°
<ul style="list-style-type: none"> • 20.01 ha pivot located on Portion 2, Portion 3 and Portion 10 of Lindeques Laager No. 1039, at GPS coordinates 28°49'31.91" S and 29°26'57.60" E. 	
SOUTH: 28.82553°	EAST: 29.44933°
1:50 000 SHEET no: N/A	1:10 000 SHEET no: N/A

Google earth Imagery provided.

B. PROPERTY DESCRIPTION:	
Name of property: Lush Valley Farm and Prairie Farm	Title Deed No.: T17470/2008 T41193/2014 T23700/2019 T23700/2019 T23700/2019 T23700/2019
Erf/Lot/Farm No: Portion 1 of Meersig No. 15550; Rem, Portion 1, Portion 3 and Portion 4 of Smaldeel No. 1390; and Portion 2, Portion 3 and Portion 10 of Lindeques Laager No. 1039	GPS Co-ordinates: 28°48'31.80" S and 29°28'42.60" E 28°48'41.79" S and 29°28'11.36" E 28°49'10.34" S and 29°27'37.32" E 28°49'8.15" S and 29°27'12.05" E 28°49'18.36" S and 29°27'7.44" E 28°49'26.88" S and 29°27'16.82" E 28°49'15.44" S and 29°26'46.80" E 28°49'31.91" S and 29°26'57.60" E
Street Address, Suburb, Town: Winterton	

Local Municipality: Okhahlamba	District Municipality: uThukela
Traditional Authority Area	
Current zoning: Unzoned, used for agriculture	Present use: Agriculture

C. DEVELOPMENT TYPE:					
1. DECISION REQUIRED IN TERMS OF SECTION s41(1) (tick the appropriate box/boxes)					
Linear Development/Barrier exceeding 300m in length e.g. road, pipe/power line, trench, canal or wall	<input checked="" type="checkbox"/>				
Other similar form of linear development/barrier exceeding 300m in length	<input type="checkbox"/>				
Construction of a bridge or similar structure exceeding 50m in length	<input type="checkbox"/>				
Any development exceeding 5 000m ² in extent or any other category of development provided for in regulations	<input type="checkbox"/>				
Any other activity which would change the character of an area of land or water exceeding 10 000m ² in extent	<input checked="" type="checkbox"/>				
Any development involving three or more existing erven or sub-divisions thereof	<input checked="" type="checkbox"/>				
Any other activity involving three or more existing erven or sub-divisions thereof	<input type="checkbox"/>				
Any development or other activity involving three or more existing erven or sub-divisions thereof which have been consolidated within the past 5 years	<input type="checkbox"/>				
Any development or other activity the costs of which will exceed a sum set out in the regulations	<input type="checkbox"/>				
Re-zoning of a site exceeding 10 000m ²	<input type="checkbox"/>				
2. DEVELOPMENTS THAT TRIGGER OTHER LEGISLATION (NEMA, ENVIRONMENTAL CONSERVATION ACT, MINERALS ACT, ETC)					
RESPONSE REQUIRED IN TERMS OF s41(8) (tick the appropriate box/boxes)					
BID	<input type="checkbox"/>	BAR	<input type="checkbox"/>	EIA	<input checked="" type="checkbox"/>
EMP	<input type="checkbox"/>	WULA	<input type="checkbox"/>	MPRDA	<input type="checkbox"/>
OTHER (describe)					

D. IMPACT ON HERITAGE RESOURCES: To your knowledge would the Development impact on any known heritage resources protected in
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terms of the KZN Amafa and Research Institute Act (5/2018), or is the development located in the vicinity of any of the above? If yes, the Heritage Practitioner must create a site on sahris pinpointing the position of the heritage resource/s discovered.
(tick the appropriate box/boxes below)

s37 - Structures or part thereof that can reasonably be expected to be over 60 years of age	<input checked="" type="checkbox"/>
s38 - Graves of victims of conflict,	<input type="checkbox"/>
s39 - Informal and private burial grounds (traditional graves or graves outside of a formal cemetery e.g. a farm cemetery that are over 60 years of age).	<input checked="" type="checkbox"/>

s40 - Battlefield sites , archaeological sites, rock art sites, palaeontological sites, historic fortifications, ruins over 100 years old, meteorite or meteorite impact sites and any objects or ecofacts associated therewith	<input checked="" type="checkbox"/>
s42 - Protected areas (is the site within a known protected area?)	<input type="checkbox"/>
s43 - Specially protected heritage resources are listed in Schedule of Heritage Resources	<input type="checkbox"/>
s44 - Heritage Landmarks including the site on which they are situated	<input type="checkbox"/>
s45 - Provincial Landmarks and the site on which they are situated (state owned)	<input type="checkbox"/>
s46 - Graves of members of the Royal Family listed in Schedule of Heritage Resources	<input type="checkbox"/>
s47 - Battlefield site, public monument or memorial listed in the Schedule of Heritage Resources and any public monument defined in the NHRA and protected in terms of Section 37 of the NHRA, & Section 47 of the KZN Amafa and Research Institute Act (5/2018)	<input type="checkbox"/>
s49 - Artefacts, or collections thereof on which Heritage Object status has been conferred	<input type="checkbox"/>

E. CONTACT DETAILS


1. APPLICANT'S DETAILS (OWNER OF PROPERTY)

NAME Henri Goosen	
POSTAL ADDRESS	
PO Box 191, Winterton	POST CODE 3340
TEL 036 488 1204	FAX/EMAIL henri@lushvalley.co.za

DECLARATION BY OWNER

I, Henri Goosen
(full names of owner/person authorized to sign on behalf of the owner)

undertake strictly to observe the terms, conditions, restrictions, by-laws and directions under which the KZN Amafa and Research Institute may issue the comment to me.)

Signature 

Place Hilton Date 03/08/2021

2. DELEGATED AUTHORITY (The name of the person authorized to act on behalf the applicant where the owner is a company, trust, or institution – Power or Attorney/proof of authorization to be attached)

NAME Not applicable	
TEL	FAX/EMAIL

3. DEVELOPER'S DETAILS

NAME(Company/institution/individual) See above – Henri Goosen	
POSTAL ADDRESS	
	POST CODE
TEL	FAX
CELL	EMAIL
SIGNATURE	DATE

4. CONSULTANT'S DETAILS

NAME(Company/institution/individual) Green Door Environmental / Rebecca Bowd	
POSTAL ADDRESS PO Box 1170, Hilton	
	POST CODE 3245
TEL 033 343 4176	FAX 033 343 4201
CELL 072 181 4236	EMAIL rebecca@greendoorgroup.co.za
SIGNATURE <i>Rebecca Bowd</i>	DATE <i>04.08.2021</i>

F. SUBMISSION FEE: R800.00 (subject to annual increment on the 1 April)

The submission fee is payable to the **KZN Amafa and Research Institute** by bank deposit/internet banking (EFT) and proof of payment must be submitted with the application.

ACCOUNT DETAILS:

ABSA BANK: Branch: ULUNDI Bank Code: 630330
 Account in the name of **the KZN Amafa and Research Institute**
 Account No. 40-5935-6024
 USE SAHRIS ID and SHORT TITLE OF DEVELOPMENT AS REFERENCE

G. PUBLIC PARTICIPATION: (Contact details of Interested and Affected Parties Consulted - written opinion to be attached to form and drawings to be signed by I & A P. See Guidelines)

See attached for Background Information Document, Newspaper adverts, Public Information Session attendance register and list of Interested and Affected Parties.

Name _____
 Telephone _____ Fax/Email _____

H. CHECKLIST OF DOCUMENTATION SUBMITTED

HARD COPY APPLICATION FORM (COMPLETED & SIGNED BY OWNER, DEVELOPER & CONSULTANT)	<input checked="" type="checkbox"/>
APPLICATION FORM UPLOADED TO SAHRIS	<input checked="" type="checkbox"/>
MOTIVATION	<input checked="" type="checkbox"/>
SITE PHOTOGRAPHS/CASE IMAGES	<input checked="" type="checkbox"/>
1:50 000 MAP & SATELLITE AERIAL VIEW	<input checked="" type="checkbox"/>
KML FILE MAP	<input checked="" type="checkbox"/>
SITE PLAN SHOWING ALL FEATURES & HERITAGE RESOURCES	<input checked="" type="checkbox"/>

DEVELOPMENT PLAN SHOWING ALL FEATURES & HERITAGE RESOURCES SUPERIMPOSED THEREON	<input checked="" type="checkbox"/>
PROOF OF PROFESSIONAL ACCREDITATION (e.g. copy of accreditation card/certificate)	<input type="checkbox"/>
PROOF OF PUBLIC PARTICIPATION	<input checked="" type="checkbox"/>
ENVIRONMENTAL IMPACT ASSESSMENT	<input checked="" type="checkbox"/>
HERITAGE IMPACT ASSESSMENT	<input checked="" type="checkbox"/>
CONSENT LETTER FROM THE OWNER	<input checked="" type="checkbox"/>
LETTER OF APPOINTMENT OF CONSULTANT	<input checked="" type="checkbox"/>
PROOF OF PAYMENT OF SUBMISSION FEE (EFT/BANK DEP/AMAFA CARD)	<input checked="" type="checkbox"/>

KWAZULU-NATAL
AMAFA
 ANTI-MINING AUTHORITY